ARC95

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working for you

Listen. Plan. Respond.

Let’s Build Together

Study Team:

Sedgwick County...
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TranSystems

PEC
PROFESSIONAL ENGINEERING CONSULTANTS

BOTHNER-BRADLEY

The study team would like to take this opportunity to thank the following committee members, staff, representatives and stakeholders for their valuable input and resources. We appreciate their participation throughout the planning process.

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EXECUTIVE SUMMARY

Introduction

In southern Sedgwick County, the 95th Street corridor – primarily from Broadway to Woodlawn – often is cited as an area where improved access and mobility could support future growth needs. The purpose of this study is to develop a long-range plan for the 95th Street corridor. At the end of the report are recommendations, including budget considerations, intended to guide future plans.

Much like the growth in Northeast Wichita after the K-96 highway was constructed, better regional access via 95th Street – including a bridge over the Arkansas River – could accelerate economic growth in areas such as Derby and Haysville. At the same time, connecting major roadways could make commutes and commercial transport easier.

The Arkansas River Crossing and 95th Street (ARC95) Corridor Study examines current conditions, analyzes traffic and growth patterns, asks people who live and work in the area about improvements, and identifies just what it would take to make the corridor an efficient and effective thoroughfare that attracts economic growth.

Existing Conditions

The 95th Street corridor makeup is currently a primarily rural part of Sedgwick County. An estimated 12% of the area is residential development. From Broadway to Hillside and K-15 to Rock Road are paved two lane facilities; the corridor from Hillside to Bluff is a gravel road. There is no current connection between Bluff and K-15 over the Arkansas River.

While the corridor connects many roads and highways, it does not currently access I-35, which is operated by the Kansas Turnpike Authority in the study area. Also, three bridges will likely be directly impacted by the ARC95 project: I-35 at 95th Street, 95th Street at Cowskin Creek, and 95th Street at Cowskin Creek tributary. In addition, one railroad operates in the primary study area, with the BNSF Railway line parallel to K-15 needing specific attention to ensure safety of travelers on 95th Street and K-15.

High water tables along the corridor and the presence of oil and gas wells and storage tanks near the Arkansas River crossing also will need to be accounted for during design phases.

Public Involvement

While the impact on residential and commercial property is expected to be limited, the study includes input from people who live or work in the areas along 95th Street, including people in Derby and Haysville who use the corridor for commuting.

Six community meetings (three in Derby and three in Haysville) attracted an estimated 150 people throughout the study period. They heard about plans and weighed in on topics that ranged from types of roadways to preferences on access to K-15 and bike/pedestrian access on the Arkansas River bridge. The meetings were held in pairs: two prior to the study, two midway through the study and two at the end, where people could provide input. The general consensus from public comment was in favor of the proposed improvements.

Online questionnaires could be accessed through the website, www.ARC95study.com, where details about the study were shared. In addition, people could offer input and stay apprised on social media platforms, Facebook and Twitter. Video and photos provided updates from the community meetings.

Corridor Analysis

Using the regional travel demand model from the Wichita Area Metropolitan Planning Organization (WAMPO) as a base, scenarios about traffic, job and residential growth were considered. In addition, projected traffic volume was calculated based on connection/no connection to the Kansas Turnpike/I-35. Four alternatives, described in the study, were considered for the K-15/BNSF interchange.

Recommendations

Based on corridor analysis, growth patterns and input from the public, the study concludes the following:

- Within the primary study area, 95th Street is proposed to ultimately be a five-lane corridor with a combination of rural and urban sections. In the interim it is recommended to build two and three lane sections in some locations, and as growth occurs expand to the five lane section.
- Construct a Roadway over Roadway and Rail at the K-15 interchange
- Align 95th Street to cross the Arkansas River, BNSF railroad and enter K-15 at safe angles (cross as near to 90 degrees as possible).

In addition, due to the size and scope of the projects, the recommendation is to adopt a phased approach over a 20 year period:

Phase 1:

- 95th Street, Woodlawn to Hillside; includes a bridge spanning the Arkansas River, BSNF Railroad and K-15.

Phase 2:

- Broadway and 95th Street turn lanes
- Hydraulic and 95th Street turn lanes
- Hillside and 95th Street turn lanes
- Kansas Turnpike Authority (KTA) and 95th Street interchange
- 95th Street widening - Broadway to KTA interchange
- 95th Street widening - KTA interchange to Hydraulic

Phase 3:

- 95th Street, Hydraulic to Hillside; three lane widening (between the intersection improvements of Phase 2)

Future Phases:

- 95th Street, Greenwich to Woodlawn
- 95th Street, Meridian to Broadway

Estimated construction costs are between $90 and $100 million. Prices could vary as much as 30 percent, based on material costs and inflation. Funding options could be pursued at the state, federal and local levels.

CHAPTER 1 | INTRODUCTION

Study Purpose

Bridges and roads are the backbone of any community. We rely on them to take us safely from our homes to work, to get our children to and from school, and to transport goods and services throughout our region, the country and the rest of the world. For many years, the County has participated in or led efforts to study the transportation needs of our community, specifically focusing on areas where improvements can lead to economic growth.

The South Area Transportation Study identified the 95th Street Corridor, from Greenwich Road to Meridian Avenue, as an area where improved access and mobility could support future growth needs. The study also included a recommendation for a new bridge to be constructed over the Arkansas River. The goal of the Arkansas River Crossing and 95th Street Study (ARC95) is to further define those recommendations. Improvements in southern Sedgwick County could lead to an increase in economic growth and higher quality of life for people who reside in the area.

The ARC95 study encompasses an 8.9-mile corridor from Meridian Avenue to Greenwich Road in southern Sedgwick County. The purpose of the study is to develop a long-range plan for the 95th Street corridor that includes the following:

- The number and type of traffic lanes
- The location and use of medians
- The location and configuration of interchanges, intersections, and driveways
- Local streets needed to complement the corridor configuration
- A new river crossing over the Arkansas River

Study Area

The 95th Street study area, displayed in Exhibit 1, is divided into three sections: primary study area, expanded limits, and potential influence area.

- *Primary Study Area:* The primary study area is bordered by 87th Street to the north, Woodlawn Street to the east, 103rd Street to the south, and Broadway Street to the west. This is the main focus area of the study.
- *Expanded Limits:* The expanded limits extend eastward to Greenwich Road and westward to Meridian Avenue. This study encompassed these areas only to the extent necessary to make sure improvements within the primary study area could be extended out in the future to the expanded limits.
- *Potential Influence Area:* The potential influence area extends eastward to the Sedgwick-Butler County line and westward to South 71st Street W/Ridge Road. The project considered these areas in the land-use analysis to determine growth potential for traffic projections.

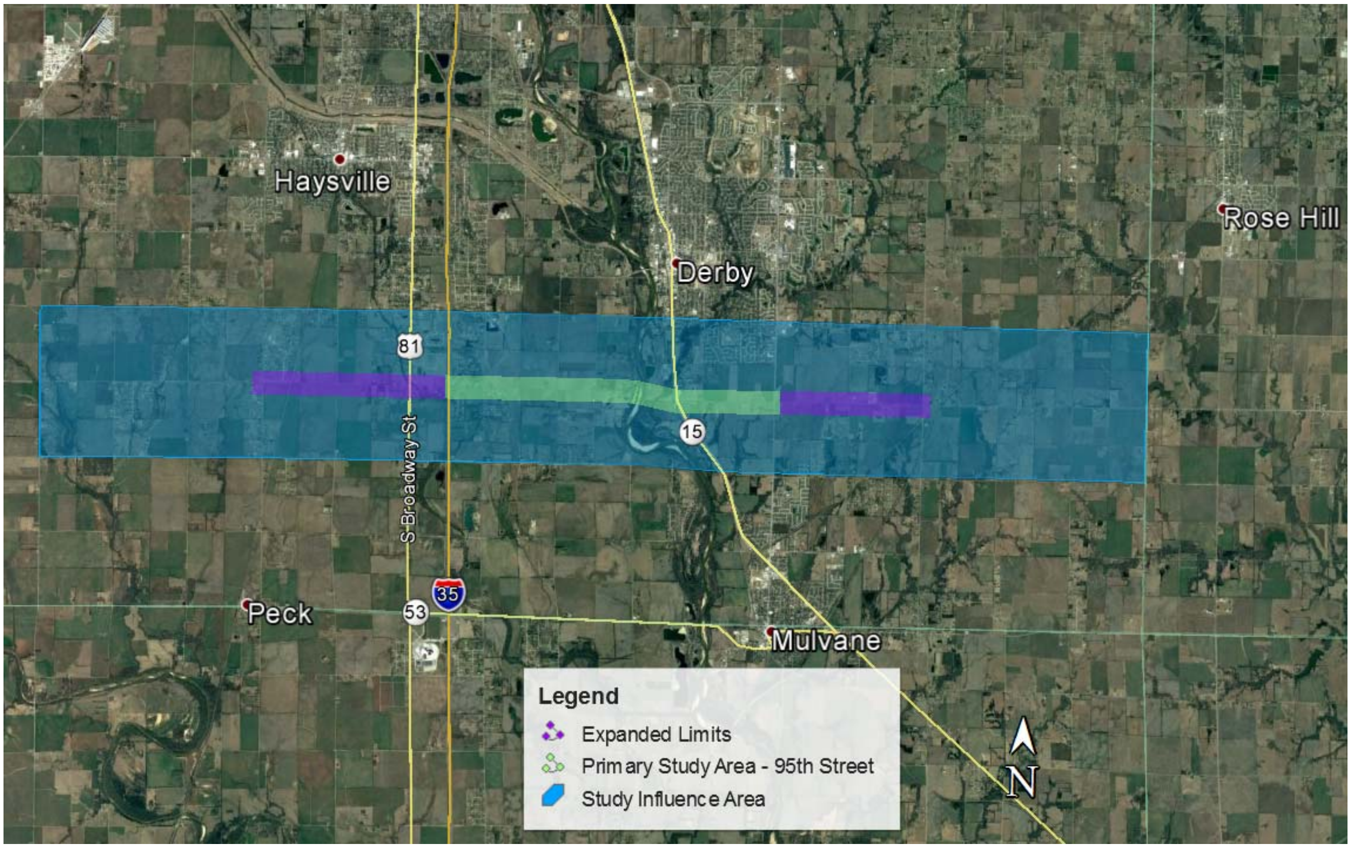


Exhibit 1: Study area.

Study Process

The study began in February 2016 with a review of existing conditions based on previous planning efforts and a corridor inventory. This review was followed by updating future land use and traffic operation analysis, preliminary roadway, bridge, bicycle, and pedestrian improvements based on the initial analysis. Preferred options were advanced through roadway design review, bridge analysis, and hydrology and hydraulic analysis. The study then produced concepts for interim and ultimate typical road sections, bridge type/size/location recommendations, railroad crossings, and interstate interchanges. To assist with implementation, the study also provided opinions of probable construction costs and opinions of probable right-of-way acquisition costs, a capital improvement plan, an access management policy and regulatory compliance information.

The study process involved coordination with numerous agencies throughout the process: Kansas Department of Transportation, Kansas Turnpike Authority, Wichita Area Metropolitan Planning Organization (WAMPO), Sedgwick County, City of Derby, City of Haysville, City of Mulvane, City of Wichita, BNSF Railway, Union Pacific Railroad, and other state and federal agencies as appropriate. The agencies participated in technical committee meetings, steering committee meetings, and one-on-one meetings.

In addition, three paired public meetings were held throughout the study to present study updates and obtain feedback from the community. The first set of public meetings related to existing conditions occurred in August 2016. The second set of public meetings related to future conditions occurred in November 2016. The final set of public meetings related to corridor analysis and preliminary recommendations occurred in May 2017.

Previous Study Efforts

Several regional and local existing plans discuss recommendations related to road, bicycle, and pedestrian infrastructure that impact the ARC95 study area. The plans and reports highlight 95th Street as a key roadway for corridor protection to accommodate future growth and multimodal improvements. The information provides a foundation to refine concepts for the ARC95 study. A previous planning effort, the South Area Transportation Study (2008), explored multiple typical section options for 95th Street and ultimately recommended a four-lane urban parkway. The typical section options and recommended typical section are displayed in Exhibit 2. Recommendations from other planning efforts relevant to the ARC95 study area are summarized below within the respective primary study area, expanded limits, or the potential influence area.

Primary Study Area

- Upgrade 95th Street from 119th St. West to Greenwich Road including long-term construction of arterial loop parkway with four lanes, semi-access control, and 150-foot right-of-way. The corridor would include two 13-foot travel lanes in each direction separated by a 40-foot median and accommodate bicycle and pedestrian traffic. The corridor would include a crossing of the Arkansas River as well as a BNSF railroad crossing east of the river. (South Area Transportation Study, 2008)
- Construct a new four-lane bridge over the Arkansas River that accommodates vehicular, bicycle, and pedestrian traffic. The bridge would likely be located between 83rd Street and K-53. (South Area Transportation Study, 2008)
- Submit the segment of 95th Street between Meridian Avenue and K-15 to WAMPO for inclusion as part of the future arterial updates to the Federal Functional Classification Map to align with recommendations in the South Area Transportation Study. (Sedgwick County Quad Cities Joint Area Plan, 2013)
- Explore a potential interchange under consideration by the Kansas Turnpike Authority at 95th Street. (Kansas Turnpike Authority Long-Term Needs Study, 2016)
- Improve 95th Street and US-81 intersection with a traffic signal, lane configuration modifications, and access management. (US-81/K-53 Casino Area Transportation Plan, 2014)
- Perform an engineering concept study for the Arkansas River Bridge, 95th Street, and Greenwich Road parkway improvements. The study should identify potential bicycle facilities, including the design and construction of a crushed limestone trail along the Arkansas River connecting Derby and Mulvane. (Derby-Mulvane Joint Area Plan, 2010)
- Initiate and develop a feasibility and design concept plan for a potential equestrian recreation trail along the west bank of the Arkansas River from 119th Street to 83rd Street. Design could be coordinated with planning for potential phased development of bicycle and pedestrian infrastructure improvements along the east and west banks of the Arkansas River.(Sedgwick County Quad Cities Joint Area Plan, 2013)
- Initiate other planned pathway facilities along Spring Creek to connect to the potential Arkansas River Trail on the east side of the river. (WAMPO Regional Pathway System Plan, 2011)

Expanded Limits

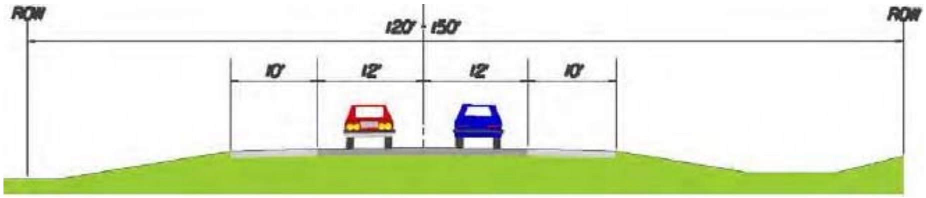
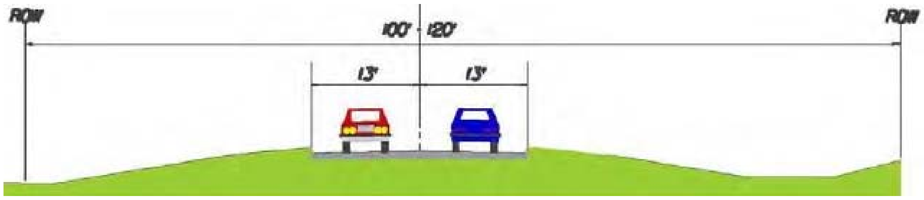
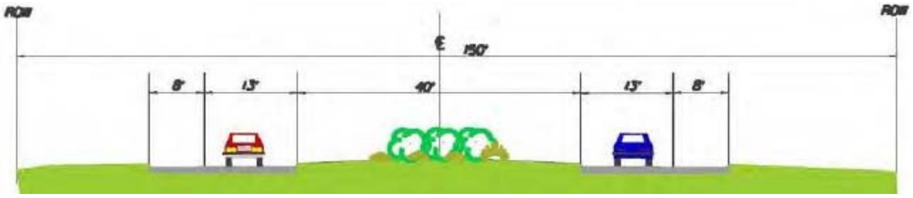
- Construct a rural parkway (two lanes) along 95th Street from Meridian Avenue to US-81. (MOVE 2040, 2015)
- Upgrade Meridian Avenue from 95th Street to I-235 and Greenwich Road from 95th Street to Kellogg Avenue including long-term construction of arterial loop parkway. (South Area Transportation Study, 2008)

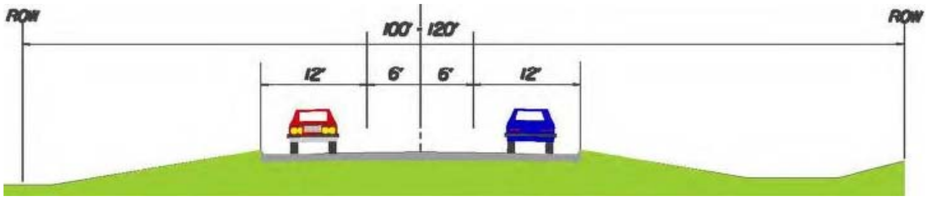
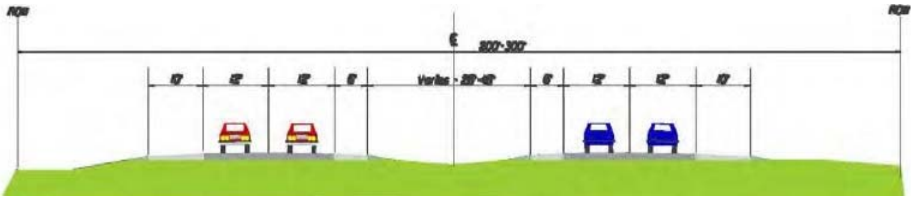
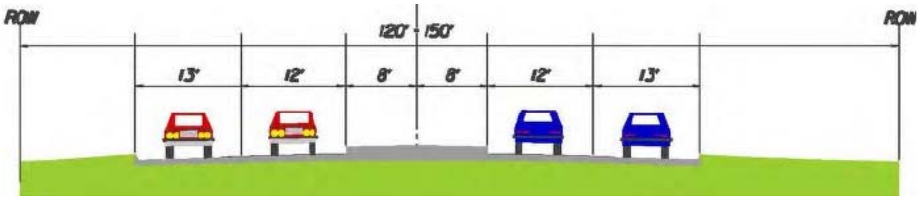
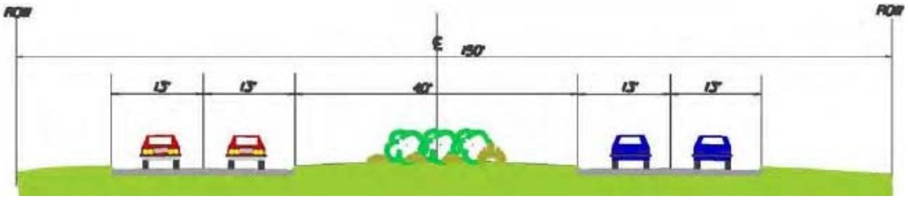
- Improve Meridian Avenue from approximately 95th Street to 79th Street South to a super-two county standard arterial. When volumes warrant, improve the corridor to a five-lane section parkway (South Meridian Corridor Plan, 2012)
- Pave and add shoulders on Webb Road from K-53 to 79th Street and 95th Street South from 135th Street West to Broadway Avenue (South Area Transportation Study, 2008)
- Design and construct a paved, separated path facility along Rock Road to connect Derby and Mulvane bicycle networks. (Derby-Mulvane Joint Area Plan, 2010)
- Identify missing links or other planned facilities in pathway systems including along Rock Road from 103rd Street to 87th Street and along Webb Road near 95th Street. (WAMPO Regional Pathway System Plan, 2011)

Potential Influence Area

- Upgrade existing 119th Street from 95th Street to Kellogg Avenue including long-term construction of arterial loop parkway. (South Area Transportation Study, 2008)
- Pave and add shoulders on 143rd Street from Pawnee Avenue to K-53 and on 119th Street from K-42 to 103rd Street. (South Area Transportation Study, 2008)
- Explore secondary candidates for an arterial loop parkway route including 143rd Street, Hoover Road, and 167th Street, 79th Street, and K-53. (South Area Transportation Study, 2008)

Exhibit 2: South Area Transportation Study Options

Typical Section Option	Description
2-Lane Rural	
2-Lane Urban	
2-Lane Urban Parkway	

Typical Section Option	Description
3-Lane Urban	
4-Lane Rural Divided	
4-Lane Urban Divided	
4-Lane Urban Parkway *(Recommended)*	

CHAPTER 2 | EXISTING CONDITIONS

Existing conditions along the corridor are primarily a rural typical section with open ditches with the land use being primarily agricultural or rural residential. 95th Street from Broadway to Hillside and K-15 to Rock Road are paved two lane facilities; the corridor from Hillside to Bluff is a gravel road, and there is no current connection between Bluff and K-15 over the Arkansas River.

95th Street is a two-lane roadway with STOP control at each of its intersections between Broadway Street and Bluff Street. There is currently no access to the KTA which is located between Broadway and Hydraulic Street. 95th Street dead ends at Bluff Street. 95th Street is STOP controlled at the intersection with K-15 and Woodlawn Blvd. is STOP controlled where it intersects 95th Street.

Land Use

The study area contains approximately 30 square miles of primarily agricultural (80%) or residential (12%) land uses. The area is generally rural but includes uses typical of transitional development areas in the southern portion of Derby and between Broadway Street and Hydraulic Street. The primary study area has the highest proportion of non-agricultural uses, although agricultural land still comprises approximately 70 percent of the area. Existing land use by study area is outlined in Exhibit 3.

There are a limited number of community facilities within the total study area due to the rural character of the area. A survey of parks, cemeteries, historic properties, public safety facilities, schools, institutional uses, hospital, and cell towers was conducted using public sources. As outlined in Exhibit 4, there are four cemeteries, three parks, one school, two private airfields, a horticultural center, a wastewater treatment plant, and four communication towers.

Most of the facilities will not be directly impacted by future road and bridge improvements along 95th Street, particularly those located in the Potential Influence Area. Improvements along 95th Street can be planned to avoid impacting the cemeteries within the study area and the private airfields with grass runways will not be impacted by the project. Some uses, such as the John C. Pair Horticultural Center and Derby Wastewater Treatment Plant, may be impacted depending on necessary right-of-way for improvements. Exhibit 5 illustrates the Existing Land Use Map

Exhibit 3: Existing Land Use by Study Area

Existing Land Use	**Total Area**		**Primary Area**		**Expanded Limits**		**Potential Area**	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Agricultural	15,212	80%	3,600	19%	4,691	25%	6,905	36%
Residential	2262	12%	697	4%	1,016	5%	544	3%
Commercial/Office	18	0%	1	0%	12	0%	5	0%
Manufacturing/Industrial	13	0%	1	0%	12	0%	0	0%
Warehouse/Distribution	9	0%	4	0%	0	0%	5	0%
Government/Institutional	79	0%	6	0%	71	0%	2	0%
Park/Recreation	124	1%	70	0%	55	0%	0	0%
Utility/Infrastructure	142	1%	100	1%	42	0%	0	0%

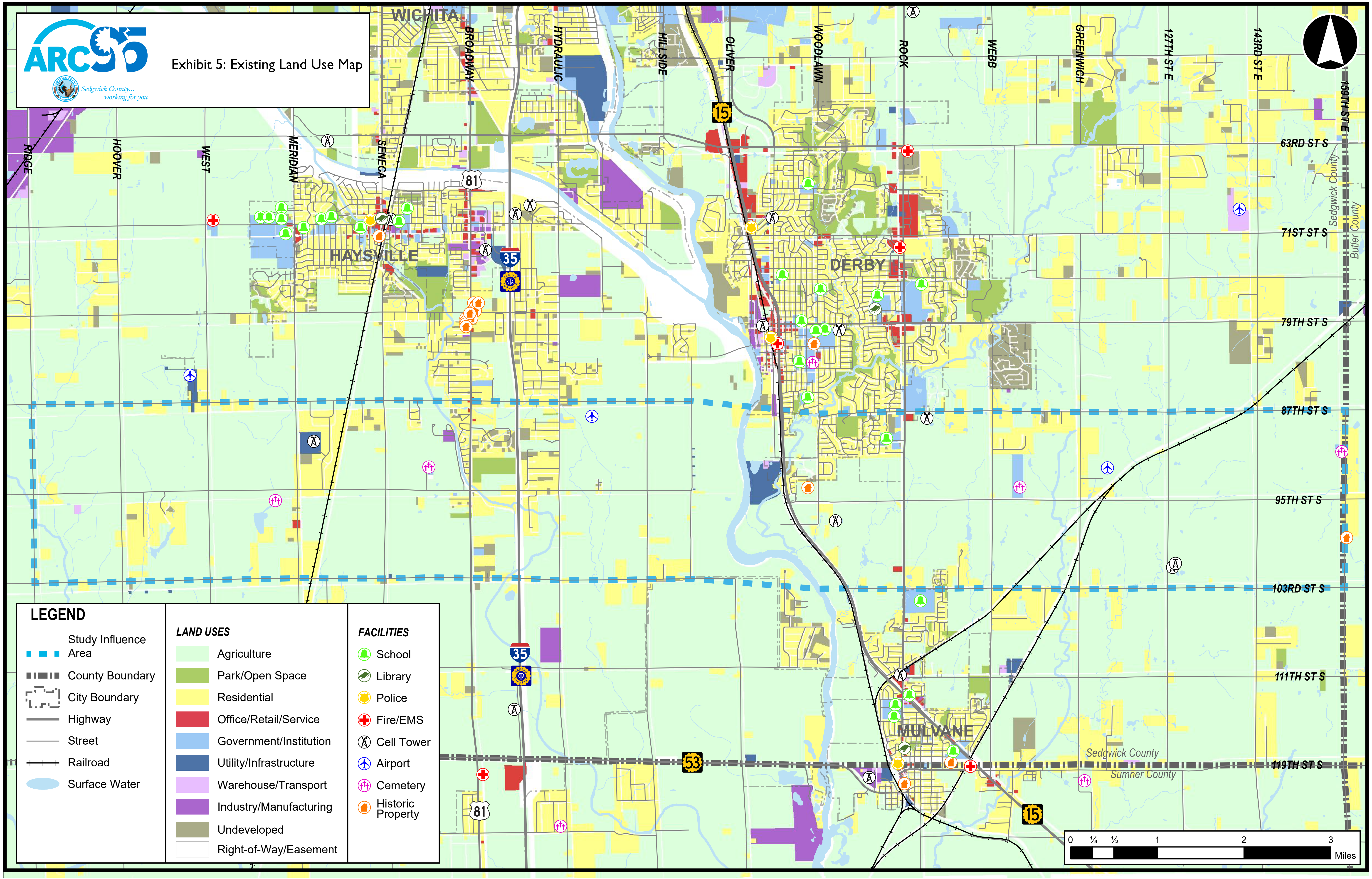
Existing Land Use	**Total Area**		**Primary Area**		**Expanded Limits**		**Potential Area**	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Right-of-Way	1,097	1%	475	2%	376	2%	267	1%
Undeveloped	175	6%	101	1%	59	0%	15	0%
Total Land Use	19,131	100%	5,055	27%	6,215	33%	7,744	40%

Source: Sedgwick County Parcel Database

Exhibit 4: Community Facilities

Facility	**Facility Type**	**Study Area**	**Location**
Hillcrest Cemetery	Cemetery	Expanded Limits	E 95th St
Waco Cemetery	Cemetery	Expanded Limits	E 95th St
Roll Cemetery	Cemetery	Potential Influence Area	W 95th St
Union Cemetery	Cemetery	Potential Influence Area	County Line 21000 Rd
Hand Park	Park	Primary Study Area	633 S Lakeview Dr
Garrett Park	Park	Expanded Limits	1100 E Chet Smith Ave
Phillips Bur Oak Park	Park	Expanded Limits	1527 S Alameda St
Park Hill Elementary	School	Expanded Limits	1500 E Woodbrook Ln
Selby Farm	Private Airfield	Primary Study Area	SE 87th St & Hydraulic Ave
Olson Aerodome	Private Airfield	Potential Influence Area	E 93rd St
John C. Pair Horticultural Center	Institutional	Primary Study Area	1901 E 95th St
Derby Wastewater Treatment Plant	Institutional	Primary Study Area	1501 S K-15
SBC Monarch Towers	Communication	Expanded Limits	SE 87th St & Rock Rd
SBC Tower Holdings	Communication	Expanded Limits	SE 95th St & Woodlawn Ave
Southern Star Central Gas Pipeline	Communication	Expanded Limits	SE 87th St & Meridian Ave
Westar Energy	Communication	Expanded Limits	NE 103rd St & 127th St

Exhibit 5: Existing Land Use Map



Demographics

As previously discussed, the study area is primarily rural with low population density. The population in the study area increased from 2,537 residents in 2000 to 3,606 residents in 2010, a 42 percent increase in population according to data provided by ESRI Business Analyst. Estimates project the population increased to 3,742 residents in 2015 and will reach 3,907 residents in 2020. While the study area has a relatively small population, the area experienced strong growth and has a high median household income compared to other areas in the Wichita region. Population data for the study area compared to other surrounding jurisdictions is outlined in Exhibit 6.

There are an estimated 1,345 housing units in the study area of which 87 percent are owner-occupied. The study area experienced strong household growth and has an above-average median home value. The average household size (2.91 persons per household) is higher than that of any other surrounding jurisdiction. Housing and household data for the study area compared to other surrounding jurisdictions in outlined in Exhibit 24.

Exhibit 6: Population Comparison

Jurisdiction	2000 Population	2010 Population	2015 Estimate	2000-2010 Growth Rate	2010-2015 Growth Rate	Median HH Income
Kansas	2,688,418	2,853,118	2,922,110	6.1%	2.4%	$51,423
Sedgwick County	452,869	498,365	510,549	10.0%	2.4%	$49,223
Wichita MSA	571,164	623,061	645,162	9.1%	3.5%	$50,033
City of Derby	19,172	22,158	22,994	15.6%	3.8%	$70,204
City of Haysville	9,100	10,926	11,090	19.0%	2.4%	$51,854
City of Mulvane	5,539	6,111	6,139	10.3%	0.5%	$61,429
Study Area	2,537	3,606	3,742	42.1%	3.8%	$72,505

Source: U.S. Census Bureau (2000, 2010), ESRI (2016)

Exhibit 2: Housing Comparison

Jurisdiction	2000 Households	2010 Households	2015 Estimate	2000-2010 Growth Rate	2010-2015 Growth Rate	Median Home Value
Kansas	1,037,891	1,112,096	1,141,779	7.1%	2.7%	$142,306
Sedgwick County	176,444	193,502	198,142	9.7%	2.4%	$148,167
Wichita MSA	223,811	243,586	249,226	8.8%	2.3%	$143,701
City of Derby	6,670	8,300	8,659	24.4%	4.3%	$167,351
City of Haysville	3,213	3,857	3,953	20.0%	2.5%	$128,121
City of Mulvane	2,018	2,244	2,260	11.2%	0.7%	$155,352
Study Area	865	1,239	1,287	43.2%	3.9%	$176,534

Source: U.S. Census Bureau (2000, 2010), ESRI (2016)

Transportation

Transportation within the study area does not only include roadways and bridges but other modes of transportation including rail and bicycle and pedestrian facility accommodations. The inventory of transportation infrastructure provides a baseline to discuss improvement needs and challenges.

Highways and Roadways

I-35 and US-81/Broadway Street are the main north-south routes through the study area. I-35 connects to Oklahoma and Texas to the south and Missouri, Iowa, and Minnesota to the north. Through the study area, I-35 is a toll-facility owned and operated by the Kansas Turnpike Authority with two travel lanes in each direction and a posted speed of 75 mph. The nearest toll plazas are three miles north at 71st Street in Haysville and three miles south at K-53/119th Street near the Kansas Star Casino. US-81 serves as a parallel, toll-free alternative to I-35 and travels from southern Wichita to Wellington. Several other highways and streets within the study area are summarized in Exhibit 7. Local roads, such as residential neighborhood streets, are not included.

95th Street has multiple functional classification designations depending on the segment. Within the primary study area, 95th Street is considered a major collector east of the Arkansas River to Woodland Boulevard and from US-81/Broadway Street to Hydraulic Street. The classification changes to minor collector from Hillside Avenue to Hydraulic Street and to local road from Hillside Avenue to Bluff Street. Within the expanded limits, 95th Street is a major collector from US-81/Broadway Street to Seneca Street and a minor collector from Seneca Street to Meridian Avenue. Within the potential influence area, 95th Street is a major collector east of Greenwich Road and a local road west of Meridian Avenue. Exhibit 8 shows the existing facilities mapped.

Exhibit 7: Existing Roadway Functional Classification

	Roadway	Functional Class
Primary Study Area	Broadway Street	Minor Arterial
	I-35	Interstate Freeway
	Hydraulic Street	Major Collector (north of 95th), Minor Collector (south of 95th)
	Hillside Avenue	Minor Collector (north of 95th), Local Road (south of 95th)
	Bluff Street	Local Road
	Buckner Street	Local Road
	K-15	Major Collector (north of 95th), Other Principal Arterial (south of 95th)
	Woodlawn Boulevard	Major Collector
	87th Street	Major Collector
	103rd Street	Major Collector (river to Woodlawn), Local Road (river to Bluff)
Expanded Limits	Seneca Street	Major Collector (north of 95th), Local Road (south of 95th)
	Meridian Avenue	Minor Collector
	Rock Road	Minor Arterial
	Webb Road	Major Collector
	Greenwich Road	Major Collector
	87th Street	Major Collector (Broadway to Seneca), Local Road (Seneca to Meridian)

	Roadway	Functional Class
	103rd Street	Major Collector (US-81/Broadway to Meridian), Major Collector (river to Webb), Local Road (Webb to Greenwich)
Potential Influence Area	39th Street W	Local Road
	55th Street W	Local Road
	71st Street W	Minor Collector
	127th Street W	Local Road
	159th Street W	Local Road
	87th Street	Local Road
	103rd Street	Major Collector (Meridian to 71st), Local Road (east of Greenwich)

Source: WAMPO Federal Roadway Classification Map

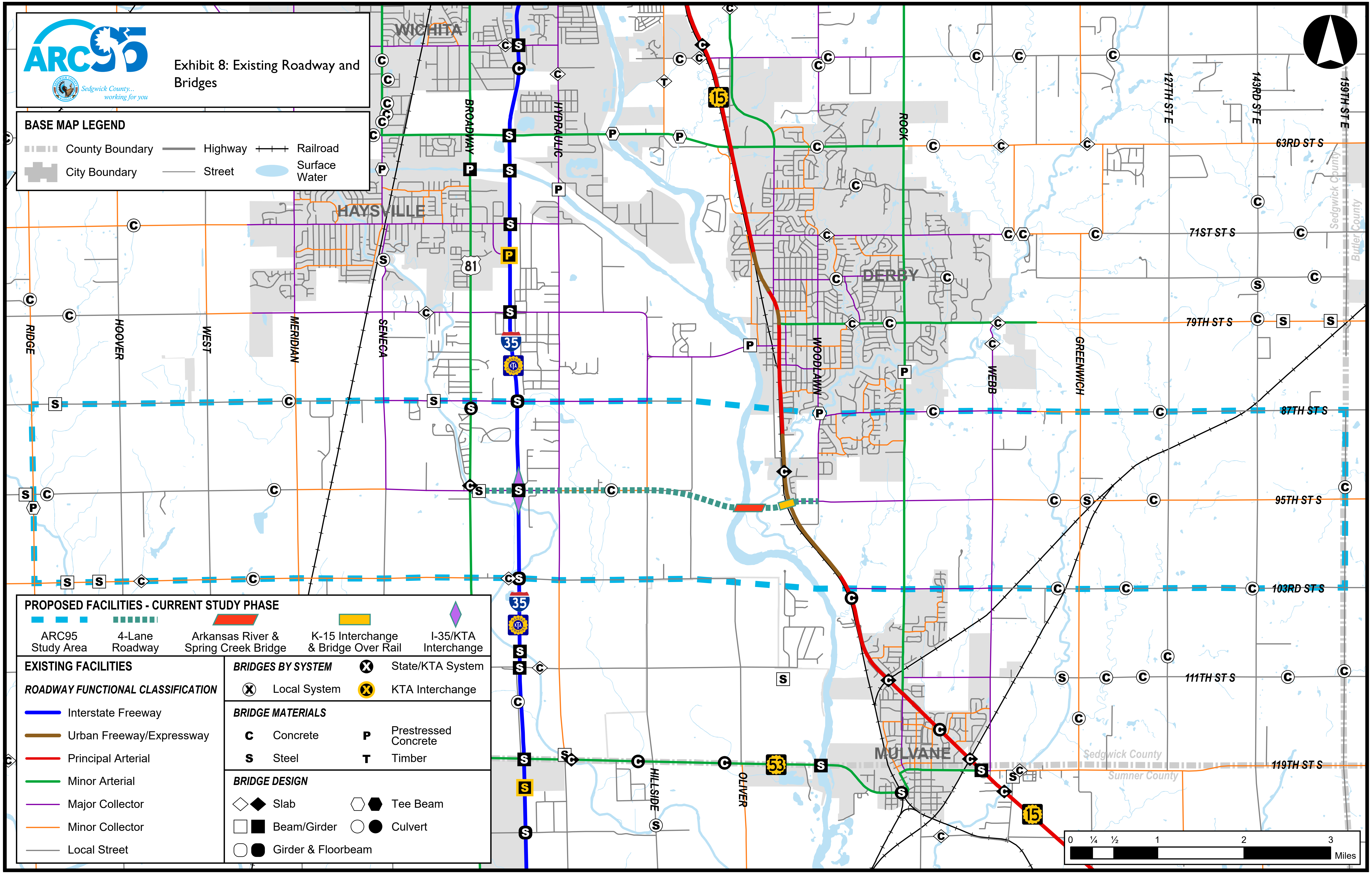


Exhibit 8: Existing Roadway and Bridges

Bridges

There are 29 bridge locations and 30 bridge structures in the study area. Most of the bridges are over creeks and streams. Three bridges carry local roads, 87th Street, 95th Street, and 103rd Street over I-35 and one bridge carries 95th Street over the Santa Fe Railroad. Three bridges will likely be directly impacted by the ARC95 project: I-35 at 95th Street, 95th Street at Cowskin Creek, and 95th Street at Cowskin Creek tributary. The bridges are outlined in Exhibit 9 and mapped on Exhibit 8.

Exhibit 9: Existing Bridges.

	Roadway	KDOT Bridge	Description	Crossing
State System	I-35	0087-B0222	Under	103rd Street
	I-35	0087-B0223	Under	95th Street
	I-35	0087-B0224	Under	87th Street
	K-15 (SB)	0087-B0437	Over	Spring Creek
	K-15 (NB)	0087-B0438	Over	Spring Creek
	US-81	0087-B0157	Over	Cowskin Creek
	US-81	0087-B0466	Over	Cowskin Creek Drainage
Non-State System	95th Street	N/A	Over	Cowskin Creek
	95th Street	N/A	Over	Dry Creek
	95th Street	N/A	Over	Santa Fe Railroad
	95th Street	N/A	Over	Arkansas River tributary
	95th Street	N/A	Over	Arkansas River tributary
	95th Street	N/A	Over	Spring Creek tributary
	95th Street	N/A	Over	Cowskin Creek tributary
	71st Street W	N/A	Over	Spring Creek
	103rd Street	N/A	Over	Spring Creek tributary
	103rd Street	N/A	Over	Spring Creek
	103rd Street	N/A	Over	Spring Creek tributary
	103rd Street	N/A	Over	Dry Creek
	103rd Street	N/A	Over	Cowskin Creek
	159th Street S	N/A	Over	Unnamed stream
	87th Street	N/A	Over	Spring Creek tributary
	103rd Street	N/A	Over	Dog Creek tributary
	103rd Street	N/A	Over	Unnamed stream
	87th Street	N/A	Over	Dog Creek
	103rd Street	N/A	Over	Unnamed stream
	87th Street	N/A	Over	Dry Creek
	87th Street	N/A	Over	Ninnescah River tributary

	Roadway	KDOT Bridge	Description	Crossing
	87th Street	N/A	Over	Cowskin Creek
	87th Street	N/A	Over	Spring Creek

Bicycle and Pedestrian Facilities

Bicycle and pedestrian facilities are limited to sidewalks located with Derby, primarily along Rock Road. The WAMPO Regional Pathway Corridors document outlines segments of Rock Road north and south of 95th Street as a multi-use trail or sidepath. However, the Rock Road segment that bisects 95th Street is outlined as a missing link, and there is a current project underway to fill in this link by Sedgwick County. A rural loop pathway follows Meridian Avenue to 83rd Street through the study area. Other planned facilities are located along the Arkansas River.

Railroads

Two railroads operate in the study area. BNSF Railway has two rail lines, one which runs parallel to K-15 through the primary study area and another on the east side of the Arkansas River that travels through the expanded limits and into the potential influence area. Union Pacific has one rail line on the west side of the Arkansas River. The BNSF Railway line parallel to K-15 will likely be impacted by the ARC95 project.

Environmental Conditions

The natural environment in the study area sets the stage for human development. Characteristics of the natural environment are inventoried in the following section to assess impacts to development potential, specifically potential development locations. The inventory will be referenced when assessing future transportation options.

Climate

The climate in the study area has wide temporary variations, abundant spring rainfall, high winds, and abrupt weather changes at times. Annual average minimum and maximum temperature are 45 degrees and 68 degrees Fahrenheit, respectively. Annual average participation from 1981 to 2010 was about 34 to 35 inches (Kansas Data Access and Support Center).

Topography and Water Features

The topography in the study area is relatively flat, ranging from approximately 1,200 feet to 1,350 feet above sea level. The primary study area is impacted by various waterways: Arkansas River, Ninnescah River, Cowskin Creek, and Spring Creek. There are also riverine areas surrounding the rivers and creeks, a few small lakes and ponds, and wetland areas near the Arkansas River and Cowskin Creek. Exhibit 10 classifies the water type by percent of the total water feature area of the study limits.

A large portion of the study area is within the 100-year flood zone as designated by the Federal Emergency Management Agency. The flood zone limits development potential and detailed analysis demonstrating the impacts of proposed construction will be required. Existing water features are shown in Exhibit 11.

Groundwater can impact site development potential as well, specifically areas with high water tables. There are areas with high water table in the study area, particularly the primary study area. There are multiple areas where the water table depth varies between 0 to 70 inches, or less than six feet below ground surface (U.S. Geological

Survey). Further analysis will be required to determine how groundwater levels will impact infrastructure construction. The depth to water table is also displayed in Exhibit 12.

Exhibit 10: Water types

Water Types	Total Area		Primary Area		Expanded Limits		Potential Area	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Riverine	123.1	71%	121.9	71%	1.2	1%	0.0	0%
Lake	5.7	3%	5.7	3%	0.0	0%	0.0	0%
Pond	28.5	17%	15.4	9%	11.7	7%	1.5	1%
Emergent Wetland	9.6	6%	4.9	3%	4.5	3%	0.1	0%
Forested/Shrub Wetland	4.2	3%	4.2	2%	0.0	0%	0.0	0%
Total Water Features	171.1	100%	152.1	88%	17.4	11%	1.6	1%

Source: U.S. Geological Survey

Exhibit 11: Existing water features

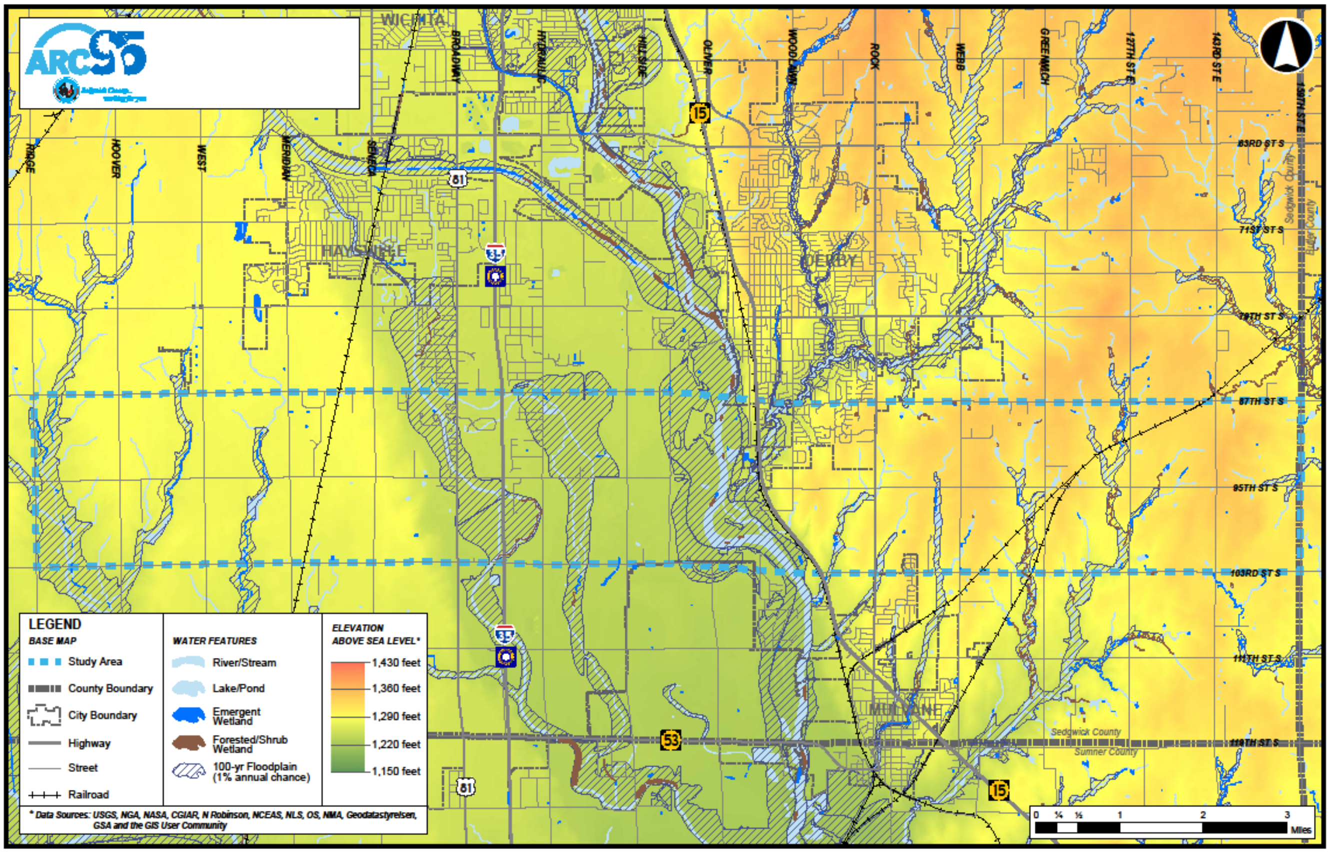
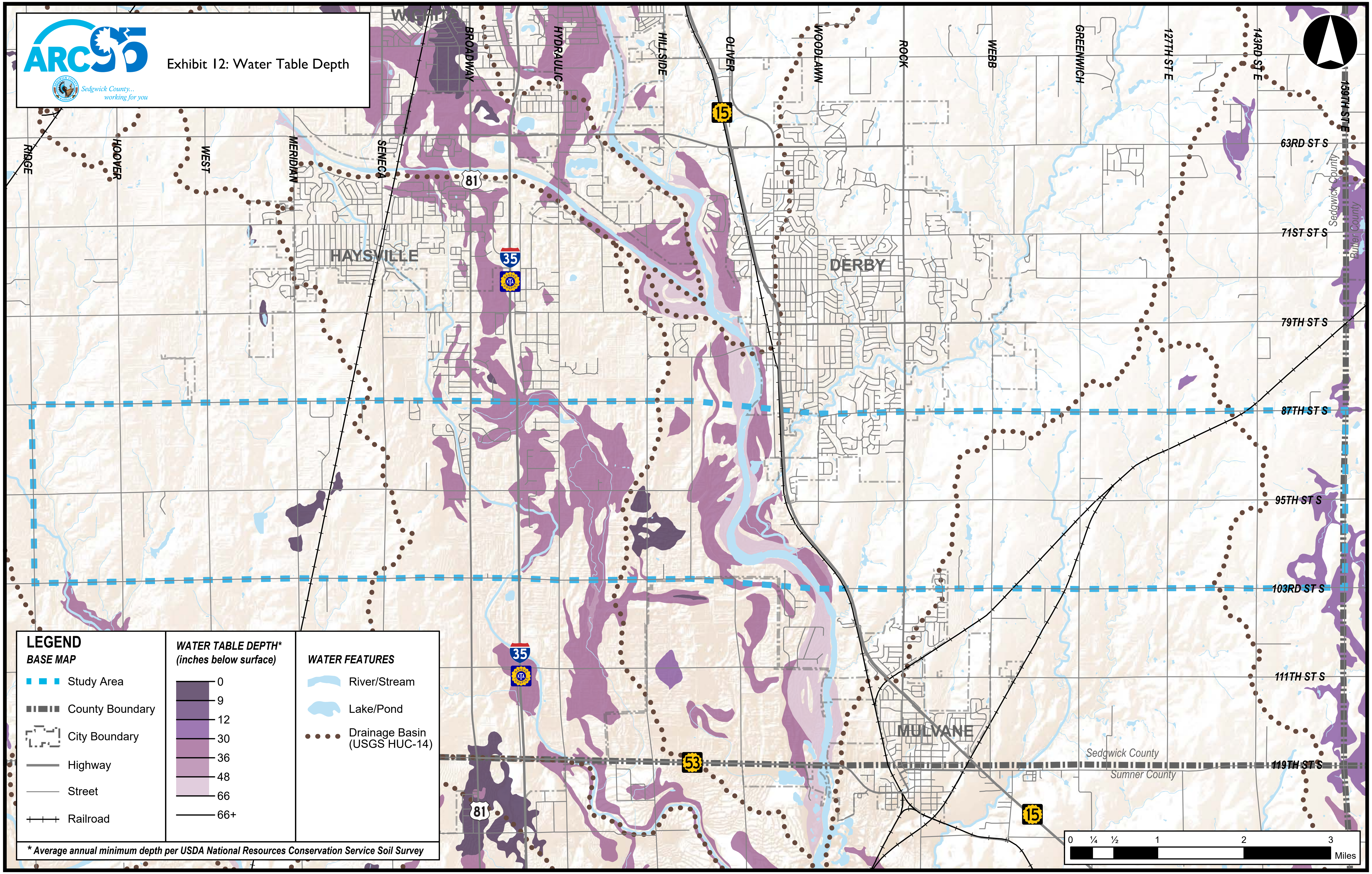


Exhibit 12: Water Table Depth



* Average annual minimum depth per USDA National Resources Conservation Service Soil Survey

Soil and Farmland

There are twelve major soil texture types, as defined by the Natural Resources Conservation Services, in the study area. Soil types impact drainage and vegetation growth as well as the suitability of building, roadway, and bridge construction.

The study area includes soils that are designated as prime farmland and farmlands of statewide importance. Prime farmland has optimal characteristics for agricultural productivity. Farmlands of statewide importance are less viable in terms of agricultural production but may still produce high yields using acceptable farming practices. About 86 percent of the soils in the study area are classified as prime farmland and an additional 5 percent are classified as farmlands of state importance. The remaining 9 percent of the farmland is not classified. The types of soil are outlined in Exhibit 13. Farmland classification is outlined in Exhibit 14, and Exhibit 15 is a map of existing soils within the region.

Exhibit 13: Soil Types.

Soil Types	**Total Area**		**Primary Area**		**Expanded Limits**		**Potential Area**	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Sandy Loam	3242	17%	2864	15%	377	2%	0	0%
Loamy Sands	125	1%	123	1%	2	0%	0	0%
Silty Clay Loam	4998	26%	559	3%	1060	5%	3379	18%
Clay Loam	548	3%	401	2%	113	1%	34	0%
Loam	1387	7%	0	0%	706	4%	681	4%
Silt Loam	7685	40%	720	4%	3949	21%	3016	15%
Sand	0	0%	0	0%	0	0%	0	0%
Silty Clay	625	3%	0	0%	87	0%	538	3%
Water	178	1%	145	1%	9	0%	24	0%
Complex Soil	131	1%	30	0%	29	0%	73	0%
Pits/Quarries	8	0%	8	0%	0	0%	0	0%
Miscellaneous	203	1%	203	1%	0	0%	0	0%
Total Soil Types	19,131	100%	5,055	27%	6,333	33%	7,744	40%

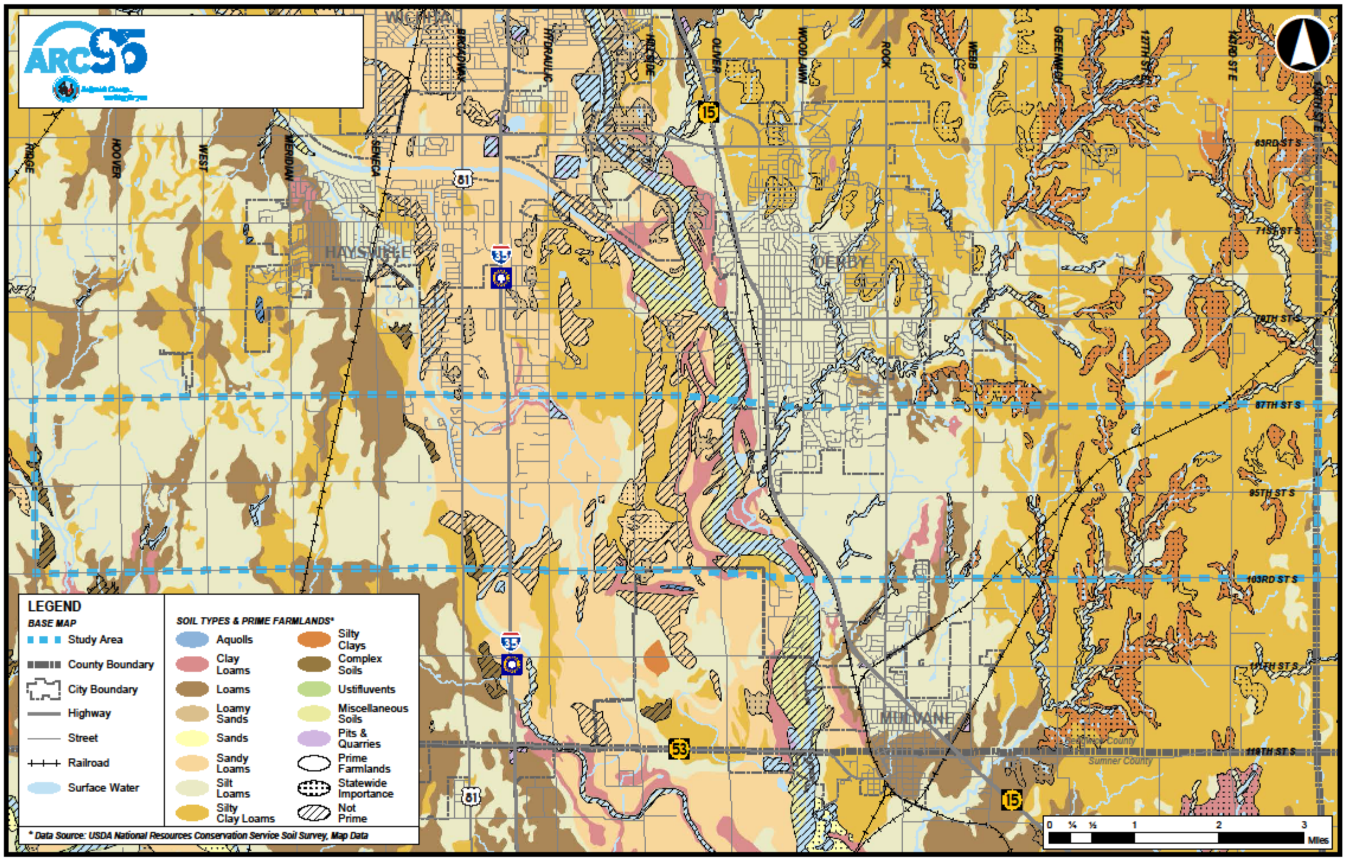
Source: Natural Resources Conservation Service

Exhibit 14: Farmland Types.

Farmland	**Total Area**		**Primary Area**		**Expanded Limits**		**Potential Area**	
	Acres	Percent	Acres	Percent	Acres	Percent	Acres	Percent
Prime Farmland	16,550	86%	3,588	19%	6,016	31%	6,946	36%
Land of State Importance	883	5%	173	1%	116	1%	594	3%
Unclassified	1,699	9%	1,293	7%	201	1%	203	1%
Total Soil Types	19,131	100%	5,055	27%	6,333	33%	7,744	40%

Source: Natural Resources Conservation Service

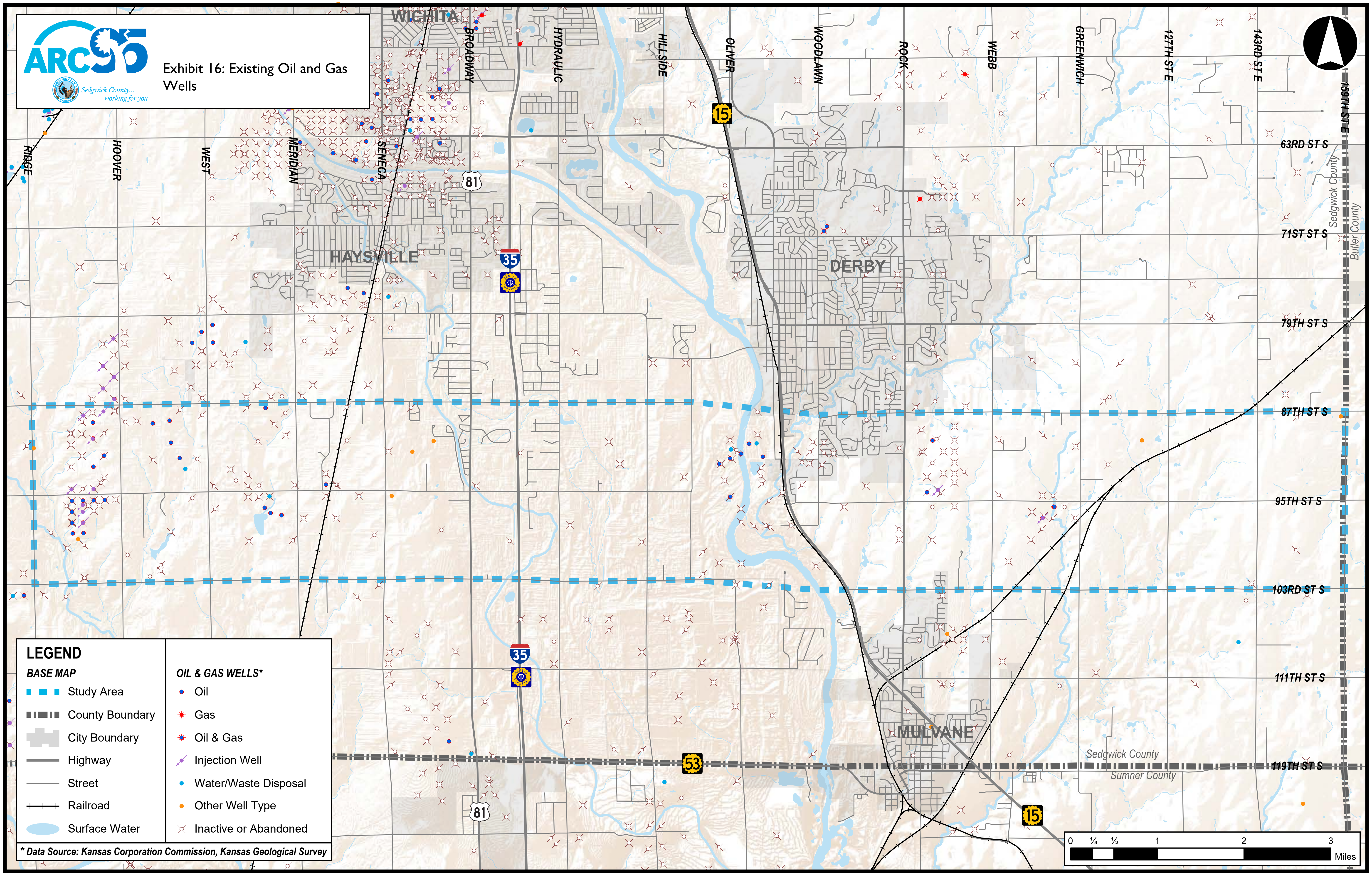
Exhibit 15: Existing Soils map



Oil, Gas, and Water Wells

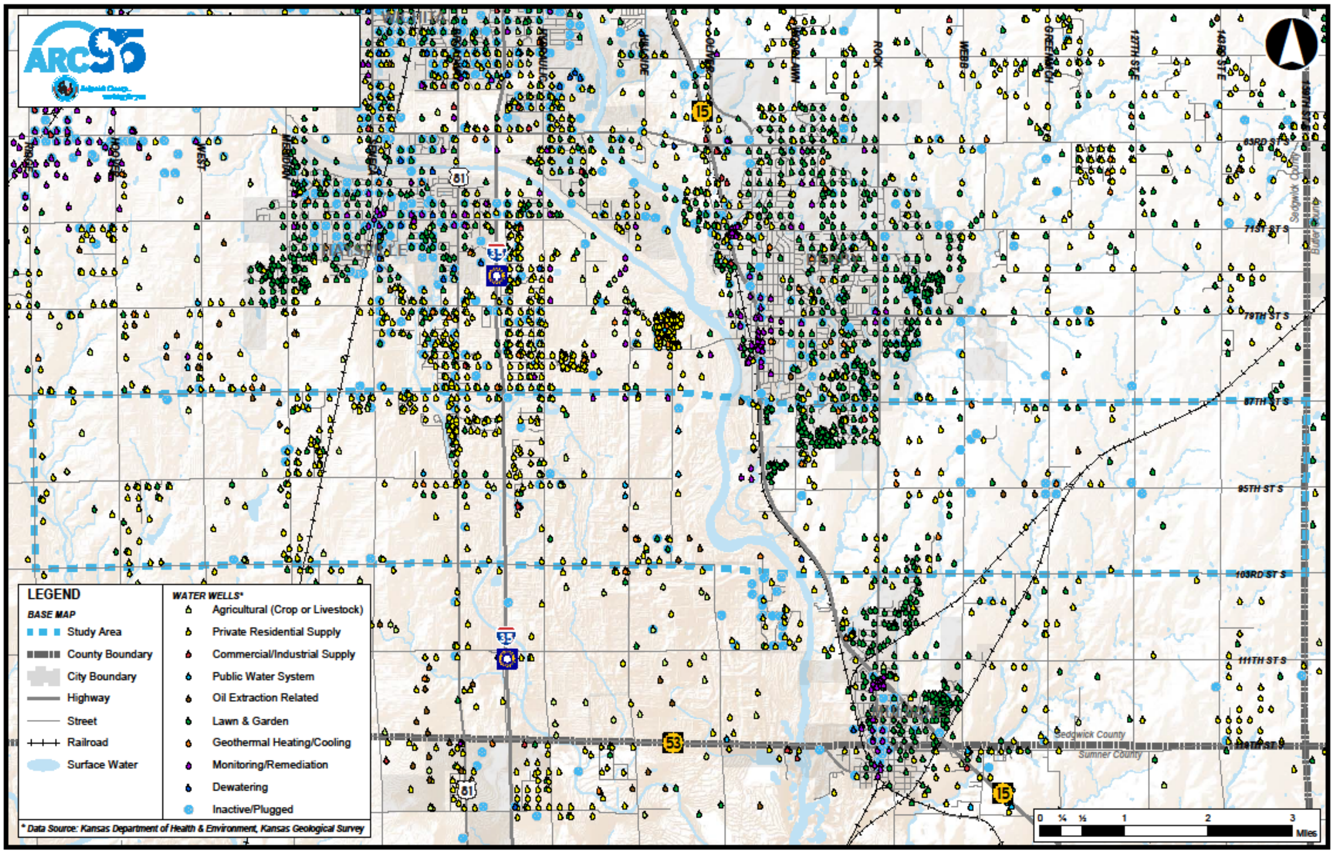
A producing oil well and associate storage tanks were observed using aerial photography in the preliminary site analysis. For this reason, further research was performed using Kansas Geological Survey (KGS) data to identify oil, gas, water, and other wells in the study area. Active oil wells in the vicinity of the Arkansas River near the location of the future bridge will likely be the greatest concern. The location of oil and gas wells are displayed in Exhibit 16. Exhibit 17 shows existing water wells within the region.

Exhibit 16: Existing Oil and Gas Wells



* Data Source: Kansas Corporation Commission, Kansas Geological Survey

Exhibit 17: Existing water wells in the study area.



Existing Utility Coordination

Contact was made with the known utility companies in the study area to collect information on the existing facilities and identify any future expansion plans that might affect and influence development patterns in the area. The utilities that were contacted included:

- KGS
- AT&T
- Phillips 66 Gas Pipeline
- Westar
- Black Hills Energy
- Sedgwick County Electric Coop
- Century Link
- Zayo
- Sprint
- Indian Nations

From the utilities company's responses, no major improvements were planned at the time the utility study information was being gathered (August 2016). Much of the proposed improvements will necessitate utility relocations, but they appear to be minor relocations with no major conflicts present (e.g. major transmission lines, oil or gas transmission lines or major utilities in private easement).

Existing Conditions Conclusion

Based on the analysis of existing conditions, the following areas of concern were highlighted:

- High water tables in the primary study area will impact the design of improvements.
- BNSF Railway rail tracks within the primary study area will need to be taken into consideration.
- There are oil and gas wells and storage tanks near the likely alignment of the Arkansas River crossing bridge that will likely require further assessment to understand impacts.

Public Involvement

Public Meeting Number 1 of 3

Public Meeting #1 for the ARC95 Study was held in two locations in August 2016. Existing conditions via an aerial map and a summary of recommended improvements from previous plans were presented. In addition, five typical section options were presented: a three-lane rural section, a three-lane urban section, a five-lane rural section, a five-lane urban section, and a four-lane rural parkway section (previously recommended in the South Area Transportation Study in 2008).

According to the meeting sign-in sheet, at least 77 individuals attended an open-house meeting in the City of Derby on August 16. At least 56 individuals attended an open-house meeting in the City of Haysville on August 18. Attendees at both meetings were encouraged to complete an anonymous paper questionnaire to express their opinion about the ARC95 study and any potential improvements. Between the two meeting opportunities as well as having an electronic copy of the questionnaire on-line for individuals to fill out, staff received 85 partially- or fully-completed questionnaires. In addition, staff was available for comments and questions at the front desk and throughout the meeting. This study provides a summary of the questionnaire results and other comments expressed to staff at the meeting. Actual comments from all public meetings are attached in Appendix G.

Typical Section

Attendees were presented five typical section options as described above. As indicated in Exhibit 18, the majority of the respondents preferred a rural section (38%). Some respondents expressed concern that the urban section may be destructive to existing properties, trees, landscaping, and farmland; therefore, the rural section appeared to best balance the need for transportation improvements while accommodating the needs of adjacent property owners. However, the urban section was also preferred by a large number of respondents (28%). About 8 percent indicated the preference for a blend of both urban and rural sections depending on the adjacent land uses and development character. In particular, urban typical sections were suggested in the following locations: K-15 to Rock Road, Meridian Street to Broadway Street, and along north-south arterials towards the City of Haysville. Two comments indicated the desire to maintain the current speed limit of 55 mph while another expressed the need to accommodate bicyclists in the design of the typical section.

Exhibit 18: What typical section should be considered?

Typical Section	Count	Percent
Rural	32	37.6%

Typical Section	Count	Percent
Urban	24	28.2%
Both	7	8.2%
No Response	22	25.9%

Future Residential Development

Comments related to the location of future residential development varied greatly. However, most attendees generally agreed that residential development would continue southward from the City of Derby toward the City of Mulvane as well as southward from the City of Haysville. Some attendees indicated that development will follow any improvements or enhanced access that is implemented within the study area, but issues such as adequate sewer and water infrastructure and floodplain impacts will need to be addressed before significant development can occur. Seven respondents believed residential development would occur throughout the 95th Street corridor. Specific areas for residential development that were mentioned at least two times included: Meridian Street, Broadway Street (US-81), Hydraulic Street, Baltimore Avenue (K-15), Greenwich Road, and near the Kansas Star Casino. Sixteen respondents indicated that they do not want to see any future residential development in the area. Of those respondents, seven preferred the rural typical section, one preferred a blend of the typical section options, and eight did not indicate their typical section preference. Two respondents expressed the desire for residential development to be five acre lots or larger to maintain the rural character of the area.

Future Commercial Development

Similar to opinions about future residential development, the location of future commercial development varied greatly. Several respondents indicated that commercial development would generally follow any residential development in the area. The most frequently mentioned location (14 times) for commercial development was the area near Broadway Street (US-81) south of the City of Haysville. The second most frequently mentioned location (7 times) was area near Baltimore Avenue (K-15) south of the City of Derby. Other locations such as the Meridian Street intersection and the Rock Road intersection were mentioned a few times. Others believed commercial development would occur near I-35 if access to the turnpike was available. Fifteen respondents indicated that they did not want to see any future commercial development in the area. Of those respondents, most preferred the rural typical section or did not indicate a typical section preference.

Traffic Patterns

As outlined in Exhibit 19, the majority of the respondents (60%) indicated that improvements to the 95th Street corridor would change their traffic patterns. However, it is difficult to determine whether the improvements positively or negatively change their traffic patterns and use of the corridor. For example, seven respondents clearly indicated positive impacts due to improved access while three respondents described negative impacts such as concern about individual driveway access, traffic congestion, or crime.

Exhibit 19: Would the improvements change your traffic patterns?

Traffic Patterns	Count	Percent
Yes	51	60.0%
No	18	21.2%
Maybe	6	7.1%

Traffic Patterns	Count	Percent
No Response	10	11.8%

Emergency Services

As outlined in Exhibit 20, an overwhelming majority of respondents (72%) believed that the route would improve emergency access. A few respondents that indicated the route would not improve emergency services believed there was sufficient access under existing conditions.

Exhibit 20: Would the route improve emergency services?

Emergency Access	Count	Percent
Yes - Improves	61	71.8%
No - Does Not Improve	19	22.4%
Maybe	2	2.4%
No Response	3	3.5%

Rail Crossing

As outlined in Exhibit 21, the majority of respondents (44%) preferred a grade separation of road over road and rail at the K-15/BNSF Railway/95th Street crossing. However, the rail over road grade separation option was also preferred by a large number of respondents (37%). Only six respondents indicated the desire for an at-grade crossing.

Exhibit 21: Which rail crossing do you feel is most appropriate?

Rail Crossing	Count	Percent[1]
Road over Road and Rail	37	43.5%
Rail over Road	31	36.5%
At-grade	6	7.1%
No response	13	15.3%

[1] Percentages do not equal 100% as some respondents indicated two rail crossing preferences

Farm Access

Over 50 of the 85 respondents did not express an opinion about any methods to improve farm vehicle access along the route. The most frequently mentioned solution (9 times) was to provide wide shoulders or wide easements for farm vehicles and equipment. Other suggested ideas included: periodic passing areas, frontage roads, periodic underpasses, and/or warning signs. Two respondents believed that farm vehicles should not be allowed on the roadway. Eleven respondents, about 13 percent of the total questionnaire responses, indicated their disproval of the project because any improvements to the route would make it more difficult for farming operations.

Benefits to Southern Sedgwick County

As outlined in Exhibit 22, the majority of respondents (68%) believed the proposed improvements would benefit southern Sedgwick County. The most frequent benefit mentioned was increased access and connectivity (17 times) due to improvements such as the Arkansas River crossing and potential I-35 interchange. Development growth, which would result in increased business activity, a growing tax base, and improved property values, was also mentioned as a significant benefit (14 times). Other benefits included improved traffic flow (9 times) and an improved overall image of southern Sedgwick County (5 times). However, nearly one-quarter of respondents (24%) expressed that the improvement would not benefit the area. Several responses indicated concern about construction cost and lack of future growth due to the distance from other developments (6 times). Others believed the improvements would only benefit other users (e.g. residents of nearby cities, commuters, or Kansas Star Casino patrons) and not the existing property owners. A few believed that the existing traffic flow and access was sufficient for the type of rural lifestyle desired by area residents.

Exhibit 22: Would the proposed improvements benefit southern Sedgwick County?

Benefits	Count	Percent[1]
Yes	58	68.2%
No	20	23.5%
Maybe	1	1.2%
No Response	6	7.1%

Other Comments

Approximately 50 people provided open-ended comments at the end of the questionnaire. A visual representation of the frequency of major topics discussed in the open-ended comments is displayed in the word cloud in Exhibit 23. The differences in the desire for urban character or rural character throughout the corridor was evident through passionate expressions by several respondents in the open-ended comments. At least seven respondents expressed concerns related to adjacent property, loss of farmland, and loss of the rural lifestyle in the area. In contrast, at least four respondents were very supportive of improvements and expressed the desire to quickly advance implementation. A few others expressed the desire for more public input opportunities through a meeting with question-and-answer format and an online forum for comments. Some respondents indicated the desire to look at other corridors for improvements either in combination with or in lieu of the 95th Street corridor: 63rd Street, 71st Street, 103rd Street, K-53, and 135th Street.

During the meetings, several attendees also discussed the project with staff. At the meeting in the City of Derby, one individual was adamantly opposed to the project. About four individuals understood the need for improvements but were concerned for potential impacts to their individual properties. Most comments were positive in nature and some residents indicated they would utilize a new turnpike interchange. At the meeting in the City of Haysville, approximately three individuals opposed the project due to potential direct impacts to their property. Overall, staff indicated that most attendees at the City of Haysville also spoke positively of the improvements and the development opportunities it would provide for southern Sedgwick County. Several attendees asked questions related to timing, funding, and access that should be addressed in future planning stages.

Exhibit 23: Open-Ended Comments Word Cloud.

CHAPTER 3 | FUTURE CONDITIONS

Future Scenarios

The WAMPO transportation demand model is a TransCAD model which uses basic socio-economic data such as land use, employment and households for traffic analysis zones to develop proposed traffic volumes based on changes to the aforementioned data. The WAMPO model was obtained and served as the base for the traffic projections. Through an iterative process with the design section, three basic socio-economic growth scenarios within the study influence area as shown in Exhibit 24 were developed for the study.

The growth scenarios and a brief description are as follows:

- Moderate Growth Future Year 2040 – This scenario assumes that the 95th Street Bridge over the Arkansas River is constructed, and all of 95th Street is paved at least to a two lane facility.
- Moderate Growth Future Year 2060 – This scenario assumes that all of the recommended improvements are constructed within the study area.
- High Growth Future Year 2060 – This scenario assumes that all of the recommended improvements are constructed and is more of an "Ultimate" long term growth scenario for the corridor.

WAMPO's regional travel demand model was used to forecast study area traffic. Travel demand methodology relies primarily on the relationship between land use and transportation. Land use type (residential, commercial, industrial, etc.) and development density are the main determining factors of traffic generation. For example, a single-family home on a five-acre lot generates significantly less traffic than a five-acre apartment complex or shopping center.

Population, employment and housing units are the model inputs that are required to generate trips for traffic analysis zones. Population and Housing Units are generated based on residential land uses. Jobs, segregated by employment sector, are generated commercial and industrial land uses. U.S. Census Bureau data provide the baseline numbers for the model, which are used to assess existing traffic conditions. Anticipated future traffic conditions are simulated by adjusting these inputs under various scenarios.

Currently, just over 80% of the Study Area is either used for agricultural purposes or undeveloped. Approximately 12% is occupied by residential land uses. The Study Area contains 1,755 housing units and 442 total jobs.

Residential, commercial and industrial land use acreages were projected for the 2040 WAMPO Model scenario per the baseline model data for housing units, commercial jobs and industrial jobs. Right-of-way/easement acreage was calculated for existing roads plus additional right-of-way needed for ARC95 improvements. Government/institution, park/open space, and utility/infrastructure land uses were projected at their current proportion versus developed acreage. The increases were deducted from the totals for agricultural and undeveloped properties.

The 2040 Build scenario projections were based on 4.2% annual growth, an increase of 0.5% from the WAMPO Model annual growth of 3.7%. The 2060 Moderate Growth scenario assumed 3.95% annual growth through the 40-year period, which accounts for some leveling off after 2040. The 2060 High Growth scenario assumes 7.5% annual growth through the 40-year period.

Because land uses are mapped at the parcel level and the travel demand model utilizes mathematical projections, geographic distribution and density of future population and job growth was estimated. These spatial allocations considered the following factors.

- Floodplain and High Water Table: The extent of these barriers within the Study Area will impact where development occurs. Mitigation expenses will likely drive development to other properties until development demand is sufficient to justify the costs.
- Location Relative to Highways: Locations near highway interchanges, along highway frontages, and near arterial intersections will draw the bulk of future commercial development. Within Sedgwick County, 80% of industrial land uses are within two miles of an interstate, U.S. or state highway. There will likely be increased industrial development demand within the Study Area, particularly after the KTA/I-35 interchange is constructed.

Exhibit 24 illustrates the estimated distribution and development density of future residential, commercial, and industrial growth for the 2040 scenarios and 2060 scenarios.

Exhibit 24: Housing & Job Denisty

TRAVEL DEMAND MODEL INPUTS

Housing Unit Density & Job Density

Sedgwick County... working for you

MAP LEGEND

Project Elements

▪ ▬ ▪ Study Area Boundary

— Traffic Analysis Zone (TAZ) Boundary

Housing Density

Min. Mean Max.

● = 20 Housing Units

Job Density

Min. Mean Max.

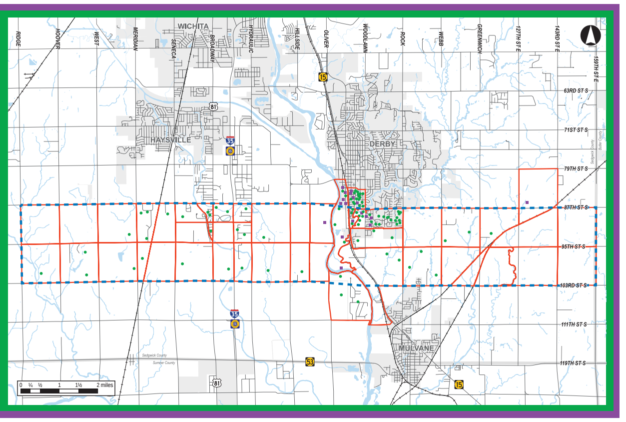
■ = 20 Jobs

Maps depict housing & job density only within each TAZ. Dot patterns do not illustrate geographic distribution and individual dots do not identify specific locations.

SCENARIO	CONDITION	HOUSING UNITS		JOBS	
		Total Units	Change from 2010	Total Jobs	Change from 2010
Base Year 2010 - WAMPO Model	Existing transportation network	1,755	—	442	—
Year 2040 Projected - WAMPO Model	Existing plus 95th St. improvements only	3,385	1,630	850	408
Year 2040 Projected - 95th St. Build	Existing plus 95th St. and KTA interchange	3,611	1,856	1,227	785
Year 2060 Projected - 95th St. Full Build Moderate Growth	Existing plus 95th St. and KTA interchange	5,136	3,381	1,632	1,190
Year 2060 Projected - 95th St. Full Build High Growth	Existing plus 95th St. and KTA interchange	8,208	6,453	4,265	3,823

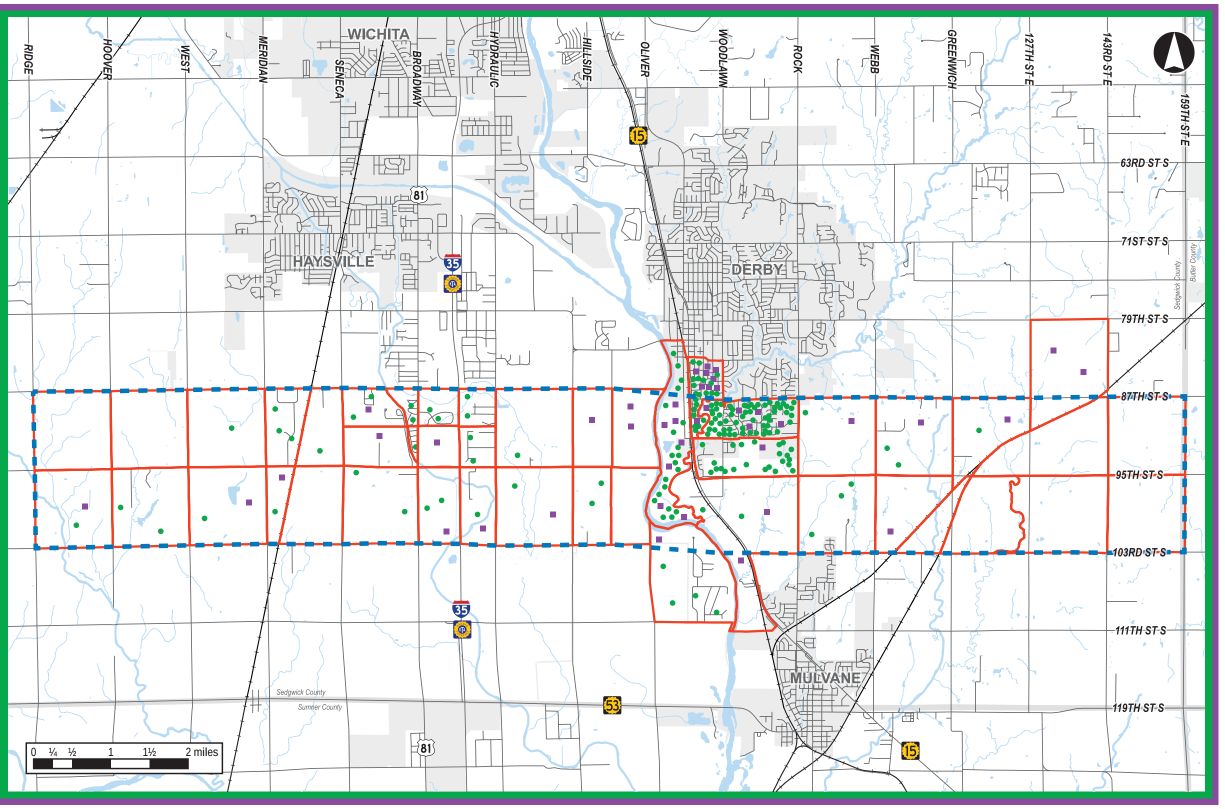
Base Year 2010

WAMPO Model



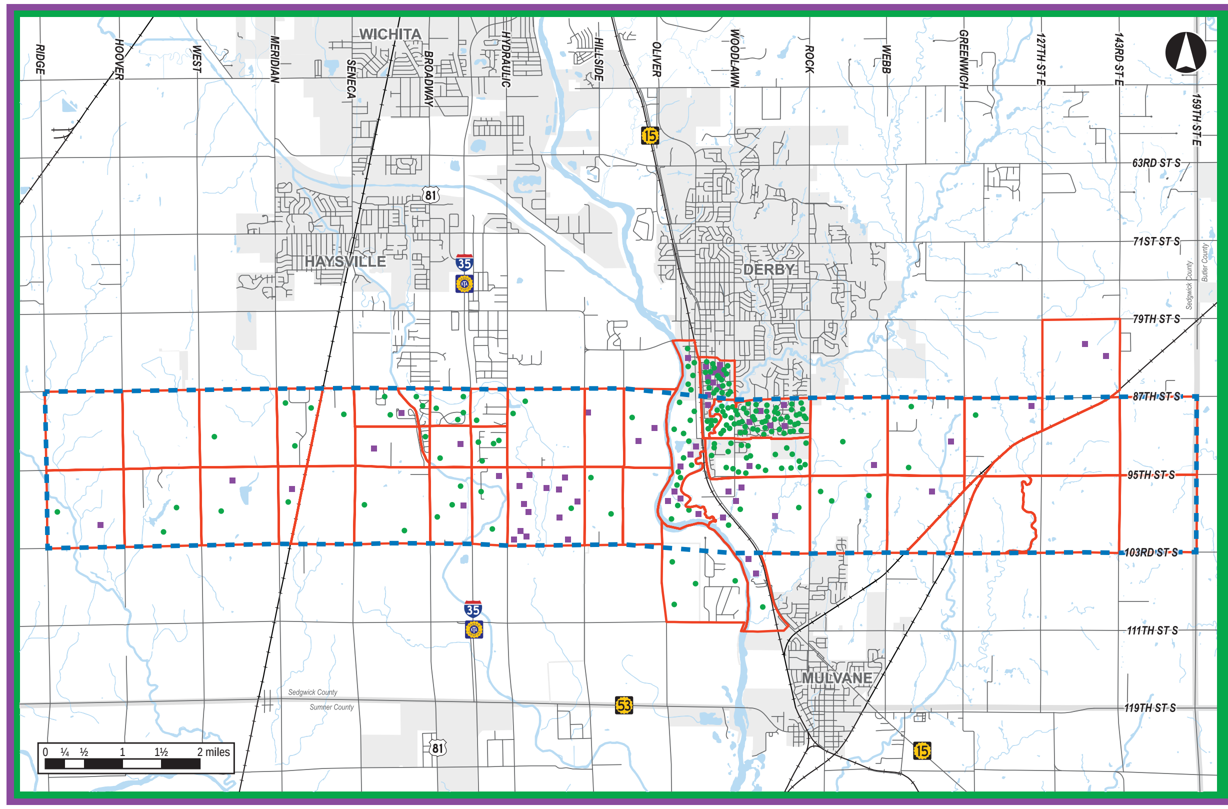
Year 2040 Projected

WAMPO Model



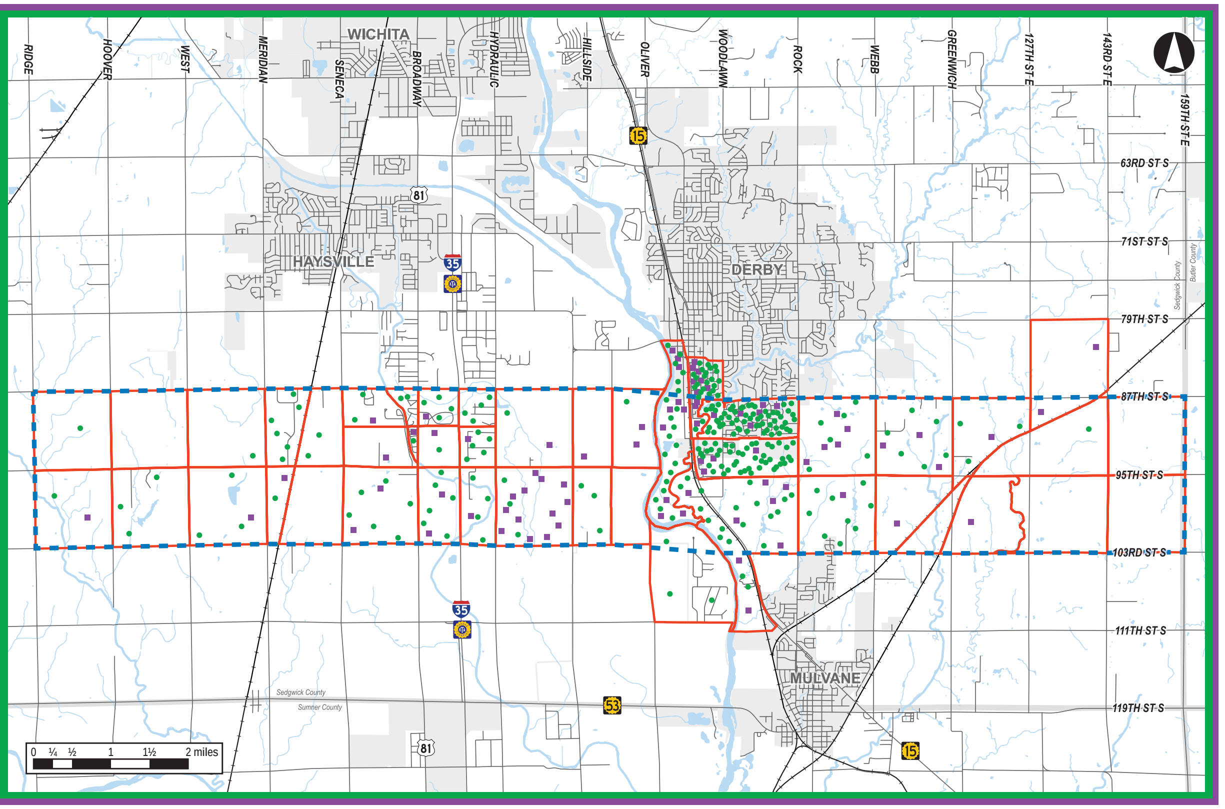
Year 2040 Projected

95th St. Build



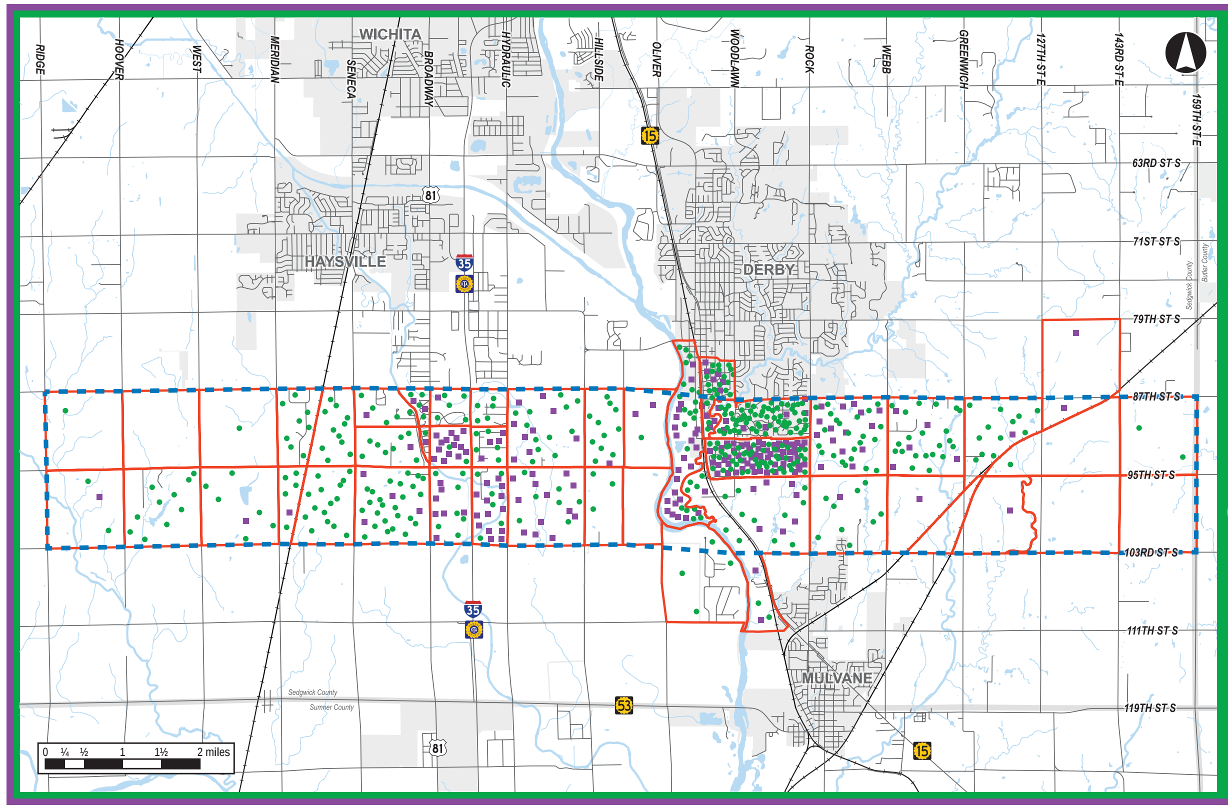
Year 2060 Projected

95th St. Full Build Moderate Growth



Year 2060 Projected

95th St. Full Build High Growth



Projected Traffic Volumes

Operational Analysis

To assess the impact of the proposed corridor development on the 95th Street corridor, traffic counts were conducted by Sedgwick County at various locations in the study area along 95th Street. It included manual counts of the existing traffic at the intersections of:

- 95th Street and Broadway Street
- 95th Street and Hydraulic Street
- 95th Street and Hillside Street
- 95th Street and Bluff Street
- 95th Street and K-15
- 95th Street and Woodlawn Blvd.

To supplement the manual peak hour counts, machine counts were also conducted by Sedgwick County at other locations along 95th Street Corridor.

Understanding the eventual development makeup of the adjacent land is the key in determining the nature of the street system necessary to support the future development in a manner consistent with the goals of the community. The previous land use plan section discussed the different uses of the land in the study area; however, in order to project the street network necessary to complement the future development, certain assumptions as to the intensities of development on specific properties needs to be made. The future traffic volumes and travel patterns are obtained by means of a traffic model and through an iterative process. The specific configuration of streets and intersections that will serve the area is determined once the assumed development has occurred.

In addition to the existing scenario, an assessment of traffic operations was made for the three socio-economic growth scenarios mentioned earlier for both the morning and evening peak hours. The KTA connection heavily influence route selection, so all future scenarios were shown with and without the KTA connection included. Interim conditions were used as a subset of the final roadway configuration to split up the project into a manageable capital improvement program for the corridor. The roadway configuration scenarios and volumes are shown in Appendix A, and the list below provides the description and a brief description of the scenario:

- Existing Conditions
- Interim Conditions (2040 Scenario)
- Interim Conditions with KTA (2040 Scenario)
- Build Conditions (2040 Scenario)
- Build Conditions with KTA (2040 Scenario)
- Build Conditions (2060 Moderate Scenario)
- Build Conditions with KTA (2060 Moderate Scenario)
- Build Conditions (2060 High Scenario)
- Build Conditions (2060 High Scenario)

The study intersections were evaluated based on the methodologies outlined in the Highway Capacity Manual, 6th Edition, published by the Transportation Research Board. The operating conditions at an intersection are rated by the "level of service" experienced by drivers. Level of service (LOS) describes the quality of traffic operating conditions and is rated from A to F. LOS A represents the most desirable condition with free-flow movement of traffic with minimal delays. LOS F generally indicates severely congested conditions with excessive delays to motorists. Intermediate grades of B, C, D and E reflect incremental increases in the average delay per stopped vehicle. Delay is measured in seconds per vehicle. Exhibit 25 shows the upper limit of delay associated with each level of service for signalized and unsignalized intersections.

Exhibit 25: Intersection Level of Service Delay Thresholds

Intersection Level of Service Delay Thresholds		
Level of Service (LOS)	Signalized (s)	Un-signalized (s)
A	< 10	< 10
B	< 20	< 15
C	< 35	< 25
D	< 55	< 35
E	< 80	< 50
F	≥ 80	≥ 50

The LOS rating deemed acceptable varies by community, facility type and traffic control device. A LOS D is the desirable goal for movements at unsignalized intersections that must yield to other movements; however, a LOS E or F is often accepted for low to moderate traffic volumes where the installation of a traffic signal is not warranted by the conditions at the intersection or the location is deemed undesirable for signalization for other reasons. Other reasons may include the close proximity of an existing traffic signal or the presence of a convenient alternative path. For signalized intersections, level of service and average delay relate to all vehicles using the intersection. Generally, most cities in Kansas consider LOS D as the minimum desirable standard for a signalized intersection. At unsignalized intersections LOS E and above is often considered a desirable standard. All study intersections were evaluated using the Synchro analysis software package based on Highway Capacity Manual methods.

Existing Conditions

95th Street currently has light turning movement counts and operates under STOP control at all its intersections. All the intersections are single-lane approaches and currently operating at a LOS B or better. A detailed breakdown of each intersection can be found in Exhibit 26.

Interim Conditions

Projected 2040 traffic volumes were used to determine the interim impacts of the 95th Street corridor with and without the KTA connection if only a part of the entire corridor was actually built. All intersections are signalized in both these scenarios and left turn lanes are added to each intersection except at Bluff Street which remains with STOP control for NB and SB Bluff approaches and with no turn lanes. A detailed breakdown of each intersection can be found in Exhibit 27.

In the scenario without the KTA connection scenario, Broadway to west of K-15 remains as a two-lane section and a complete build between K-15 to Woodlawn. After signalization, all the intersections are operating a LOS C or better in the AM and PM peak period except at Hydraulic Street in the PM peak due to the NB right turn volumes. At the intersection of 95th Street and Broadway Street, single left turn lanes have been added to each approach. The SB left turn serves the heaviest turn volumes and 315' in length. The WB approach has a 185' left turn lane and serves a right turning movement. Due to lower WB thru volumes no separate right turn lane was added at the intersection and a shared thru/right lane resulted in acceptable LOS for the intersection. The NB and EB approaches have 150' and 135' left turn lanes, respectively. At the intersection of 95th Street and Hydraulic Street, a WB right turn lane has been added to serve the right turning movement especially in the AM peak period. This right turn lane could be converted to a thru lane in the future scenarios as growth continues along the corridor. The WB approach also has a 100' left turn lane complementing the two way left turn lane west. A 160' SB left turn lane storage length has been added for turning movements in the AM and PM peaks. The NB and EB approaches have 100' left turn lanes each. At the intersection of 95th Street and Hillside, left turn lanes have been added to each approach. The EB and WB turn lanes are 100' while the NB and SB turn lanes are 70' and 150', respectively. At the intersection of 95th Street and Woodlawn Blvd., a 250' channelized SB right turn has been added for traffic using the K-15 access just west of the intersection. The NB and WB left turn lanes at the intersection are 100' and the SB left turn lane is 150'. The EB left turn lane is 250'.

In the KTA scenario, Broadway to Hydraulic becomes a five-lane section, Hydraulic to west of K-15 remains as a two-lane section, and a complete build between K-15 to Woodlawn. After signalization, in the AM and PM peak period all the intersections are operating a LOS C or better. At the intersection of 95th Street and Broadway Street, a 350' NB right turn lane has been added to serve the right turning movement predominantly in the AM peak period. At the intersection of 95th Street and Hydraulic Street, a 250' SB right turn lane has been added to serve the right turning movement accessing the KTA ramps. The SB left turn lane storage length can remain at 160' since traffic could then access the KTA from 95th Street. The KTA ramp terminals are signalized as well and operate efficiently. The LOS at these ramp terminals cannot be determined using SYNCRO since HCM analysis cannot be completed for a non-NEMA phasing, but simulation appears to operate efficiently. At the KTA east ramp terminal a 300' WB right turn lane has been added to serve the right turning traffic predominantly in the AM peak period. At the intersection of 95th Street and Hillside, left turn lanes have been added to each approach. The EB and WB turn lanes are 100' long while the NB and SB turn lanes are 70' and 150', respectively. At the intersection of 95th Street and Woodlawn Blvd., a 250' channelized SB right turn has been added. The NB and WB left turn lanes at the intersection are 100' and the SB left turn lane is 150'. The EB left turn lane is 250' for the volumes anticipated from the K-15 interchange.

Future Conditions

The 2040, 2060, and the 2060 ultimate scenarios with and without the KTA include the entire 95th Street corridor between Broadway Street and Woodlawn Blvd. as a five-lane section with signalized intersections and turn lanes. Due to the low volumes anticipated along Bluff Street in the future, the intersection is recommended to remain as STOP control for NB and SB traffic with left turn lanes 75' and 40', respectively. Lane configurations remained same in all these scenarios. Desired LOS was achieved in each of these scenarios through signal optimization and improved timing plans. A detailed breakdown of each intersection can be found in Exhibit 26 through Exhibit 30.

Exhibit 26: Existing Condition Level of Service.

Intersection	**AM**			**PM**		
	LOS	Delay	v/c	LOS	Delay	v/c
95th & Broadway						
NB	-	-	-	-	-	-
SB	-	-	-	-	-	-
EB	B	10.3	0.01	B	11.5	0.02
WB	B	10.5	0.05	B	12.4	0.12
95th & Hydraulic						
NB	A	7.4	0.12	A	7.7	0.13
SB	A	7.2	0.04	A	8	0.15
EB	A	7.4	0.03	A	7.8	0.05
WB	A	7.5	0.05	A	8.2	0.12
95th & Hillside						
NB	-	-	-	-	-	-
SB	-	-	-	-	-	-
EB	A	9.1	0.06	A	9.4	0.09
WB	A	8.4	0.001	A	9.1	0.001
95th & Bluff						
NB	A	7.2	0.0001	-	-	-
SB	-	-	-	-	-	-
EB	-	-	-	A	8.6	0.003
WB	-	-	-	-	-	-
95th & Woodlawn						
NB	B	10.4	0.002	B	10.5	0.003
SB	A	9.9	0.046	B	10.3	0.07
EB	-	-	-	-	-	-
WB	-	-	-	-	-	-

Exhibit 27: Interim 2040 Condition Level of Service.

Intersection	**No KTA Build**						**Full KTA Build**					
	AM			**PM**			**AM**			**PM**		
	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c
95th & Broadway	C	26	0.58	C	22.7	0.53	C	28.9	0.75	C	27.6	0.74
*95th & KTA	HCM analysis cannot be completed for non-NEMA phasing						HCM analysis cannot be completed for non-NEMA phasing					
95th & Hydraulic	C	24.7	0.68	D	43	1.07	C	22.7	0.82	B	19	0.71
95th & Hillside	B	16.2	0.78	B	16.1	0.68	B	14.4	0.81	B	15.2	0.69
95th & Bluff												
NB	C	18.3	0.08	C	15.3	0.05	C	17.7	0.06	C	19.5	0.05
SB	F	75.2	0.44	E	35.5	0.11	E	44.3	0.07	D	34.2	0.07
EB	-	-	-	-	-	-	-	-	-	-	-	-
WB	-	-	-	-	-	-	-	-	-	-	-	-
95th & K-15 Ramp	A	9.9	0.44	B	12.8	0.5	A	3.9	0.77	A	8.5	0.79
95th & Chaparral	C	29.1	0.72	C	22.4	0.35	C	21.2	0.87	B	16.9	0.66
95th & Woodlawn	B	10.8	0.42	A	8.3	0.43	A	7	0.43	A	7.6	0.39

Exhibit 28: Full Build 2040 Condition Level of Service

Intersection	**No KTA**						**KTA**					
	AM			**PM**			**AM**			**PM**		
	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c
95th & Broadway	C	25.5	0.63	C	23.1	0.38	C	34.8	0.78	C	33.8	0.79
*95th & KTA	HCM analysis cannot be completed for non-NEMA phasing						HCM analysis cannot be completed for non-NEMA phasing					
95th & Hydraulic	C	29.6	0.66	C	27.9	0.58	C	27.6	0.86	C	27.6	0.78
95th & Hillside	B	12.4	0.59	B	15.6	0.68	B	11.6	0.74	B	13	0.62
95th & Bluff												
NB	B	13.8	0.04	B	11.4	0.03	B	13.8	0.03	B	13.9	0.02
SB	F	63.5	0.37	C	21	0.06	D	32	0.04	C	20	0.03
EB	-	-	-	-	-	-	-	-	-	-	-	-
WB	-	-	-	-	-	-	-	-	-	-	-	-
95th & K-15 Ramp	B	12.2	0.45	B	15	0.49	A	4	0.76	A	9	0.8
95th & Chaparral	C	23	0.85	B	16.8	0.36	D	41.6	0.96	B	19.7	0.7
95th & Woodlawn	B	14.1	0.49	A	9.2	0.46	A	7.7	0.41	A	5.4	0.38

Exhibit 29: Full Build 2060 Condition Level of Service

Intersection	**No KTA**						**KTA**					
	AM			**PM**			**AM**			**PM**		
	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c
95th & Broadway	C	24.2	0.51	C	24.5	0.54	C	34	0.81	C	34	0.81
*95th & KTA	HCM analysis cannot be completed for non-NEMA phasing						HCM analysis cannot be completed for non-NEMA phasing					
95th & Hydraulic	C	30.1	0.79	C	29.5	0.61	C	24.2	0.87	B	18.4	0.78
95th & Hillside	B	12.4	0.63	B	17.3	0.69	B	12.3	0.75	B	12.8	0.64
95th & Bluff												
NB	C	21.1	0.12	B	12.2	0.03	B	13.9	0.03	B	14.4	0.02
SB	E	38.6	0.04	C	24	0.04	D	31.1	0.04	C	21.8	0.04
EB	-	-	-	-	-	-	-	-	-	-	-	-
WB	-	-	-	-	-	-	-	-	-	-	-	-
95th & K-15 Ramp	B	12.5	0.54	B	17	0.61	A	5.2	0.76	B	12.2	0.84
95th & Chaparral	C	32.1	0.98	C	25.1	0.47	C	34.5	0.91	B	18.5	0.76
95th & Woodlawn	B	11.6	0.46	A	8.7	0.52	A	7.9	0.5	A	6.1	0.5

Exhibit 30: Full build 2060 High Growth Condition

Intersection	**No KTA**						**KTA**					
	AM			**PM**			**AM**			**PM**		
	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c	LOS	Delay	v/c
95th & Broadway	C	26.3	0.53	C	26.5	0.61	C	33.7	0.86	C	33.8	0.86
*95th & KTA	HCM analysis cannot be completed for non-NEMA phasing						HCM analysis cannot be completed for non-NEMA phasing					
95th & Hydraulic	C	29.7	0.61	C	31.3	0.73	C	26.8	0.84	C	29.6	0.79
95th & Hillside	B	16.3	0.68	B	18.3	0.71	B	16.9	0.81	B	15.5	0.65
95th & Bluff												
NB	C	16.2	0.07	C	16.4	0.05	C	19.8	0.07	C	20.6	0.05
SB	E	42.7	0.29	D	33.9	0.19	E	49.4	0.33	E	39.2	0.18
EB	-	-	-	-	-	-	-	-	-	-	-	-
WB	-	-	-	-	-	-	-	-	-	-	-	-
95th & K-15 Ramp	B	13.9	0.45	B	18	0.56	A	8.1	0.81	B	15.2	0.87
95th & Chaparral	C	30.5	0.69	B	18.7	0.59	C	21	0.84	B	17.7	0.7
95th & Woodlawn	A	7.9	0.53	A	9.1	0.68	A	6.8	0.48	A	5	0.53

Public Involvement

Public Meeting Number 2 of 3

Public Meeting #2 for the ARC95 Study was held in two locations in November 2016.

According to the meeting sign-in sheet, at least 22 individuals attended an open-house meeting in the City of Derby on November 15. At least 16 individuals attended an open-house meeting in the City of Haysville on

November 17. Attendees at both meetings were encouraged to complete an anonymous survey question to express their opinion a potential improvement area. Between the two meeting opportunities, staff received 31 responses to the survey question. Staff was also available for comments and questions at the front desk and throughout the meeting.

Intersection/Interchange Alternatives

Attendees were presented four intersection alternatives for the 95th Street area near K-15 and the BNSF Railway (see Appendix C for presented options). As indicated in Exhibit 31, the majority of the respondents (71%) preferred roadway over roadway and rail with an interchange at K-15. Seven attendees also provided brief comments on the comment card. At least two of the seven individuals expressed that the K-15 interchange alternative was a great concept. Another suggested moving 95th Street to northbound K-15 as far north as possible. One respondent suggested assessing other roadways to cross the barriers while another would like to see an analysis of the potential improvements effects on the gravel roads adjacent to 95th Street. One attendee noted their opinion that the study was a waste of time.

Exhibit 31: Which of the following concepts for the K-15 / BNSF - 95th Street interchange do you believe will be the best option based on efficiency and safety?

Alternatives	Derby	Haysville	Total	Percent
Four Quadrant Gate System	0	1	1	3.2%
Rail over Roadway	2	3	5	16.1%
Roadway over Roadway and Rail (K-15 Intersection)	1	1	2	6.5%
Roadway over Roadway and Rail (K-15 Interchange)	14	8	22	71.0%
None	0	1	1	3.2%

CHAPTER 4 | CORRIDOR DESIGN

Design Guidelines

The design criteria for the 95th Street Corridor Study has different functional classification designations depending on the segment within the primary study area. Within the primary study area, there are both urban and rural roadway improvements proposed. 95th Street from the west project limits to Hydraulic and from Bluff to Woodlawn would be considered an urban major arterial with curb and gutter and storm sewer. 95th Street from Hydraulic to Bluff and from Woodlawn to the east project limits would be considered a rural major arterial with paved shoulder and open ditches. The urban and rural roadway design criteria are included for reference as Appendix B.

Corridor Segments

Roadway Typical Sections

Within the primary study area, 95th Street is proposed to be a five-lane section with two options: a five-lane rural section and a five-lane urban section. The five-lane urban section would be from the west project limits to Hydraulic and from Bluff to Woodlawn. This section would include a 45 mph speed limit, two through lanes in each direction, a center turn lane, curb and gutter, storm sewer, sidewalk and a shared use path. The five-lane rural section would be from Hydraulic to Bluff and from Woodlawn to the east project limits. This section would include a 55 mph speed limit, two through lanes in each direction, a center turn lane, paved shoulders, open ditches, sidewalk and a shared use path. The urban and rural typical section options are included for reference as Appendix B.

Roadway Alignment

The proposed 95th Street alignment within the primary study area is centered on the existing 95th Street alignment from west project limits near US-81/Broadway to just east of the 95th Street and Hillside intersection. At this point the proposed alignment angles southeast before continuing east at the Arkansas River crossing. The alignment is diverted south to better line up with a more favorable location to cross the Arkansas River perpendicularly. Once across the Arkansas River the proposed alignment angles back to the northeast to create a perpendicular crossing of the BNSF mainline and K-15. Just east of K-15 the proposed alignment again is centered on the existing 95th Street alignment to the east project limits just east of Woodlawn. The proposed roadway improvements plan sheets are included for reference as Appendix D.

95th Street/BNSF/K-15

Where the proposed 95th Street alignment crosses the BNSF Railroad tracks and K-15 four intersection/interchange alternatives were evaluated during the study. Each of the alternatives is described below and a detailed layout is included for reference as Appendix C.

Alternative 1 – Four Quadrant Gate System

- At-Grade Intersection Alternative
- Creates a new conflict point on K-15 with signalized intersection
- Medians and quad gate systems at BNSF crossing
- Surrounding property owners access is minimally affected

Alternative 2 - Rail over Roadway

- At grade intersection at 95th Street and K-15

- Close public crossing at 91st Street and El Paso Facility
- Close three (3) private crossings to houses, need alternative access

Alternative 3 – Roadway over Roadway & Rail (K-15 Intersection)

- 95th Street Bridge over BNSF and K-15
- Access to 95th Street via new road just east of K-15
- Allows for same free flow movements at K-15 for NB traffic
- Subdivision to the north, access is reconfigured out to 95th Street
- Signalized intersection at K-15

Alternative 4 – Roadway over Roadway & Rail (K-15 Interchange)

- 95th Street Bridge over BNSF and K-15
- NB K-15 traffic use access road south of 95th Street
- SB K-15 traffic would have access ramps exiting and entering K-15 at 95th Street Bridge
- No signalized intersection on K-15 at interchange
- Access to two (2) houses north of 95th Street will need to be reconfigured
- Subdivision to the north, access is reconfigured out to 95th Street
- Existing left turn lane on K-15 could be eliminated and K-15 reconfigured to move ramps as far from BNSF main as possible

Following the review by the steering and technical committees, as well as taking comments from the public at the second public meeting, the preferred alternative for the 95th Street/BNSF/K-15 was Alternative 4 – Roadway over Roadway and Rail (K-15 Interchange).

Access Management

Access Management shall conform to the requirements set forth in Chapter 4 of the KDOT access management manual (current version; 2013 with errata), with the requirement that 95th Street would function as a Class C – Partial access control Type 2 roadway, with the following exception:

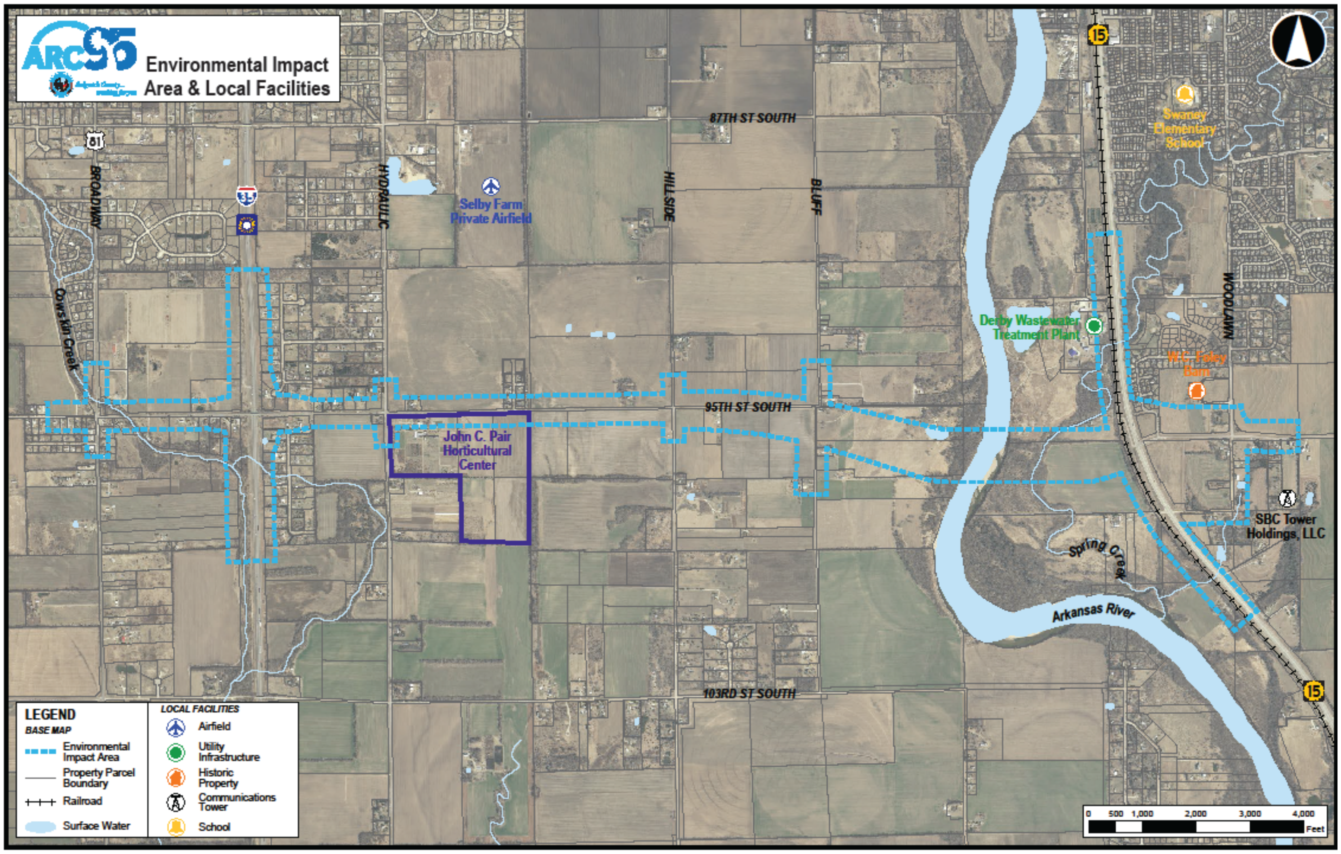
- The 95th Street corridor plan auxiliary lane lengths and medians shall control current access and roadway configurations at the arterial intersections and for 95th Street.
- A waiver may be issued for a new non-public street Access Point, provided there is no other reasonable access to a different public roadway, the access is expected to generate less than 20 trips per day and it with the understanding that it is an interim access until further development occurs and the access can be consolidated.
- Other waivers will be considered on a case by case basis by the county, but strong justification would be necessary to vary from the requirements.

Potential Environmental Impacts

This section offers a preliminary assessment of potential environmental impacts related to constructing the proposed first phase of the ARC95 project. Construction will likely require Sedgwick County to request a portion of project funding through federal transportation programs. Eligibility of federal funding requires compliance with the National Environmental Policy Act (NEPA), including clearance from the granting agency. This preliminary assessment identifies anticipated environmental concerns related to the ARC95 project that may be addressed prior to submitting applications for federal funds.

The environmental impact area, displayed in Exhibit 32, includes an area generally within 200 feet of the project's proposed right-of-way. This area encompasses approximately 640 acres. Generally, this is the extent of short-term environmental disturbance attributable to project construction and long-term environmental impacts resulting from the project.

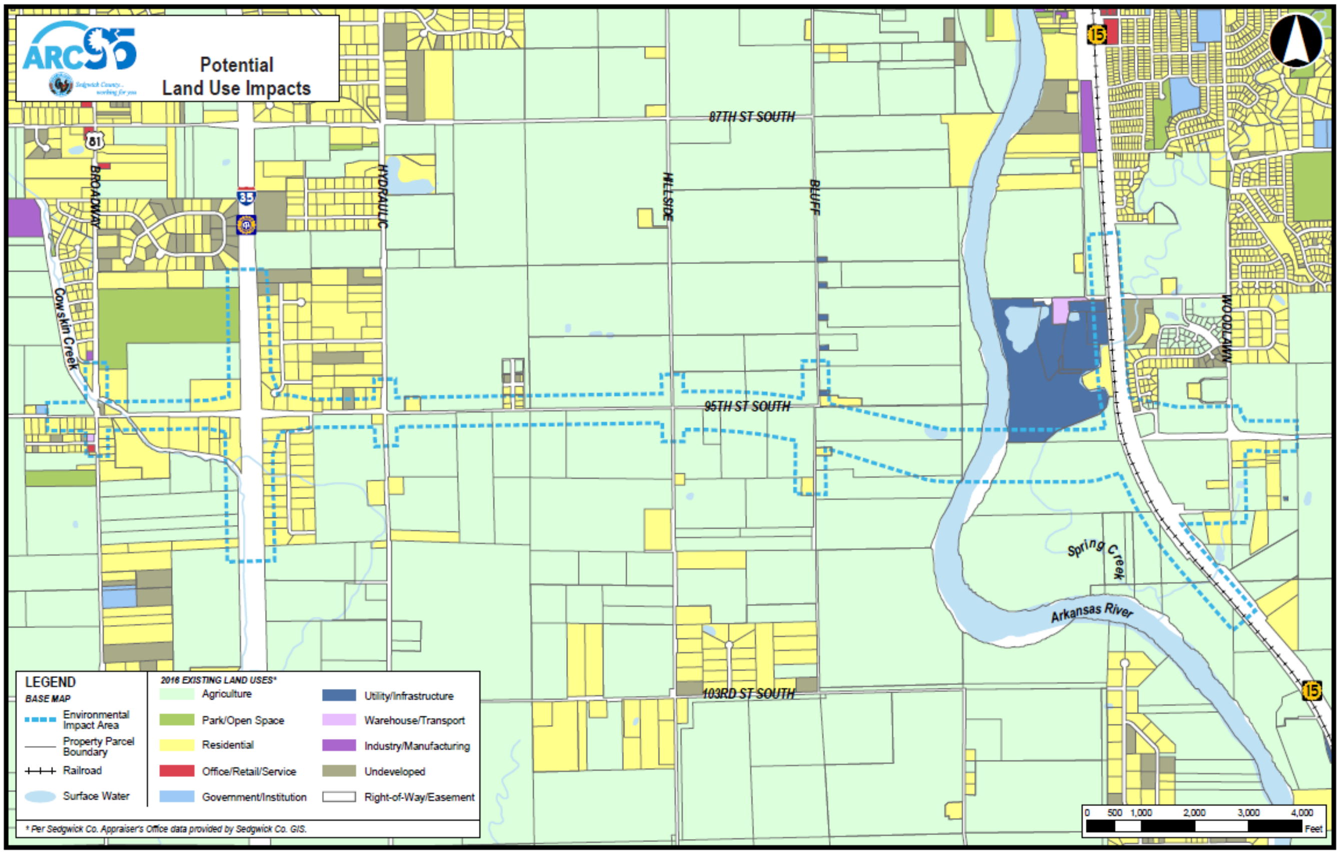
Exhibit 32: Environmental Impact Area and Local Facilities.



Land Use Impacts

The Environmental Impact Area contains a mix of land uses, as displayed in Exhibit 33. The area is primarily developed at a rural density. However, a transitional area of suburban density development exists near the eastern portion of the Environmental Impact Area, which includes the City of Derby, and between Broadway US-81 and Hydraulic Street.

Exhibit 33: Potential land use impacts.



The predominant land use, as outlined in Exhibit 33 is agricultural (56%). Nearly 15 percent of the area is residential development with less than 1 percent occupied by commercial, industrial, warehouse/distribution, or government/institutional development. However, nearly 29 percent of the area is dedicated to utility or transportation infrastructure and the public-owned right-of-way or easements encompassing the Arkansas River, streams, and drainage channels. See Exhibit 34 for additional details.

Exhibit 34: Land Use Impact Summary

Existing Land Use	Environmental Impact Area	
	Acres	Percent
Agricultural	356.4	56%
Residential	93.4	15%
Commercial/Office	0.4	0%
Manufacturing/Industrial	0.0	0%
Warehouse/Distribution	0.5	0%
Government/Institutional	0.1	0%
Park/Recreation	5.5	1%
Utility/Infrastructure	11.2	2%
Right-of-Way	168.7	26%
Undeveloped	4.2	1%
Total Land Use	640.3	100%

Source: Sedgwick County Parcel Database, Sedgwick County Appraiser's Office

Community Facilities Impacts

The location of local community facilities is displayed in Exhibit 32. Two community facilities are located within the Environmental Impact Area. The John C. Pair Horticultural Center is an agricultural research facility associated with Kansas State University. As displayed in Exhibit 32, the facility's land use is classified as agricultural because of its predominant use, rather than government/institutional. As proposed, right-of-way would be acquired from the facility for the first phase of the ARC95 project. However, this would be limited to the area immediately adjacent to the existing 95th Street and should not encroach into agricultural research or crop production areas. The Derby Wastewater Treatment Plant is partially located within the Environmental Impact Area. No right-of-way is proposed to be acquired from this facility and no on-site structure will be affected. Several other community facilities are located in the vicinity of the Environmental Impact Area including the W.C. Foley Barn, a property of local historic significant that is not listed on the national or state historic registers.

No demonstrable long-term impacts to any of these facilities are expected due to the ARC95 project. However, temporary impacts may result from project construction activities during periods when access may be temporarily limited.

Right-of-Way Impacts

Property Acquisition Impacts

There are 149 individual property parcels within or intersected by the Environmental Impact Area boundaries. As proposed, 101.5 acres of ARC95 right-of-way will be acquired from 73 individual parcels. One impacted parcel contains a warehouse/distribution land use, one is classified as utility (Derby Recycling and Transfer Station), four are undeveloped (vacant), and 26 have agricultural uses, including three occupied by the John C. Pair Horticultural Center. The remaining 41 impacted parcels are residential properties. No Section 4(f) properties will be impacted by the ARC95 project.

Of the 73 impacted parcels, only three are anticipated to be total acquisitions. Proposed right-of-way includes the full parcels for two of the total acquisition properties. These totals are based on preliminary data and subject to change based on future negotiations with property owners, particularly for parcels where structures will be acquired.

Structure Acquisition Impacts

There are 182 structures located on the 149 Environmental Impact Area property parcels. Only 26 structures have been identified for possible acquisition as they encroach into the proposed right-of-way. This includes eleven homes and fifteen accessory structures, such as garages, sheds, and barns. If residential relocation is necessary, such policies and procedures must comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

Property Access Impacts

There are two properties that currently share a joint access drive, which intersects K-15 in alignment with the segment of existing 95th Street extending east of the highway. The shared driveway has a private rail crossing over the BNSF rail line running parallel to K-15. This access drive will need to be relocated to accommodate proposed improvements. It is likely the driveway will be realigned to access the new 95th Street segment west of the proposed grade separated interchange with K-15, which would also close the private rail crossing. Access impacts to all other affected property parcels is expected to be temporary and periodic during construction activities.

A new grade separated interchange is proposed for 95th Street at I-35. The project team is coordinating with the Kansas Turnpike Authority (KTA) and other project partners on this proposal. Further study will likely be necessary before final design/construction commitments can be made. However, if this interchange is constructed as part of the ARC95 project, it will have an overall positive impact on property access. Currently, residents in the vicinity have indirect access to the interstate system via circuitous routing. The proposed new interchange would provide a new convenient point of interstate access for residents in the immediate project vicinity and further into Derby, Mulvane, southern Sedgwick County, and southern Butler County.

Environmental Justice

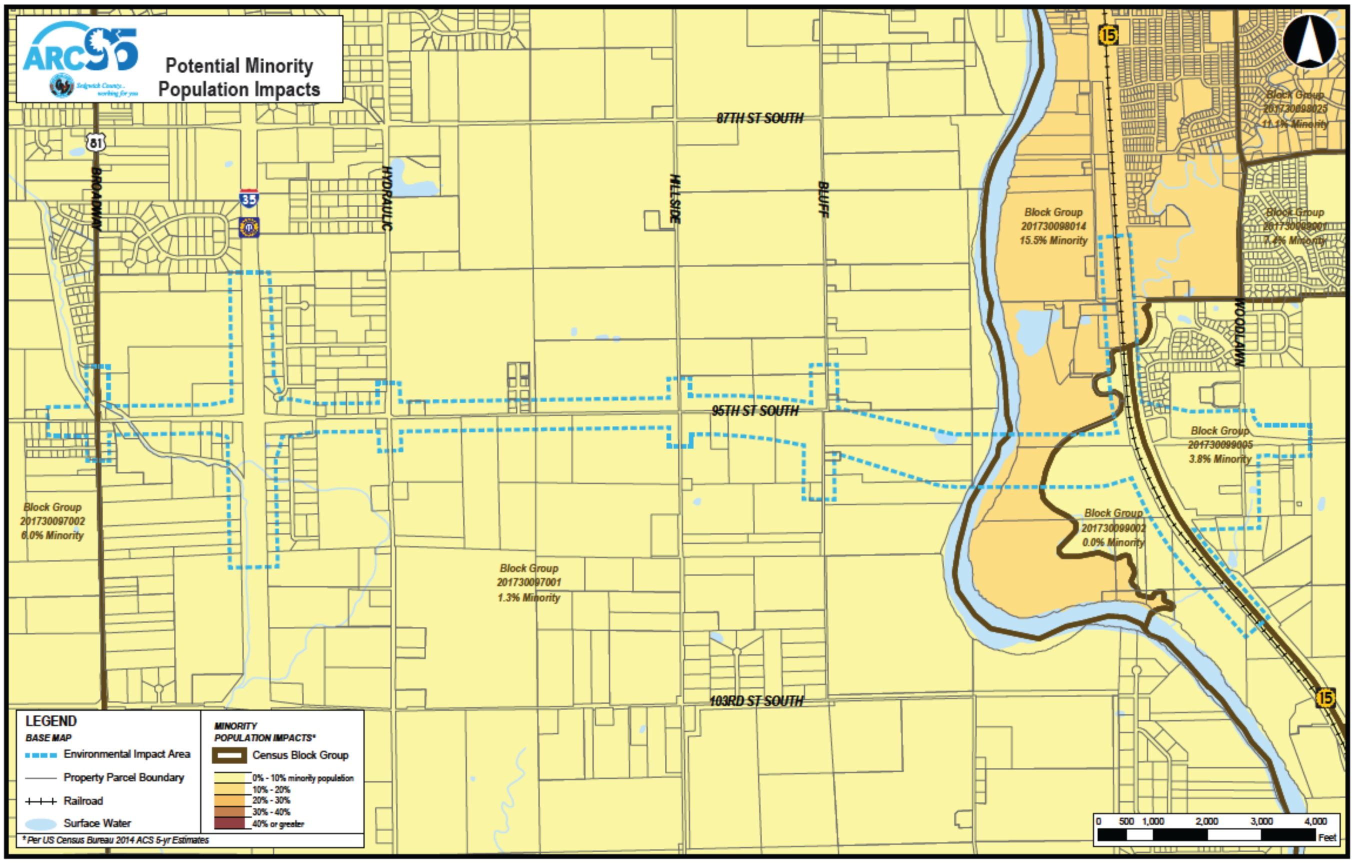
A review of environmental justice is required as part of the NEPA process. The Civil Rights Act of 1964, Title VI prohibits intentional discrimination on the basis of race, color, or national origin by any activity receiving federal financial assistance. Furthermore, Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations requires identification and mitigation of disproportionately high and adverse impacts to the referenced populations.

This assessment of EJ impacts was conducted at the census block group level using U.S. Census Bureau 2014 American Community Survey (ACS) data. Portions of five block groups are included in the Environmental Impact Area. These block group identification numbers are: 201730097001, 201730097002, 201730098014, 201730099002, and 201730099005.

Minority Population Impacts

Exhibit 35 displays the minority population percentage of total population in each block group. Block group 201730098014 has a minority percentage of 15.5 percent. Two property parcels in this block group will be impacted by the proposed right-of-way, but residential relocation will not be necessary. The other four block groups have a minority percentage of 6.0 percent or lower, and only a small portion of the total population lives within the Environmental Impact Area. Therefore, the project will result in no disproportionately high or adverse impacts to minority populations.

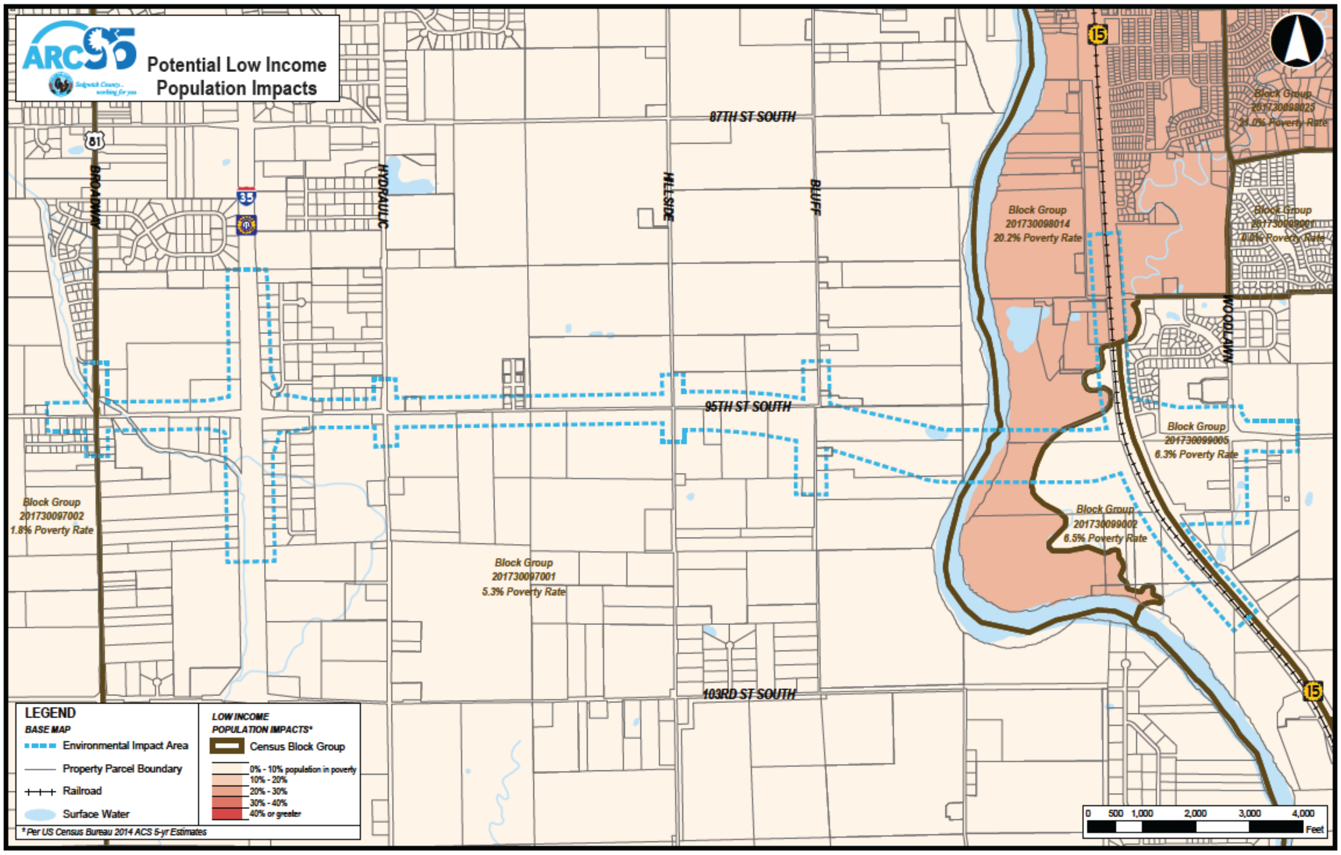
Exhibit 35: Potential Minority Population Impacts



Low Income Population Impacts

Exhibit 36 displays the percentage of total population living in poverty for each block group. Block group 201730098014 has a poverty rate of 20.2 percent. Two property parcels in this block group will be impacted by the proposed right-of-way, but residential relocation will not be necessary. The other four block groups have a poverty rate of 6.5 percent or lower, and only a small portion of the total population lives within the Environmental Impact Area. Therefore, the project will result in no disproportionately high or adverse impacts to low income populations.

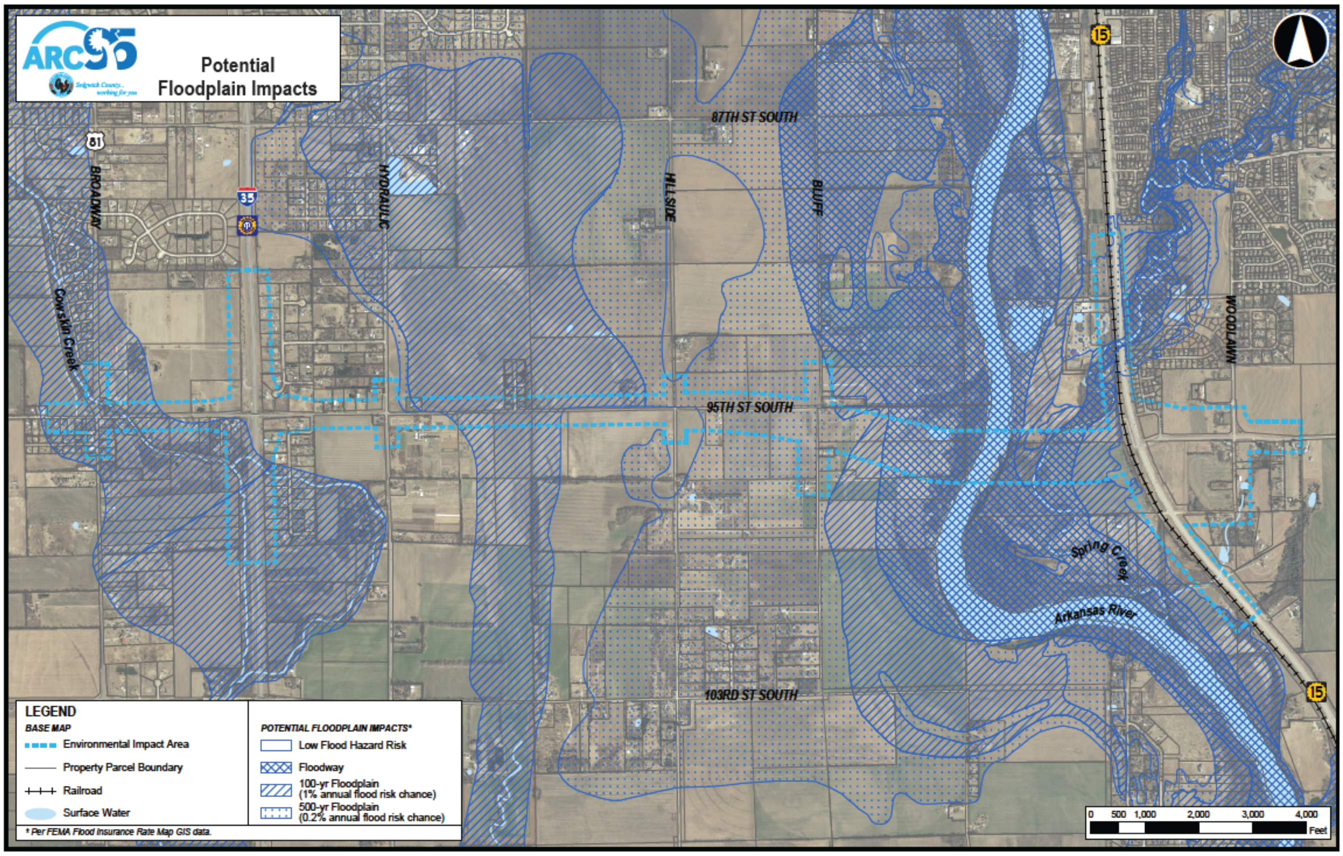
Exhibit 36: Potential Low income Population Impacts.



Floodplain Impacts

Potential floodplain impacts were assessed using Federal Emergency Management Agency (FEMA) digital Flood Insurance Rate Map (FIRM) data. With the Arkansas River on the eastern end and Cowskin Creek on the western end of the Environmental Impact Area, 54 percent of the area is within a flood hazard zone. The floodway, 100-year floodplain, and 500-year floodplain areas are summarized in Exhibit 38 and displayed in Exhibit 37.

Exhibit 37: Potential Floodplain Impacts.



Most of the proposed improvements will remain on the existing 95th Street alignment. Generally, floodplain impacts will be limited to the portion between Bluff Street and K-15 where the new bridge is proposed. The distance between the west floodway boundary of the Arkansas River and the east floodway boundary of Spring Creek is approximately 2,750 feet. The total floodplain width is just over two miles extending from west of Hillside Street to the BNSF rail line. Floodplain impacts will be unavoidable in this portion of the ARC95 project.

Hydrologic/hydraulic and bridge analyses were conducted early in the study to identify the recommended bridge type, size, and location. The technical memorandum summarizing these analyses is included for reference as Appendix F. Further details on the floodplain impacts and regulatory permitting requirements are provided in the *Regulatory Permitting* section in Chapter 5.

Exhibit 38: Potential Floodplain Impacts Summary.

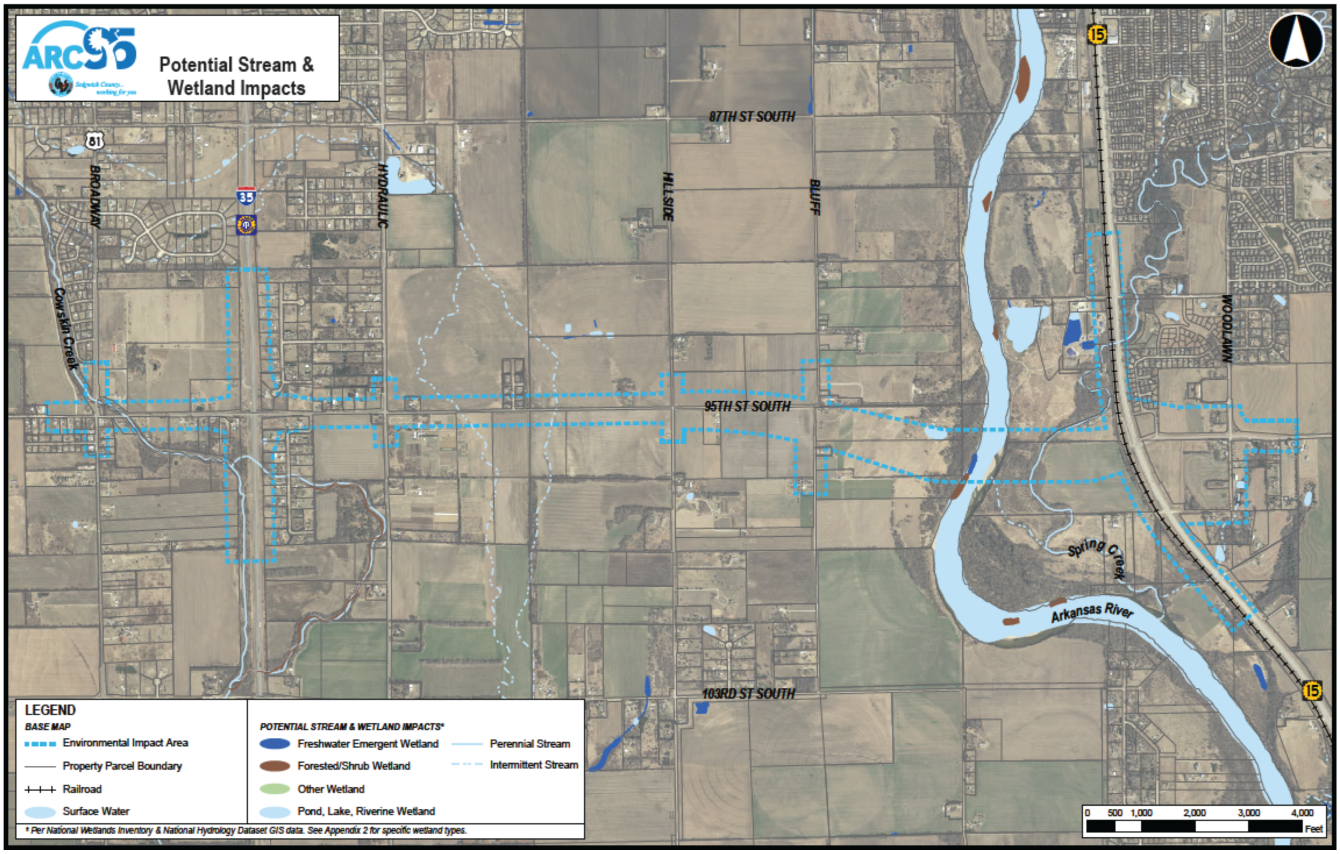
Flood Hazard Zone	**Environmental Impact Area**	
	Acres	Percent
Floodway	72.9	11%
100-Year Floodplain	167.0	26%
500-Year Floodplain	16.0	17%
Low Flood Hazard	294.4	46%
Total	640.3	

Source: FEMA digital Flood Rate Insurance Maps

Surface and Groundwater Impacts

The water resources found in the Environmental Impact Area are displayed on Exhibit 39. Potential impacts to water quality, streams, and wetlands were assessed using data from the Kansas Division of Water Resources, Kansas Department of Health and Environment, and National Wetlands Inventory.

Exhibit 39: Potential Stream and Wetland Impacts.



Water Quality Impacts

The entire Environmental Impact Area is within the Middle Arkansas - Slate sub basin of the Lower Arkansas River drainage basin. The 8-digit Hydrologic Unit Codes of the sub basin is 11030013.

The Kansas Surface Water Register assigns designated use classifications to three stream segments within the Environmental Impact Area:

- Cowskin Creek, Segment 10: General purpose water; Expected aquatic life use; Primary contact recreation stream accessible for public use by Kansas law or written permission of landowner.
- Arkansas River, Segment 3: General purpose water; Special aquatic life use; Primary contact recreation stream accessible for public use by Kansas law or written permission of landowner.
- Spring Creek, Segment 37: General purpose water; Expected aquatic life use; Primary contact recreation stream not open to and accessible for public use by Kansas law.

According to the *2016 Kansas Integrated Water Quality Assessment*, the Arkansas River segment is listed as currently impaired (Category 5) by one or more pollutants. The Cowskin Creek segment is listed as previously impaired with an approved Total Maximum Daily Load plan in place for one or more pollutants (Category 4a). Specific impairments for the Arkansas River segment include nitrate, polychlorinated biphenyl, total phosphorus, biology, chloride, and e. coli. Specific impairments for the Cowskin Creek segment include e. coli, total phosphorus, and total suspended solids. The *2015 Annual Compliance Report* lists no known groundwater contamination concerns within the Environmental Impact Area and has no recorded compliance violations for 2015.

Efforts will need to be taken to minimize impacts to surface and ground water quality. Most project impacts are expected to be minimal and temporary, including sedimentation and siltation during construction. Long-term impacts are expected and unavoidable, such as petroleum contaminants from vehicles and the application of deicing solutions. However, there is no expectation of substantial long-term impacts to water quality as a result of the ARC95 project.

Stream Impacts

Impacts to streams and rivers will be limited to crossing locations. The primary impacts will be related to the proposed bridge over the Arkansas River, which will also cross Spring Creek. Because bridge design and construction will require permitting, as outlined in the *Regulatory Permitting* section. The existing bridge over Cowskin Creek will be designed and constructed by Sedgwick County prior to construction of proposed ARC95 improvements. Therefore, that bridge has been removed from the project and is not part of this assessment.

Two unnamed intermittent streams cross 95th Street between Hydraulic Street and Hillside Street. Minimal impact to these streams can be expected, primarily during construction activities. Specific impacts to these streams will be identified during the design phase. At that time, impacts will be mitigated and culverts will be designed according to applicable regulatory standards.

Wetland Impacts

Exhibit 40 summarizes the types of wetlands found in the Environmental Impact Area and the area covered by those features. As previously discussed, the project will impact the riverine area of the Arkansas River. Additionally, small areas of emergent and forested/shrub wetlands are indicated adjacent to the river where the new bridge is proposed to cross. These wetlands may be impacted by the construction of proposed facilities. Because wetlands were mapped using available NWI GIS data, formal delineation will be necessary during the design phase. Positively identified wetlands that will be impacted must be mitigated according to regulatory requirements.

Exhibit 40: Potential Wetland Impacts Summary.

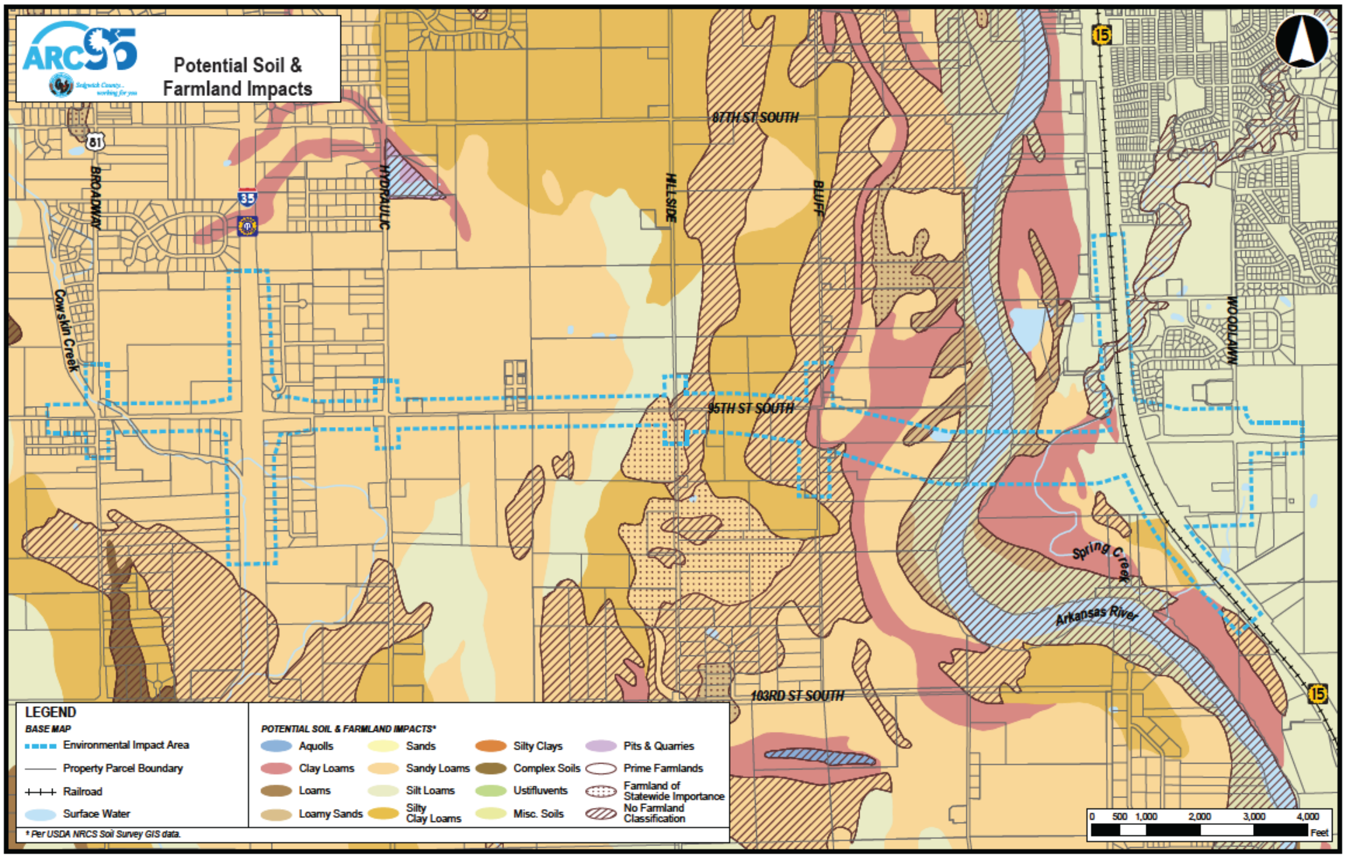
Wetland Type	**Wetland Impact Area**	
	Acres	Percent
Emergent Wetland	0.7	7%
Forested/Shrub Wetland	0.4	4%
Freshwater Pond	2.0	20%
Lake	0.0	0%
Riverine	6.7	68%
Total	9.8	100%

Source: National Wetland Inventory

Soil and Prime Farmland Impacts

The soil types found in the Environmental Impact Area, along with designated prime farmlands and farmlands of statewide importance, are displayed in Exhibit 41. Eleven major soil classifications are found in the Environmental Impact Area, per available National Resource Conservation Service Sedgwick County Soil Survey data. Soil types are important because they impact drainage and vegetation, as well as suitability for constructing buildings, bridges, and roads. NEPA does not require identification of soil impacts; however, this information is useful for project planning and aids in understanding impacts to prime farmlands.

Exhibit 41: Potential and Farmland Impacts.



The Environmental Impact Area includes soils that are designated as prime farmlands and farmlands of statewide importance. Prime farmlands have optimal characteristics for agricultural productivity while farmlands of statewide importance are slightly less agriculturally productive than prime farmlands. Exhibit 42 summarizes the amount of prime farmlands and farmlands of statewide importance found in the Environmental Impact Area. About 85 percent of the soils in the area are classified as prime farmland while just over one percent are classified as farmlands of state importance. Generally, soils west of Bluff Street are classified as prime farmlands, with a limited stretch having farmlands of statewide importance and two short stretches with no farmland classification. Because 95th Street is paved through this extent, proposed facility expansion will have little impact to prime farmlands in this area.

East of Bluff Street where no facilities currently exist, soils will be impacted to a greater extent. Soils near the Arkansas River have no farmland classification and are not assessed for impacts. Prime farmlands are found near Bluff Street and impacts will be unavoidable. The area between the BNSF rail line and Woodlawn Street contains prime farmlands. However, this area is largely developed and proposed improvements will impact only those soils where development does not exist. Because the Environmental Impact Area and proposed improvements are a small portion of the entire region, the project will have minimal overall impacts to prime farmland and farmland of statewide importance.

Exhibit 42: Potential Farmland Impacts Summary

Farmland Classification	**Environmental Impact Area**	
	Acres	Percent
Prime Farmland	546.6	85%
Farmland of Statewide Importance	8.4	1%
Unclassified	85.3	13%
Total	640.3	100%

Source: National Resource Conservation Service Soil Survey data

Wildlife Impacts

Based on U.S. Fish & Wildlife reports, a number of species of concern have been identified within the Environmental Impact Area as having the potential of being affected by the ARC95 project. Species are identified in Exhibit 43.

Exhibit 43: Endangered and Threatened species potential Impacts

Endangered Species	**Migratory Birds and Birds of Conservation Concern**		
Least Tern	Bald Eagle	Hudsonian Godwit	Red-headed Woodpecker
Whooping Crane	Bell's Vireo	Lark Bunting	Rusty Blackbird
Topeka Shiner	Chestnut-collared Longspur	Least Bittern	Scissor-tailed Flycatcher
Threatened Species	Dickcissel	Little Blue Heron	Short-eared Owl
Northern Long-eared Bat	Golden Eagle	Loggerhead Shrike	Snowy Plover
	Grasshopper Sparrow	Mississippi Kite	Swainson's Hawk
	Harris's Sparrow	Painted Bunting	Upland Sandpiper
	Henslow's Sparrow	Peregrine Falcon	

Source: USF&W

There are no designated critical habitats found within the Environmental Impact Area. However, the listed species may still be impacted due to the loss, conversion, or fragmentation of habitat. This is particularly true for the area between Bluff Street and the BNSF rail line, where no facilities currently exist. Proposed improvements will affect only localized habitat extents and populations of wildlife. Therefore, project impacts to these species are expected to be minimal.

Wildlife populations accustomed to human-altered environments, such as raccoons and white-tailed deer, should continue to thrive, except for temporary displacement from occupied habitats in close proximity to construction activities. No long-term impacts are expected to migratory bird populations. Known migratory bird habitats and nesting areas should be avoided during breeding season. Any nests or other evidence of habitation discovered during construction activities must be handled according to accepted best practices and applicable regulatory guidance.

Regulatory Permitting Process

This section summarizes the anticipated regulatory permitting needed to construct the proposed new bridge crossing the Arkansas River and Spring Creek which is the primary feature that requires permitting. Other smaller features may require additional permitting, but will be minor in nature. It is anticipated that the following agencies will be consulted at various stages of the development of construction plans:

- Kansas Department of Agriculture, Division of Water Resources
- U.S. Army Corps of Engineers, Regulatory Branch
- Federal Emergency Management Agency
- Kansas Department of Health and Environment
- Sedgwick County Public Works Department

Project permits are typically submitted at the field check stage of plan development. An authorized representative of Sedgwick County Public Works must sign all permit applications as the project applicant. Details regarding the coordination that will occur and necessary permit applications are summarized by agency beginning below.

Kansas Division of Water Resources (DWR)

Construction of the proposed bridge involves crossing a FEMA designated special flood hazard area. Consequently, an application for permit with supporting calculations and documentation, along with the application fee must be submitted. The primary objective of DWR's involvement is to provide a technical review of the project to assure the proposed construction does not unreasonably impact adjacent landowners and will not violate applicable FEMA National Flood Insurance Program regulations or state statutes. A technical report containing detailed hydrologic and hydraulic analyses will be required for DWR's review.

The agency will send initial response acknowledging receipt of a permit application. While the environmental coordination process has been initiated, a thorough review of your project may not yet have been performed. Seven other state agencies will have the opportunity to review the project, according to their individual interests. For example, they may consider the broader environmental, ecological, or wildlife concerns that the project should address. If deemed appropriate, they may request certain conditions to be incorporated in the project permit.

The permit application to be completed are K.S.A. 82a-301-305a Dams, Stream Obstructions and Channel Changes and K.S.A. 24-126 Levees and Floodplain Fills. This form is to apply for permits to construct or modify a dam, stream obstruction, channel change, levee, or floodplain fill. The permit applies to the ARC95 project for the following reasons:

- The proposed bridge will to some degree constitute a stream obstruction by constricting flow.
- Construction of the roadway will require portions of floodplain to be filled.

- Sedgwick County must assure new or proposed construction is in compliance with the National Floodplain Insurance Program regulations as a condition to remain eligible for participation.
- State statutes (K.A.R. 5-40 to 5-46) and the Sedgwick County local building code have certain requirements to those found in the National Floodplain Insurance Program with regard to proposed construction in a FEMA designated floodplain and/or floodway.

U.S. Army Corps of Engineers (USACE)

Section 404 of the Clean Water Act regulates discharges of dredged/fill material into waters of the United States. USACE jurisdiction is typically asserted for construction activities that take place in identified wetlands and below the ordinary high water mark of any body of water that qualifies as waters of the United States. While USACE has been designated as the federal permitting agency, it should be noted that final jurisdiction remains with the Environmental Protection Agency (EPA).

It is expected that USACE will assert jurisdiction and regulatory authority over construction activities involving Cowskin Creek, Arkansas River, Spring Creek, and intermittent streams impacted by the project, and any affected wetland areas. USACE consults with several other regulatory agencies, some of which overlap with agencies also involved in the DWR permitting process. These agencies also review the proposed project and comment on specific issues that may need to be addressed in the project permits.

It is anticipated that all aspects of the proposed bridge construction can be designed in accordance with USACE's Nationwide Permit terms and conditions, and therefore authorized under the Nationwide Permit. The application to be completed is ENG Form 4345, US Army Corps of Engineers Application for Department of the Army Permit, which requests much of the same information submitted for the referenced DWR application and should not require a significant duplication of effort.

Federal Emergency Management Agency

As discussed in the Potential Environmental Impacts section, construction of the proposed Arkansas River and Spring Creek Bridge will require crossing a FEMA designated floodway at a location where no road or bridge and no constriction or obstruction of the floodplain currently exists. The hydraulics/hydrology and bridge analysis determined that it would be technically difficult and extremely costly to construct a bridge that would result in zero rise to the base flood profile. Such a bridge would need to have a low chord above the base flood elevation, while spanning the entire floodway. The current scenario would require a bridge at least 1,750 feet in length over the Arkansas River having a low chord elevation greater than 1,241 feet above sea level, plus a bridge at least 700 feet in length over Spring Creek with the same low chord elevation. These would be separated by approximately 250 feet of fill where no floodway is designated. Alternately, a bridge spanning the entire length could be constructed at the same low chord elevation.

Bridges of these lengths, when compared to other nearby bridges that convey the same discharge, do not seem practicable. For comparison, the K-15 Bridge over Spring Creek located just upstream from the proposed location is only about 160 feet long. Therefore, it was recommended that a bridge of reasonable length be constructed. In conjunction, a Conditional Letter of Map Revision would be pursued to ensure that FEMA maps recognize the new bridge and roadway.

This recommendation was validated during a February 2017 telephone conversation with Scott Lindebak, Sedgwick County Storm Water Engineer. Mr. Lindebak indicated Sedgwick County, as a National Flood

Insurance Program participating community, would require the Conditional Letter of Map Revision process to be followed if the hydraulic analysis for bridge design does not demonstrate zero rise to base flood elevations.

The application is typically submitted to FEMA at the Field Check stage of a project. The request must include detailed technical information derived from procedures outlined in FEMA's MT-2 Process. Because of the extensive process and detailed analysis required, it is advisable to consider several options that may facilitate the effort.

- Consult with agency representatives to clarify specific requirements to avoid water backing up on adjacent upstream properties and verify that a nominal rise in base flood elevations will be tolerable.
- Examine the possibility of widening the floodway on publicly owned land to comply with the allowable 1-foot surcharge and avoid or minimize impacts to privately owned properties.
- Determine if any FEMA-insurable structures will actually be impacted by a 6-inch rise to the base flood profile by construction of the new bridge.
- Ensure that all interested parties understand the level of effort required for Conditional Letter of map Revision approval and prepare an appropriately detailed scope of work.

Other Regulatory Permits

Several additional regulatory submittals will be necessary that are supplemental to those outlined in detail or have relatively simple application processes that do not require documentation of extensive analysis:

- A Notice of Intent form must be submitted to KDHE. This informs the agency of the project scope, location, construction activities, dates, etc. and obligates the permittee to assure construction will comply with current National Pollutant Discharge Elimination Standards.
- As a National Flood Insurance Program participating community, Sedgwick County will require a City/County Floodplain Development Permit Application be submitted prior to construction.

Because the impacted Arkansas River segment is listed by KDHE as a Special Aquatic Life Use water, an action permit from the Kansas Department of Wildlife, Parks, and Tourism will be required.

Public Involvement

Public Meeting Number 3 of 3

Public Meeting #3 was held Tuesday May 16, 2017 at the Haysville public library and a second meeting was held Thursday May 11, 2017 at the Derby public library to present the findings of the report (similar to what has been outlined through this report). Between the two meetings over 40 attendees were present. No feedback was necessarily solicited, but most comments were supportive of the project.

CHAPTER 5 | NEXT STEPS

Implementation Plan

Capital Improvement Projects

Because of the size and scope of the projects necessary to maintain reasonable levels of service along the corridor, an improvement program phasing construction for the next 20 years, in addition opinions of probable construction costs are shown in Exhibit 44. In general, Phase 1 needs to occur to drive the needs for developing phases 2-3. Phase 1 is also the most expensive option because it grade separates the railroad and K-15 as well as builds the Arkansas River bridge and approximately a mile of missing roadway. Due to the complexities involved, phasing these projects is difficult to do without doing them all (even if they get broken out further due to funding reasons). Phases 2 and 3 were developed on the anticipated needs that were driven by the additional traffic generated by the river crossing. Phase 3 was the last piece that is anticipated, although due to the high water table and associated development costs, the study team did identify that the agencies will need to monitor development along the 95th Street Corridor, in particular development patterns along 95th Street near Rock Road and west of Broadway, since they could require improvements due to development sooner than the section between Hydraulic and the Arkansas River. The costs shown are for construction impacts, although no large conflicts were present during utility coordination, some utility conflicts will likely exist and possibly will need to be relocated.

Exhibit 44: Project costs and capital improvement plan.

Project	Construction with 30% Contingency (2017 dollars)	Engineering (Assumed 25% of construction)	Right of Way with 30% Contingency	Total
Current County CIP Project				
95th Street Bridge over Cowskin Creek	$ 1,450,000			
Phase 1				
95th Street, Woodlawn to Hillside	$ 47,785,200			
	$ 49,235,200	**$ 12,308,800**	**$ 684,053**	**$ 62,228,053**
Phase 2				
Broadway and 95th Street Turn Lanes	$ 1,339,000			
Hydraulic and 95th Street Turn Lanes	$ 1,053,000			
Hillside and 95th Street Turn Lanes	$ 767,000			
KTA and 95th Street Interchange	$ 7,488,000			
Broadway to KTA Interhange 95th Street Widening	$ 2,717,000			
KTA Interhange to Hillside 95th Street Widening	$ 5,005,000			
	$ 18,369,000	**$ 4,592,250**	**$ 658,616**	**$ 23,619,866**
Phase 3				
95th Street, Hydraulic to Hillside Three Lane Widening	$ 6,435,000			
	$ 6,435,000	**$ 1,608,750**	**$ 178,128**	**$ 8,221,878**
Total	**$ 74,039,200**	**$ 18,509,800**	**$ 1,520,797**	**$ 94,069,797**

Right-of-way Costs

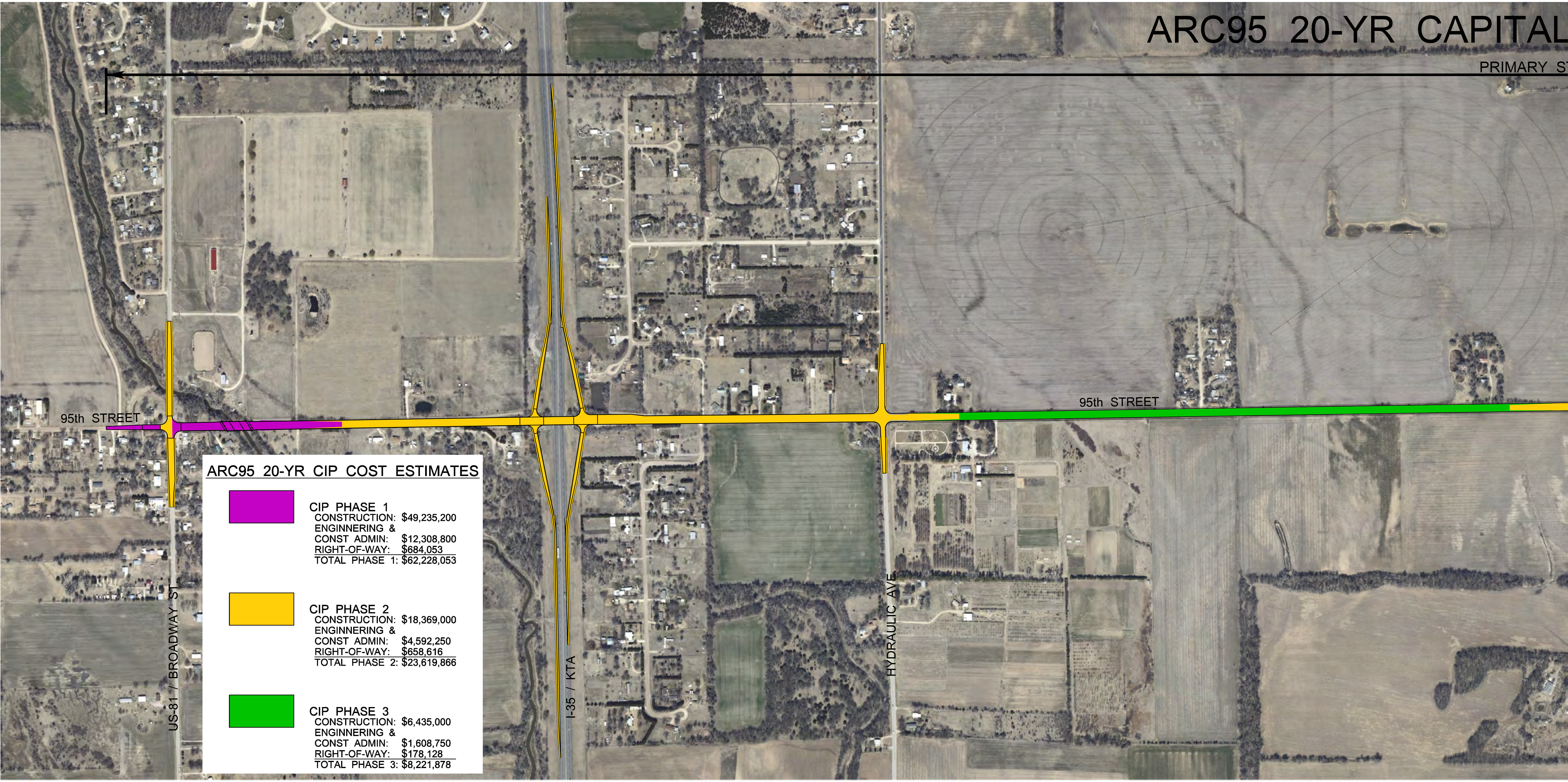
Total right-of-way acquisition costs are estimated at approximately $1.5 million in 2017 dollars. This includes a 30% contingency to account for unknown variables. The bulk of these costs are distributed fairly evenly between Phase 1 and Phase 2, which consist of a significant portion of

ARC95 improvements. Estimated right-of-way acquisition costs are broken down by land use and construction phase in Exhibit 45.

Exhibit 45: Right of way Cost Breakdown

Land Use	Phase 1	Phase 2	Phase 3	Base Value	30% Contingency	Estimated Costs by Land Use
Residential	$ 55,509	$ 458,901	$ 119,473	$ 633,883	$ 190,165	**$ 824,047**
Commercial	$ -	$ 1,006	$ -	$ 1,006	$ 302	**$ 1,308**
Agricultural	$ 452,324	$ 43,915	$ 8,603	$ 504,841	$ 151,452	**$ 656,294**
Utility	$ 5,793	$ -	$ -	$ 5,793	$ 1,738	**$ 7,532**
Vacant	$ 12,569	$ 2,805	$ 8,947	$ 24,321	$ 7,296	**$ 31,617**
Base Value	$ 526,195	$ 506,628	$ 137,022	**$ 1,169,845**	--	- -
30 % Contingency	$ 157,858	$ 151,988	$ 41,107	--	**$ 350,953**	- -
Estimated Costs by Phase	**$ 684,053**	**$ 658,616**	**$ 178,129**	--	--	**$ 1,520,798**

ARC95 20-YR CAPITAL

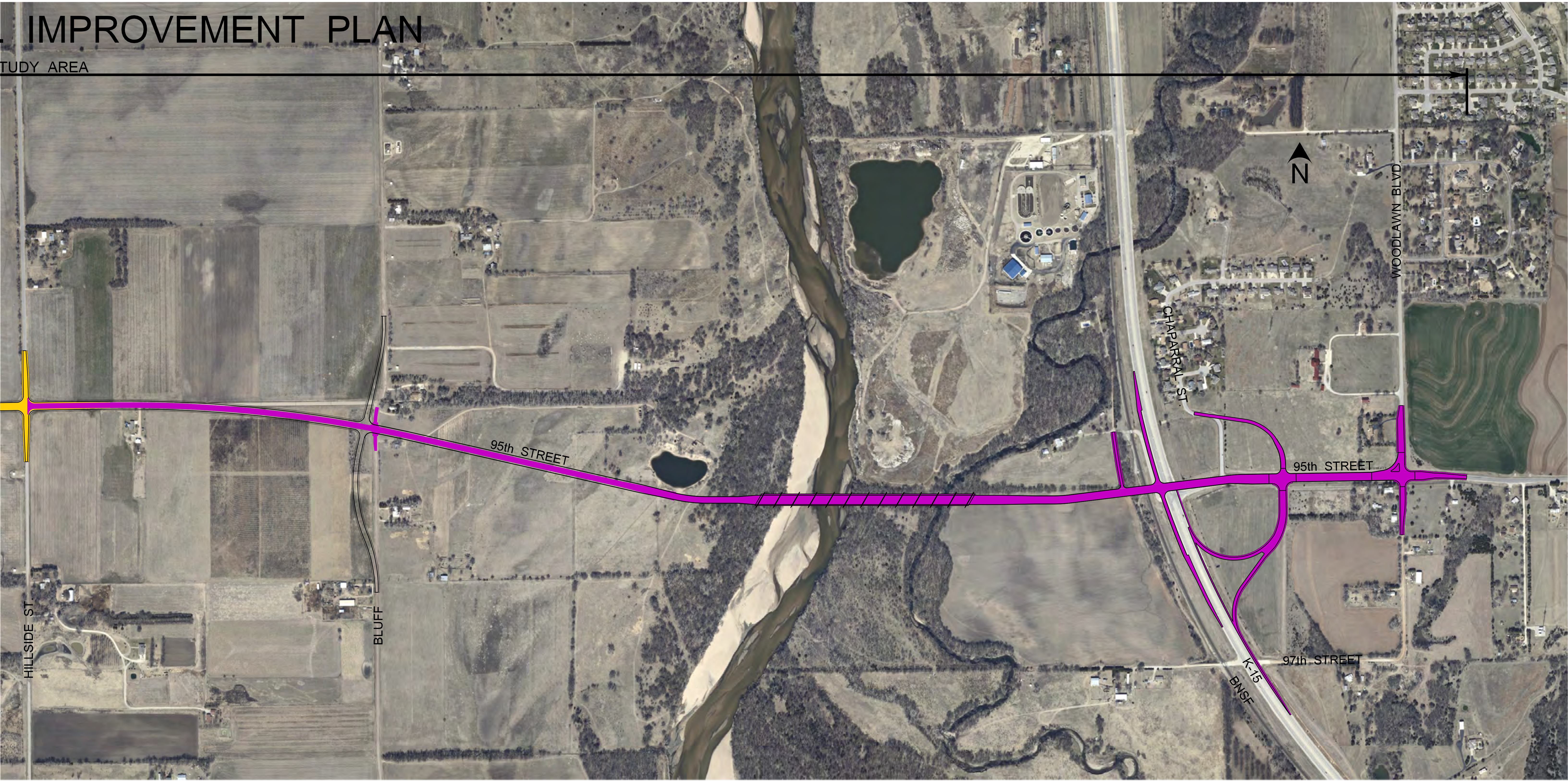


ARC95 20-YR CIP COST ESTIMATES

🟪 CIP PHASE 1
CONSTRUCTION: $49,235,200
ENGINNERING &
CONST ADMIN: $12,308,800
RIGHT-OF-WAY: $684,053
TOTAL PHASE 1: $62,228,053

🟨 CIP PHASE 2
CONSTRUCTION: $18,369,000
ENGINNERING &
CONST ADMIN: $4,592,250
RIGHT-OF-WAY: $658,616
TOTAL PHASE 2: $23,619,866

🟩 CIP PHASE 3
CONSTRUCTION: $6,435,000
ENGINNERING &
CONST ADMIN: $1,608,750
RIGHT-OF-WAY: $178,128
TOTAL PHASE 3: $8,221,878



IMPROVEMENT PLAN
TUDY AREA
N
95th STREET
95th STREET
97th STREET
HILLSIDE ST.
BLUFF
CHAPARRAL ST.
WOODLAWN BLVD
K-15
BNSF

Funding Opportunities

Programmed Funding

ARC95 project needs have been established for over 10 years and the project has been incorporated into local/regional transportation plans. This strengthens the project's position in competing for funding opportunities. In particular, several project segments are listed in WAMPO's MOVE2040 regional transportation plan as WAMPO Funded projects. This is not only an eligibility requirement to receive funding through federal highway programs administered by WAMPO, but listed projects are assumed to receive such funding during the planning horizon of MOVE2040. The listed 95th Street segments account for the full extent of the ARC95 corridor within the study area boundaries. The individual listed projects and funding amounts are:

K-15 to Rock (construct urban parkway)	$7.2 million
US-81 to K-15 (construct urban parkway)	$2.7 million
Meridian to US-81 (construct rural parkway)	$2.7 million
Total MOVE2040 Programmed Funding	$12.6 million

These funding amounts would likely come from WAMPO's Surface Transportation Program (STP) allocation of approximately $9.5 million per year and Congestion Mitigation and Air Quality (CMAQ) allocation of approximately $2 million per year. WAMPO has both programs fully programmed through FY2020. So, funding from these programs could not be awarded to the project until after that period. It should also be noted that the listed amounts are total project costs. WAMPO will fund a maximum of 80% of construction costs, which would require Sedgwick County to provide a 20% local match. This funding split accounts for $10.08 million in project costs funded by WAMPO. While it cannot be guaranteed, it is reasonable to assume that amount as being programmed for ARC95 improvements through the year 2040. This leaves a funding gap of just over $64 million that must be closed to construct all project phases.

Potential Federal Funding Sources

There is no "silver bullet" external option that would completely pay for the ARC95 project. Generally, external sources are used to supplement to local funds on a project this size. Given the large price tag, the funding approach will likely rely on funding from various federal and local sources pieced together over the project phases.

The following caveats and considerations generally apply to federal grant and loan programs:

- They have strict guidelines, eligibility criteria, and administrative requirements.
- They are competitive. There are no guarantees of funding. Successful applications are the result of excellent preparation. Sufficient time and resources will need to be allocated toward preparation activities.
- They typically require a local funding match. Piecing together the right funding strategy will require careful thought and significant local funding participation.

There are three specific programs that should be considered as possible federal funding sources:

Highway Safety Improvement Program

The Highway Safety Improvement Program (HSIP) offers funding for projects on a public road that are consistent with the State Strategic Highway Safety Plan and corrects or improves a hazardous road location or feature or addresses a highway safety problem. It is possible that HSIP funding could be used to improve portions of 95th Street within the study area where potential safety concerns exist. The program is administered by KDOT, which distributes HSIP funds to eligible projects throughout the state. Approximately

$1.5 million is allocated annually to projects in the WAMPO region. However, WAMPO's available HSIP funding is programmed through FY2020.

Railway-Highway Crossings Program

A portion of federal Surface Transportation funds is reserved for improvements to at-grade rail crossings that eliminate hazards. Most projects funded through this program involve protective device installation, such as gates with flashing lights and constant warning time detection circuitry. However, all at-grade public rail crossing safety improvement projects that meet the criteria listed in 23 U.S.C. §130 are eligible for funding. This includes grade separation, reconstruction of existing crossing structures, and relocation of highways to eliminate at-grade crossings and improvements that eliminate hazards at crossings due to idling trains.

FASTLANE Grant

This is a new program of the most recent federal highway legislation, the FAST Act. This program is intended to fund fairly significant projects, with 90% of allocated funds dedicated to projects exceeding a cost of $25 million and 10% reserved for projects between $5 - $25 million. The grant will fund up to 60% of project costs and up to 20% may be funded with other federal sources, for a total federal share of 80% of project costs. While the funding amounts are substantial, eligibility is strictly limited to the following types of nationally or regionally significant projects:

- Highway freight projects on the National Highway Freight Network (NHFN)
- Highway or bridge projects on the National Highway System (NHS)
- One of several listed freight-specific project types
- Rail-highway grade crossing or grade separation projects

The railroad grade separation portion of the project appears to meet the eligibility criteria. The proposed KTA (I-35) interchange and K-15 interchange may be eligible due to the two facilities being NHS routes. However, it may be difficult to demonstrate eligibility for the remaining project components unless the 95th Street corridor is designated as a critical freight corridor and added to the NHFN.

KTA Interchange Tolling Feasibility

A cursory feasibility review was conducted for the proposed KTA (I-35) interchange. This basic analysis is intended only to determine if a formal detailed feasibility study should be constructed. Such a detailed study will be necessary to demonstrate sufficient traffic and revenue generation to justify construction of the proposed interchange.

Potential Interchange Revenue

The first step to projecting potential revenue was to determine daily traffic generation potential. Project traffic projections were developed for year 2040 using WAMPO's regional travel demand model. The assessment examined the existing network and the existing network plus the proposed interchange, and was compared to adjacent interchanges to determine the increased traffic.

Potential revenue attributed to the interchange was estimated for 2016 and 2040 based on the calculated traffic volumes and KTA figures for revenue per vehicle. KTA's FY2016 Annual Report lists the current revenue at $2.77 per vehicle. This rate multiplied by the estimated 7,824 vehicles per day equates to potential estimated KTA revenue generation of nearly $8 million if the new interchange were to be constructed this year.

The 2015 KTA Long-Term Needs Study lists a range of projected total KTA system traffic in 2040 and a range of projected annual revenue growth. Average revenue per vehicle was calculated for 2040 using those figures applied to actual 2016 revenues. This resulted in a future estimated range of $3.27 to $3.42 in revenue generated per vehicle. Based on these numbers, the proposed interchange can be expected to generate between roughly $17 and $17.8 million in KTA revenue in 2040. Estimated revenue generation is shown in Exhibit 46. These traffic and revenue estimates should be sufficient to justify further detailed feasibility study of the proposed 95th Street interchange.

Exhibit 46: Potential Revenue Attributed to proposed interchange.

Year	[1]Avg. Daily Vehicles	[2] [3]Avg. Revenue per Vehicle	Estimated Annual Revenue
2016	7,824	$ 2.77	$ 7,910,126
2040 Low	14,203	$ 3.27	$ 16,951,991
2040 High	14,203	$ 3.42	$ 17,729,605

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[1] 2040 Volume based on net traffic increase attributed to interchange.

[2] 2016 data per KTA FY2016 report.

[3] 2040 calculated data per 2015 KTA Long-Term Needs Study projected annual revenue growth range of 1.5% to 2.7% through 2040.

Appendix A: Traffic Analysis Worksheets

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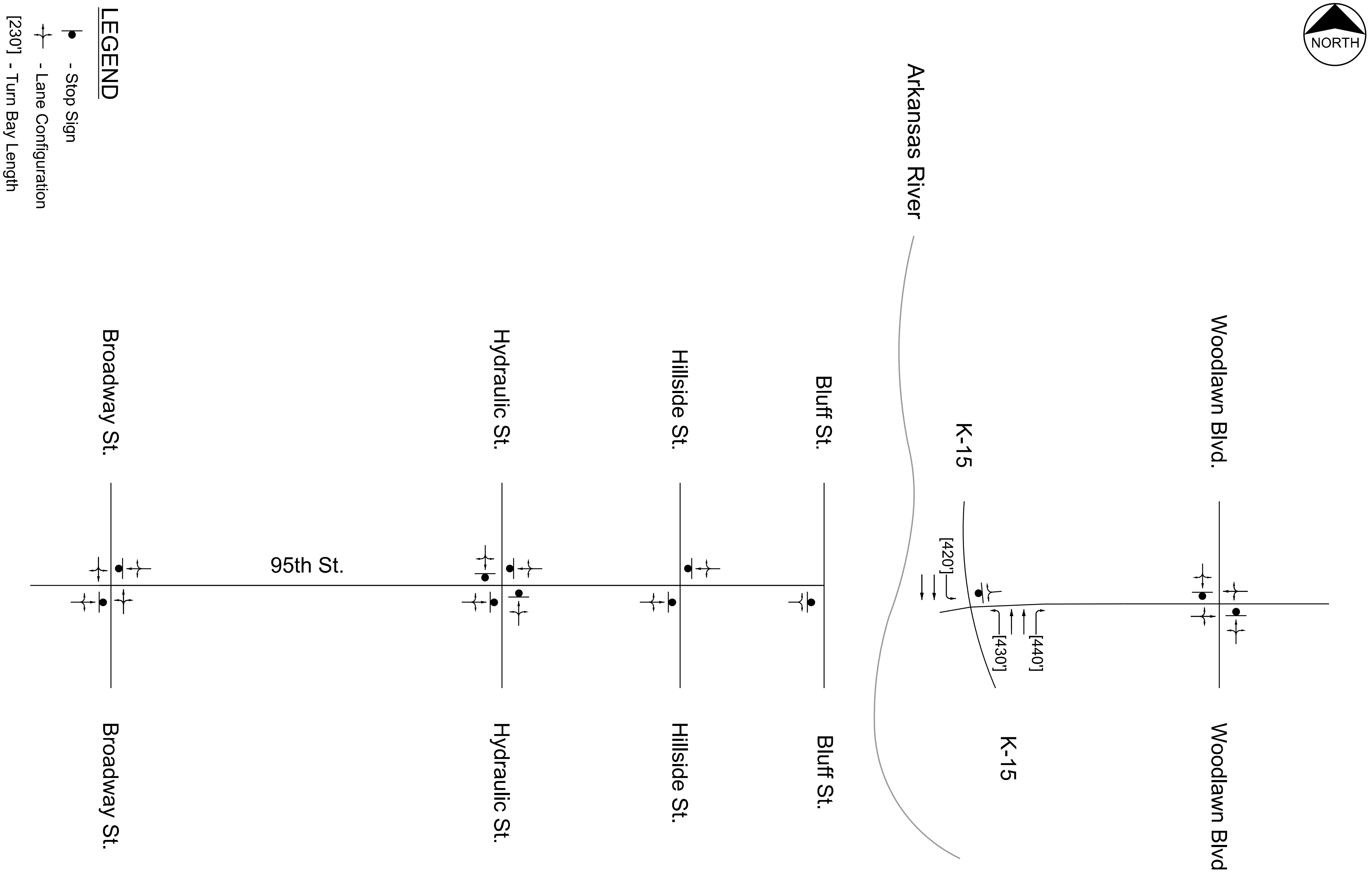

Existing Lane Configurations

95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-1

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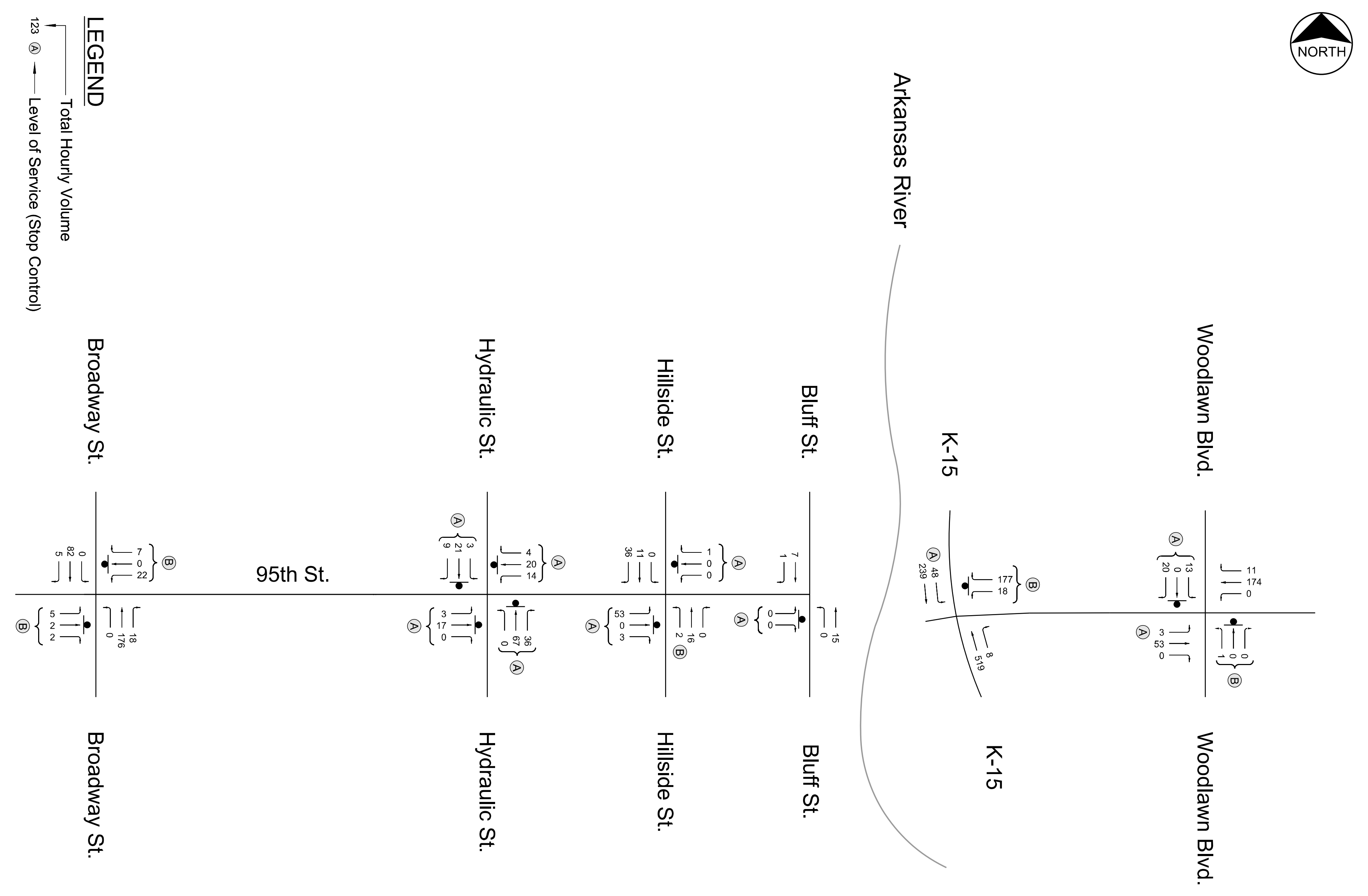


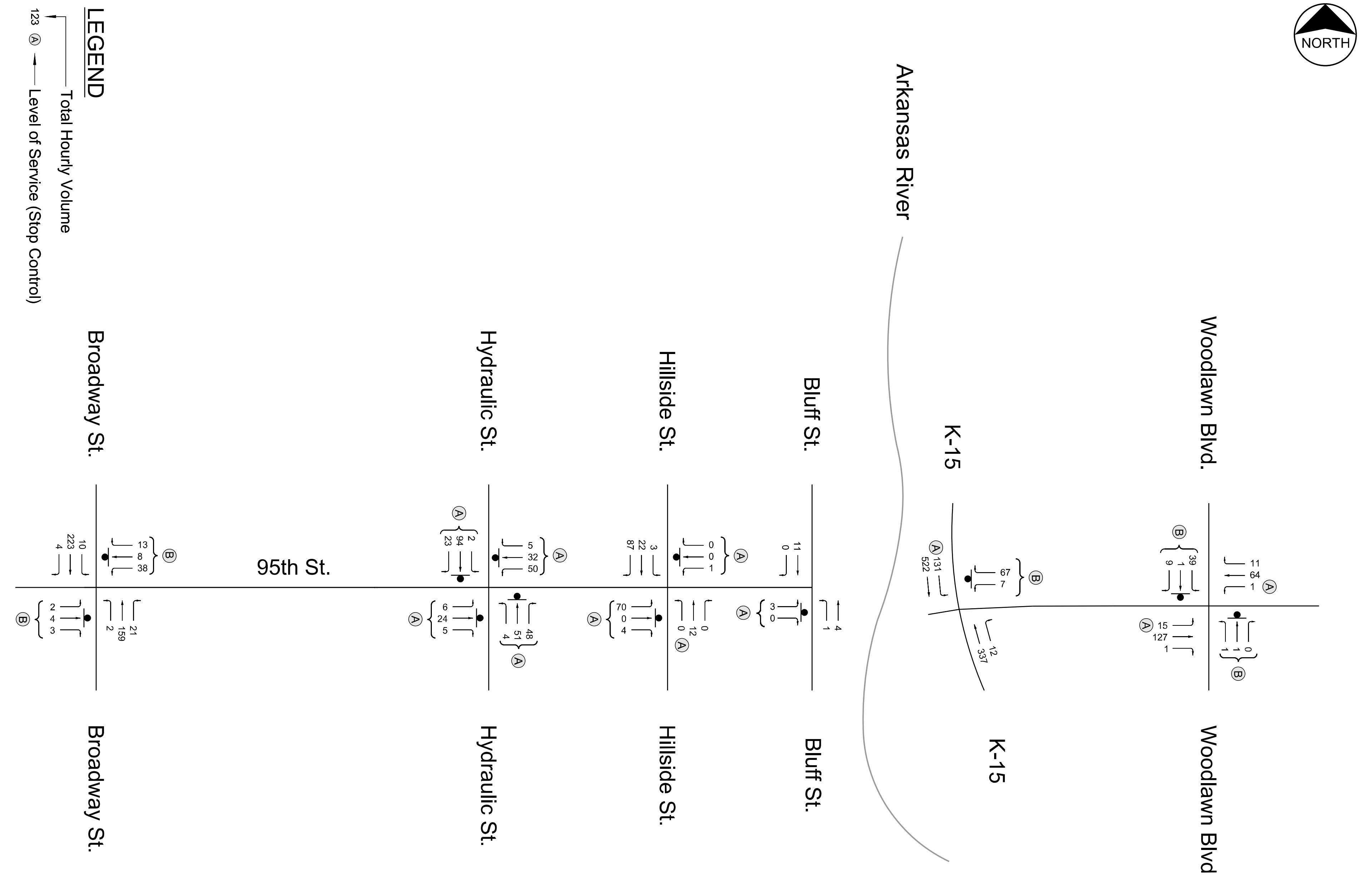
Existing A.M. Peak Hour
Traffic Volumes

95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-2



TranSystems

Existing P.M. Peak Hour Traffic Volumes

95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-3

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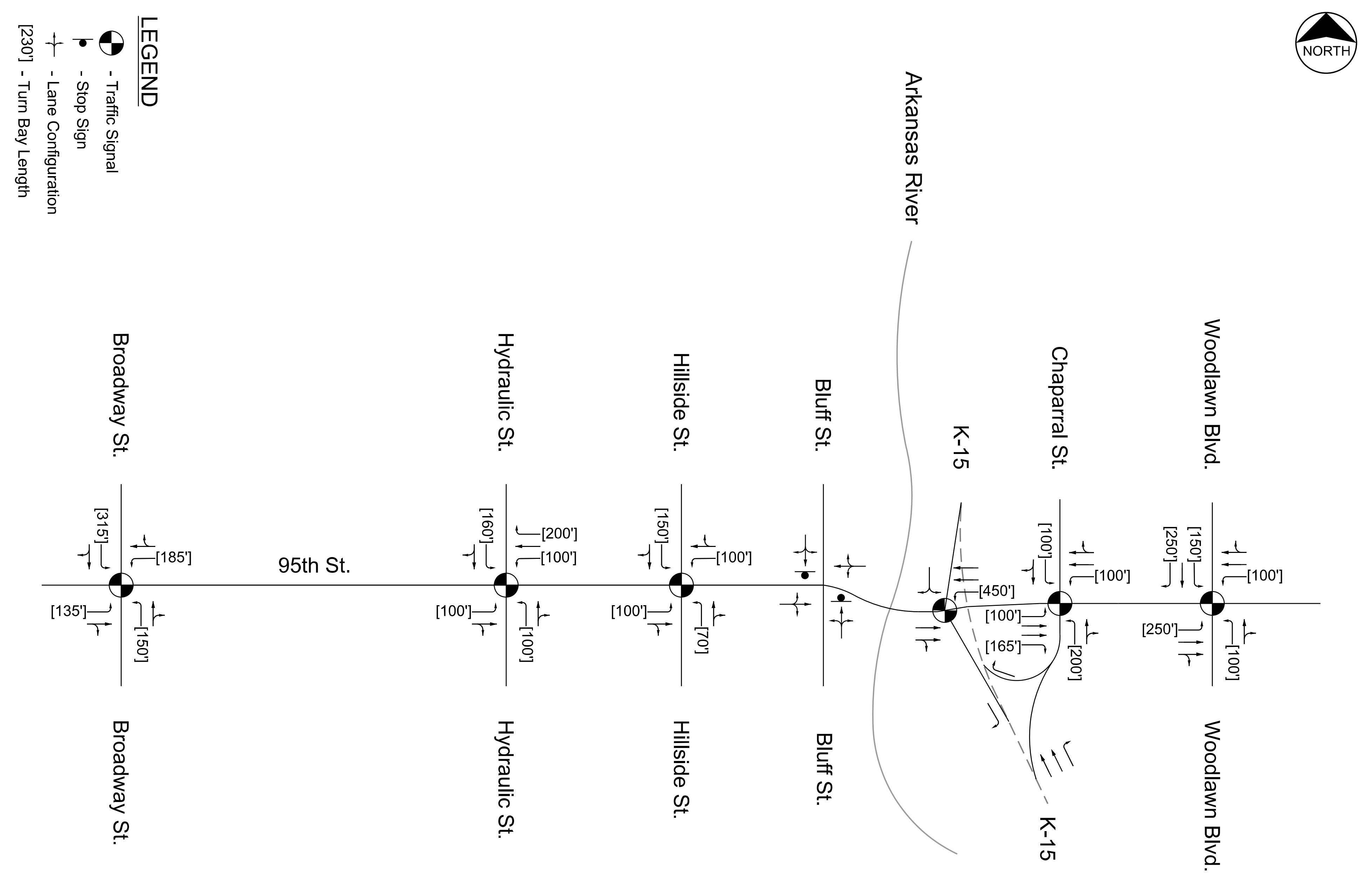

Interim Condition: 95th Street Proposed Lane Configurations

95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-4

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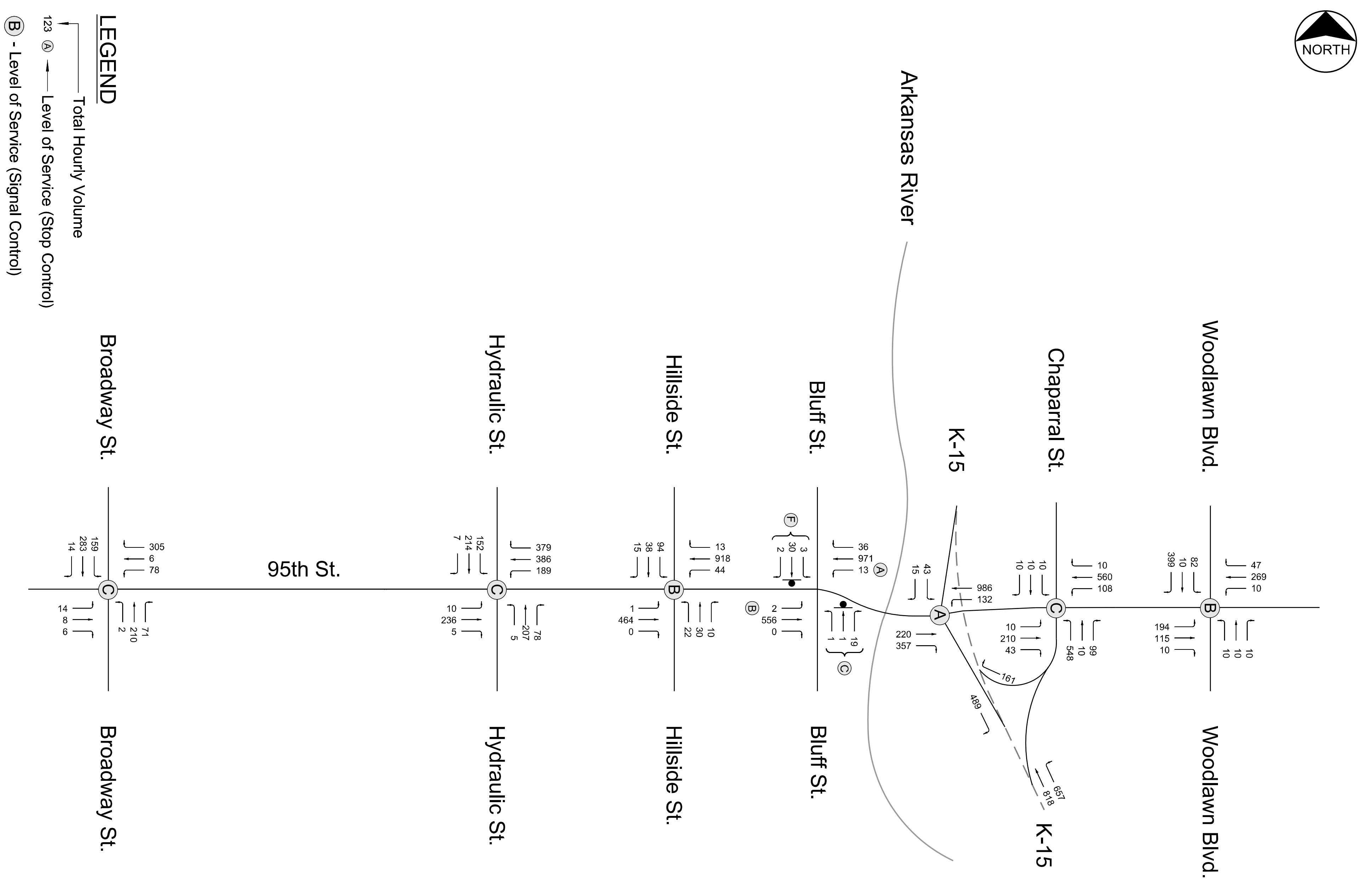

TranSystems

Interim Condition: 95th Street
A.M. Peak Hour Traffic Volumes

95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-5

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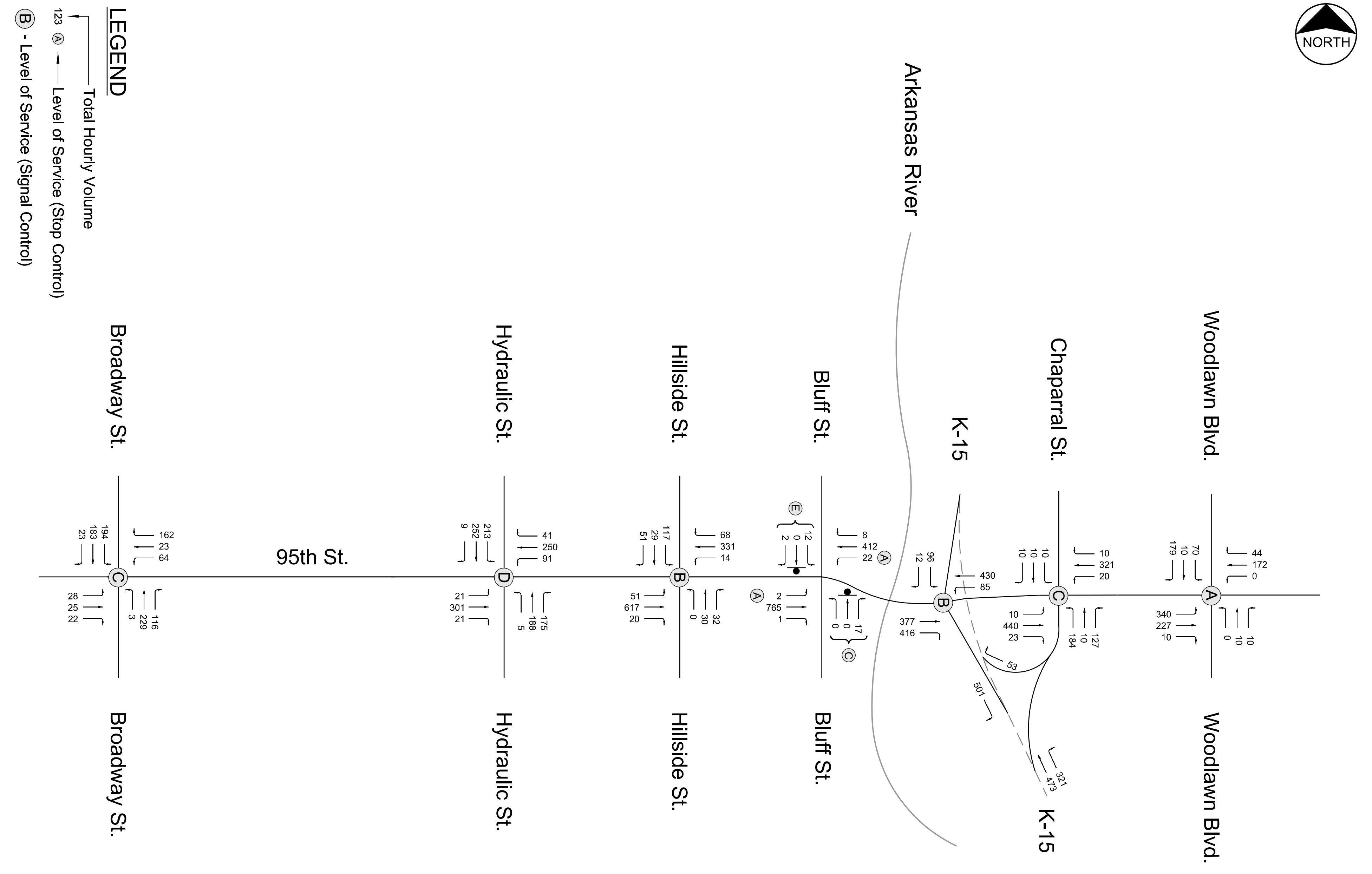


Interim Condition: 95th Street
P.M. Peak Hour Traffic Volumes

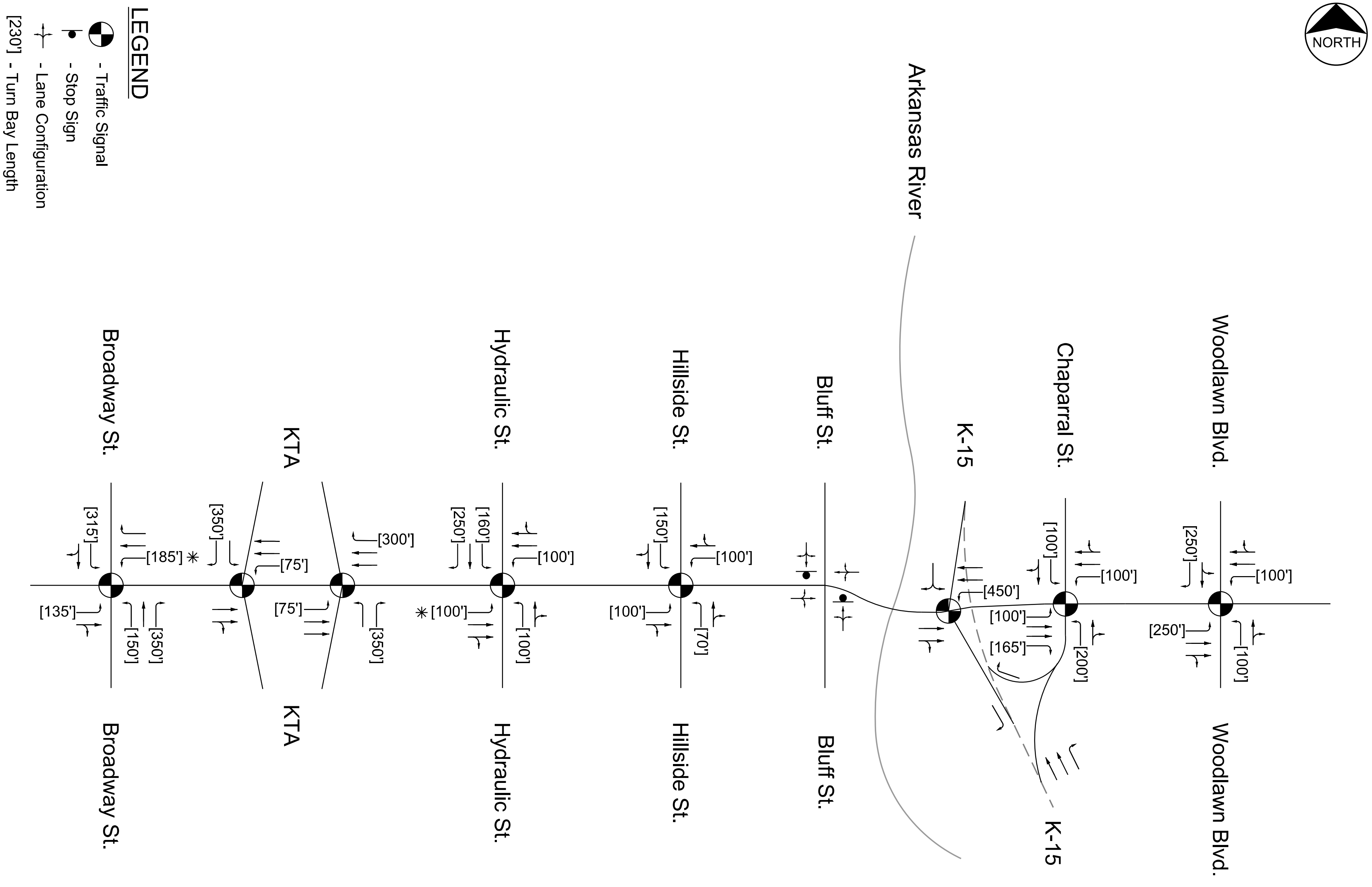
95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

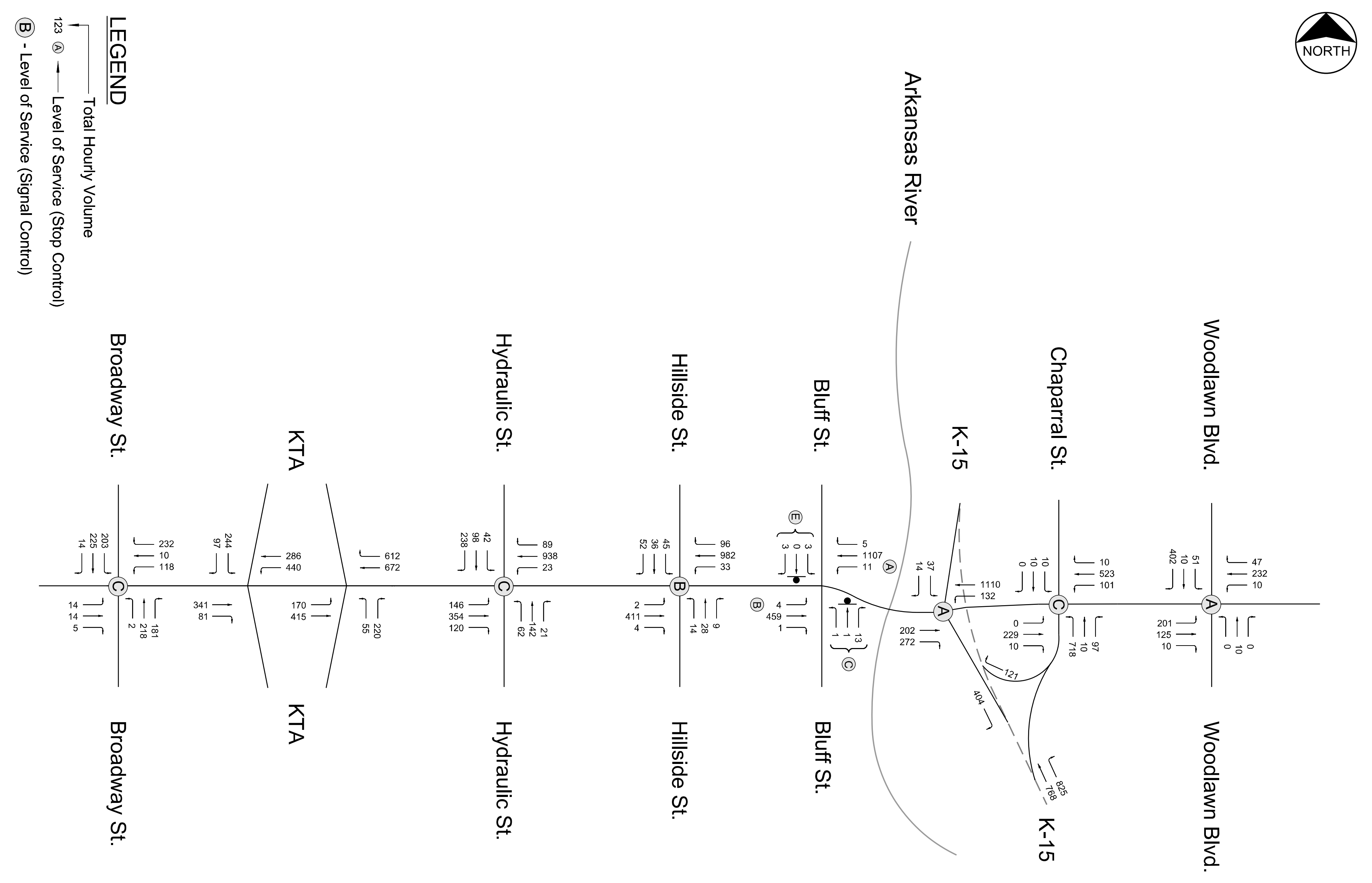
Figure A-6

$FILEL$



*Two-way left-turn lane for approaching traffic. See pavement markings for details.

Interim Condition: 95th Street with KTA Proposed Lane Configurations	95th Street Corridor Study Sedgwick County, Kansas	August 2017 No Scale	Figure A-7



TranSystems

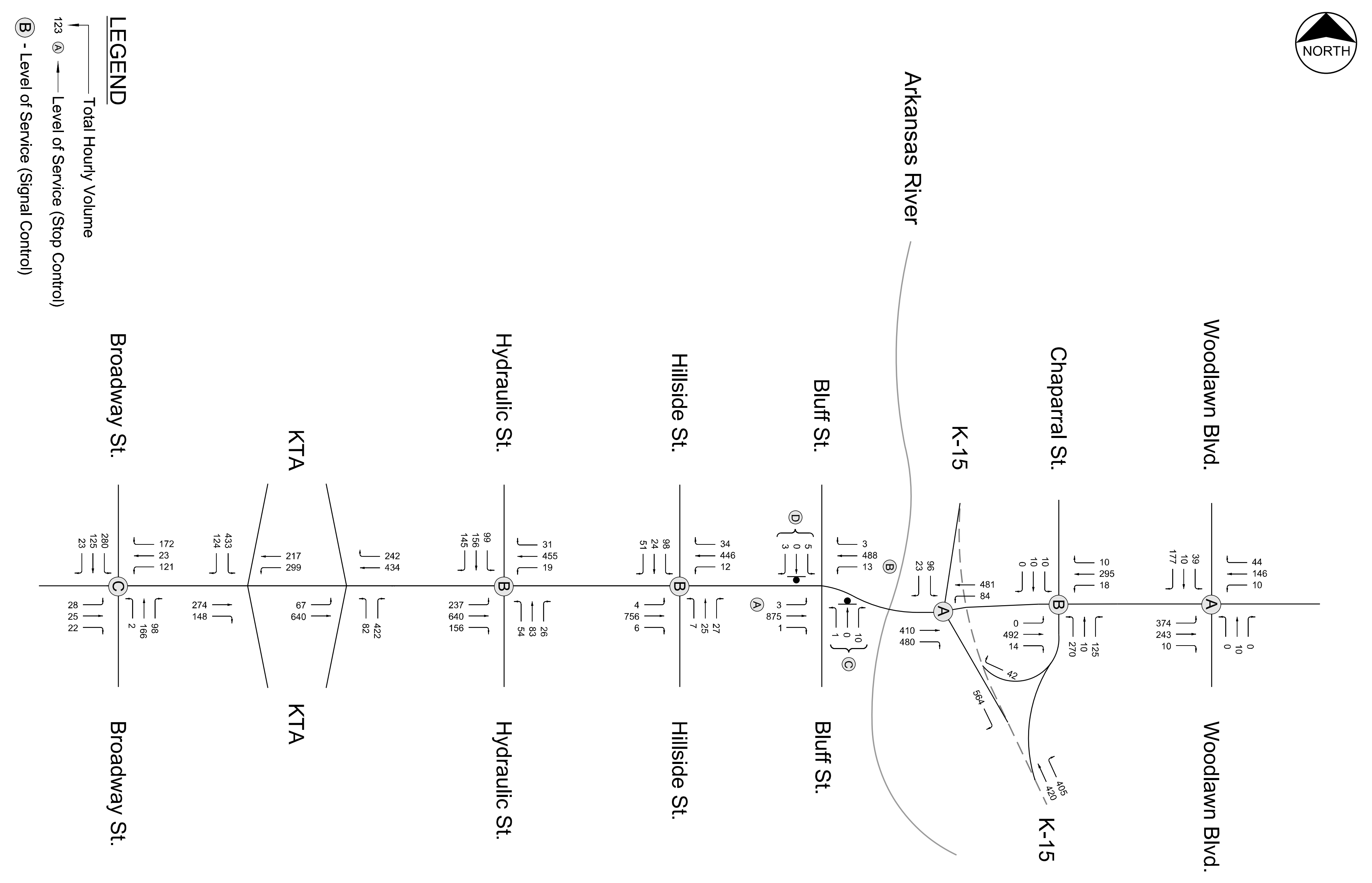
Interim Condition: 95th Street with KTA
A.M. Peak Hour Traffic Volumes

95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-8



TranSystems

Interim Condition: 95th Street with KTA
P.M. Peak Hour Traffic Volumes

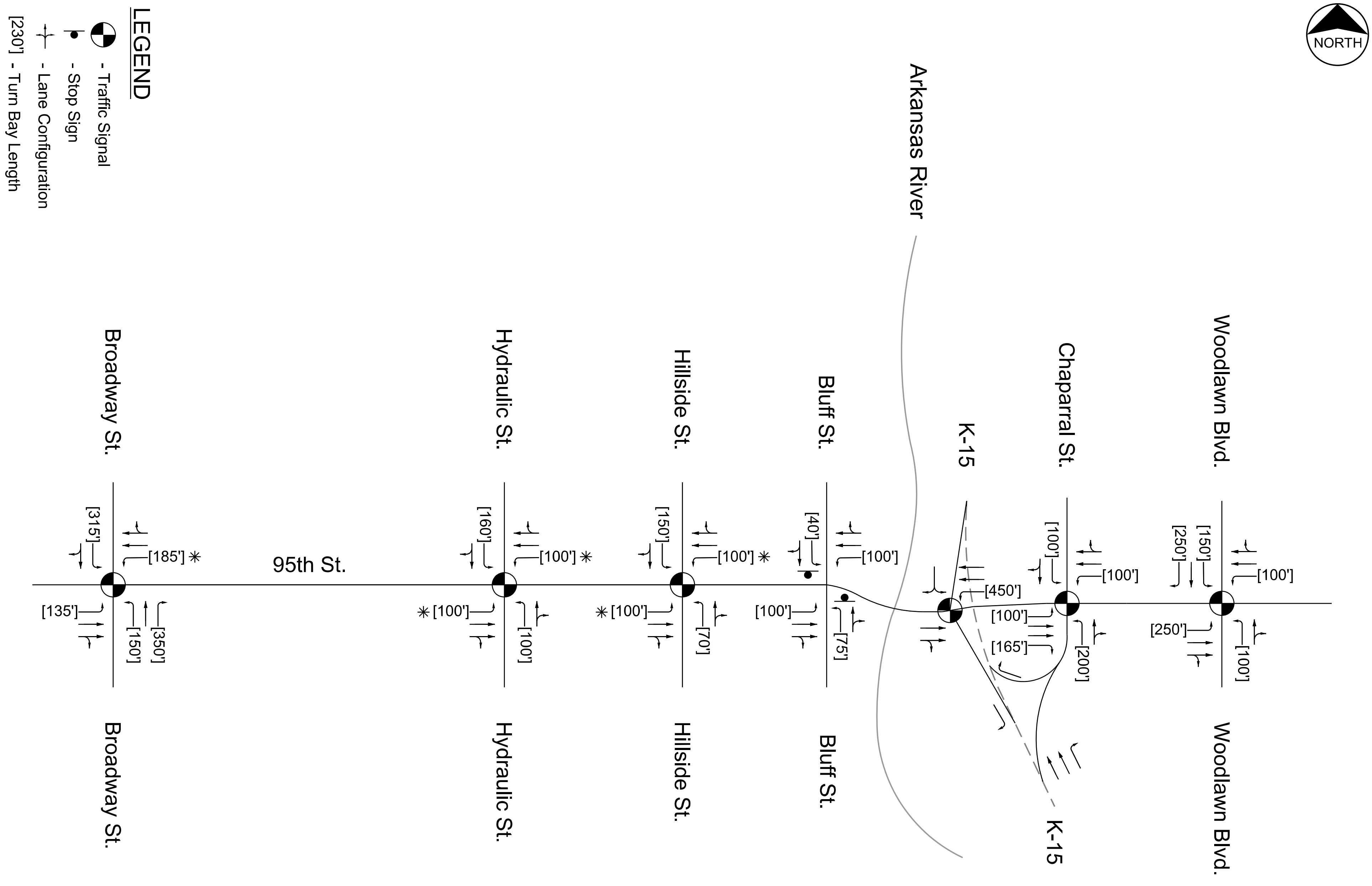
95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-9

$FILEL$



*Two-way left-turn lane for approaching traffic. See pavement markings for details.

TranSystems

Build Conditions
Proposed Lane Configurations

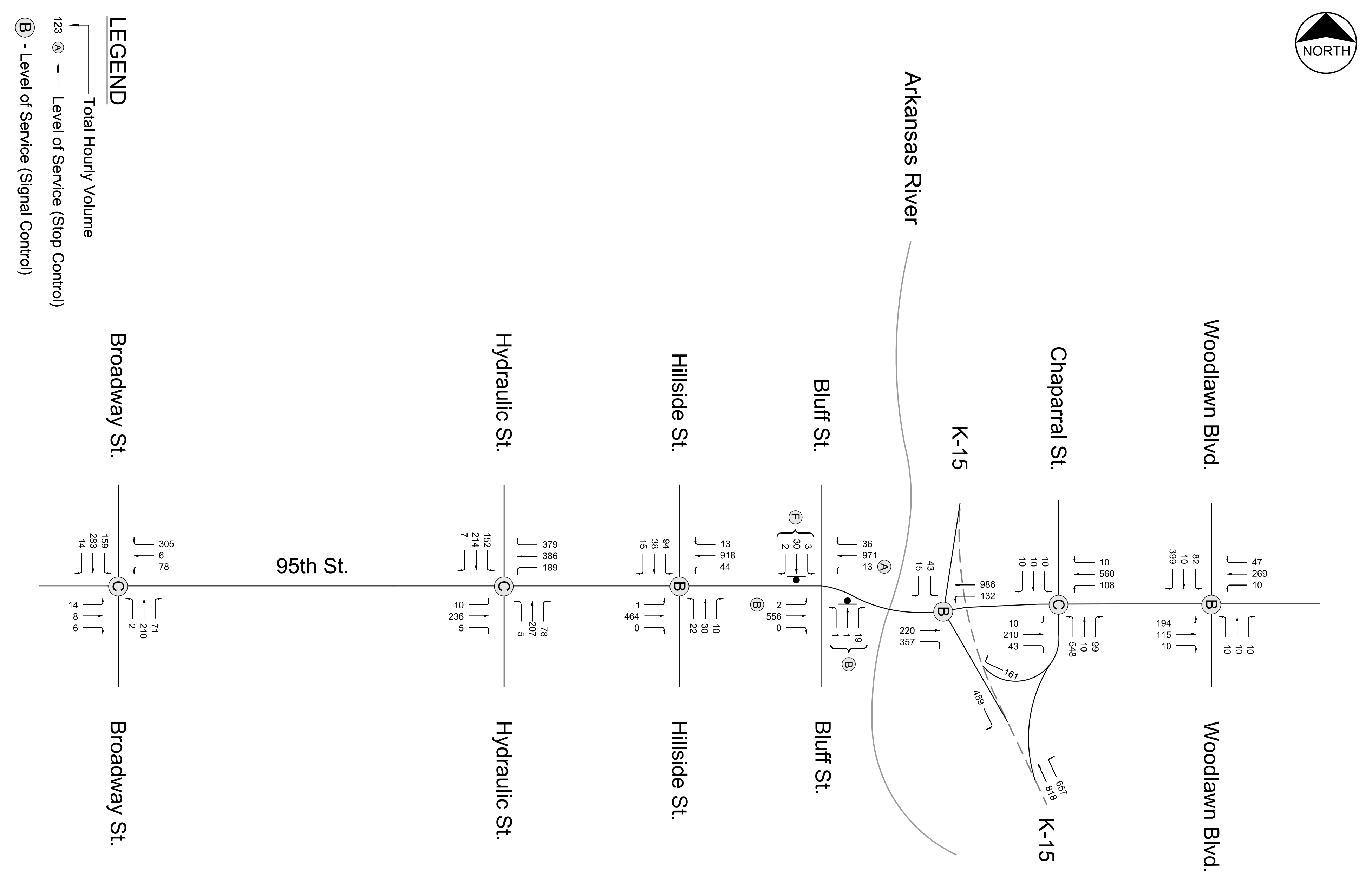
95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-10

$FILEL$



2040: 95th Street
A.M. Peak Hour Traffic Volumes

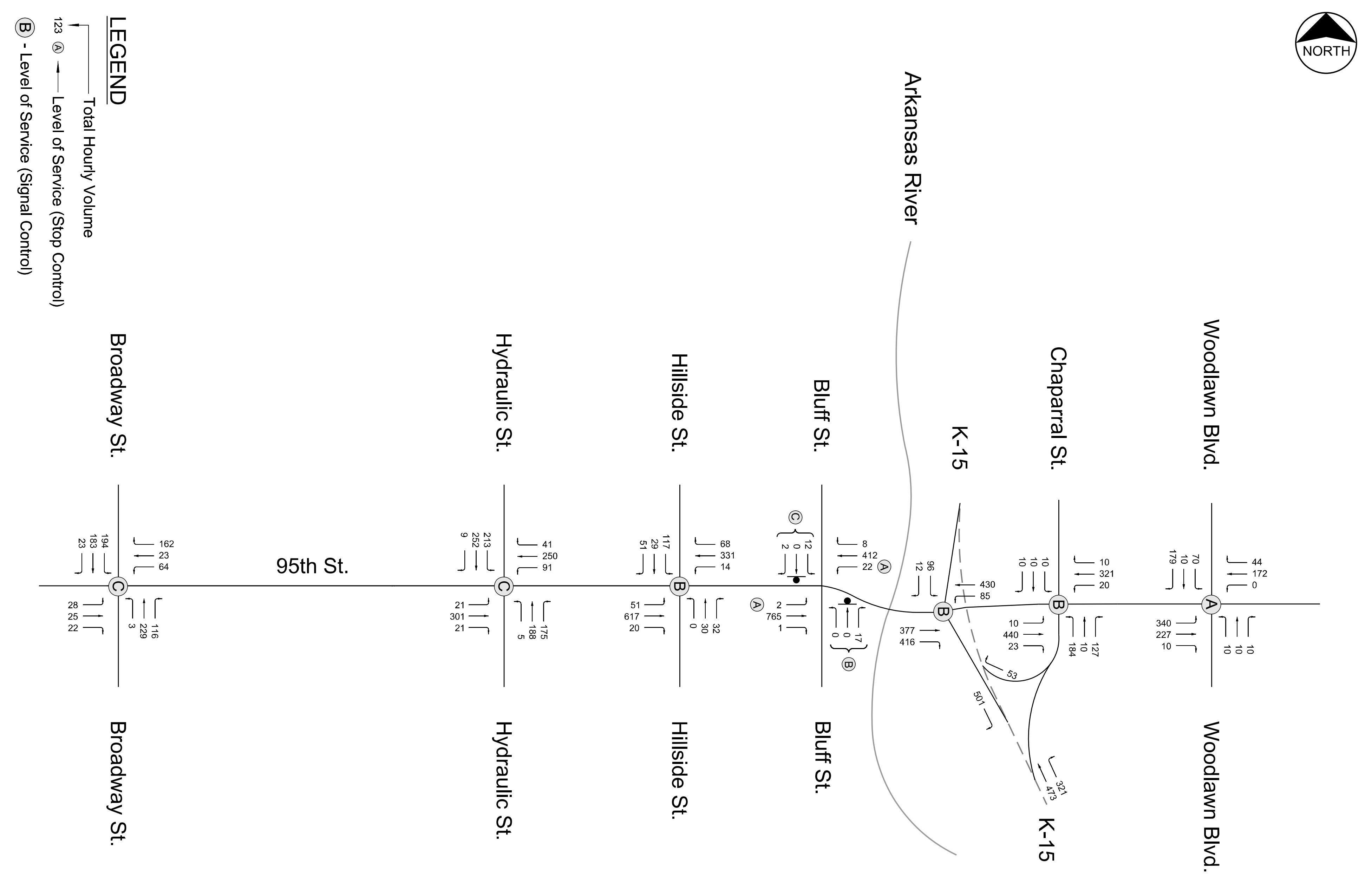
95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-11

$FILEL$



TranSystems

2040: 95th Street
P.M. Peak Hour Traffic Volumes

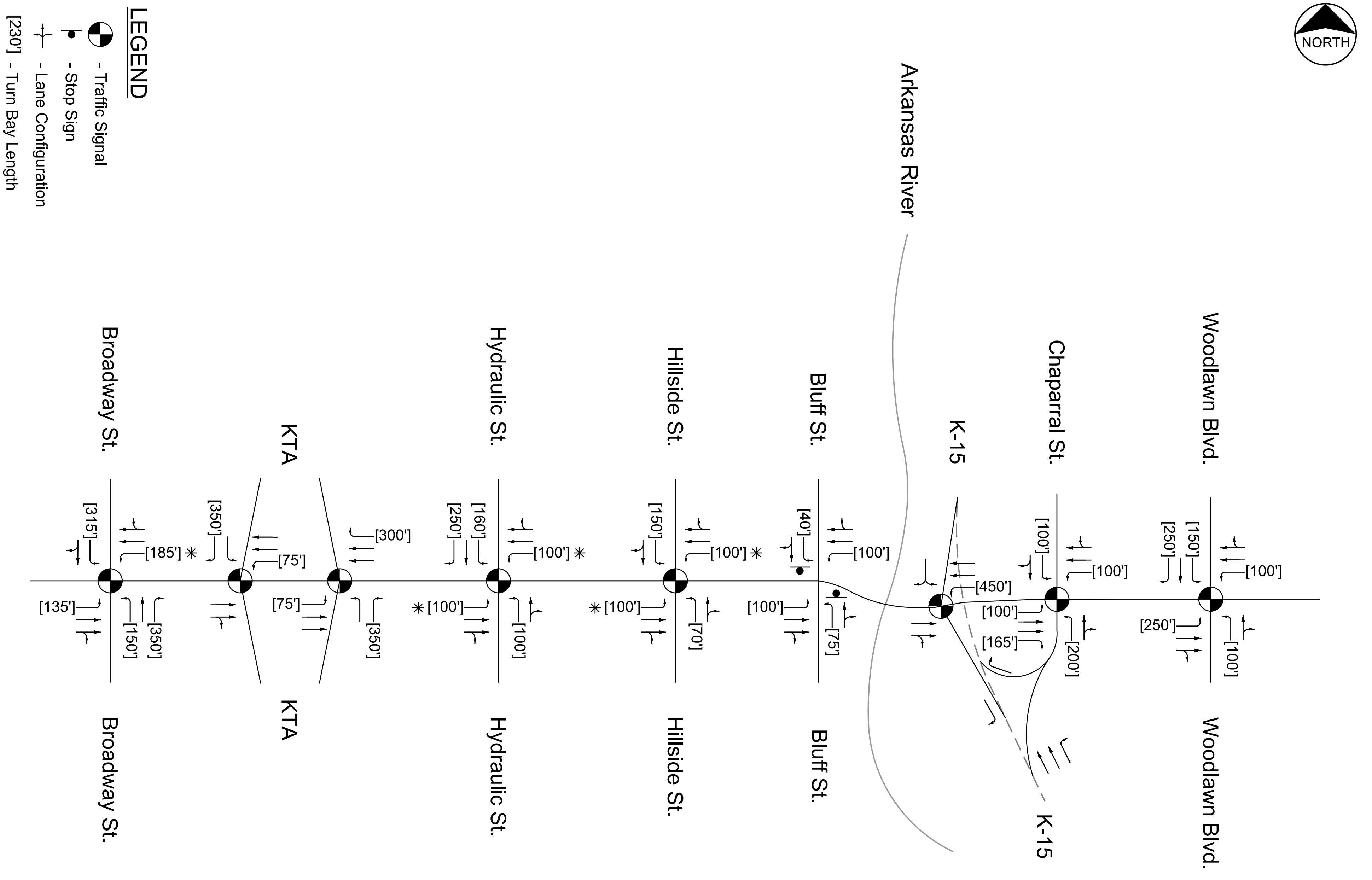
95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-12

$FILEL$



✳Two-way left-turn lane for approaching traffic. See pavement markings for details.

TranSystems

Build Conditions with KTA
Proposed Lane Configurations

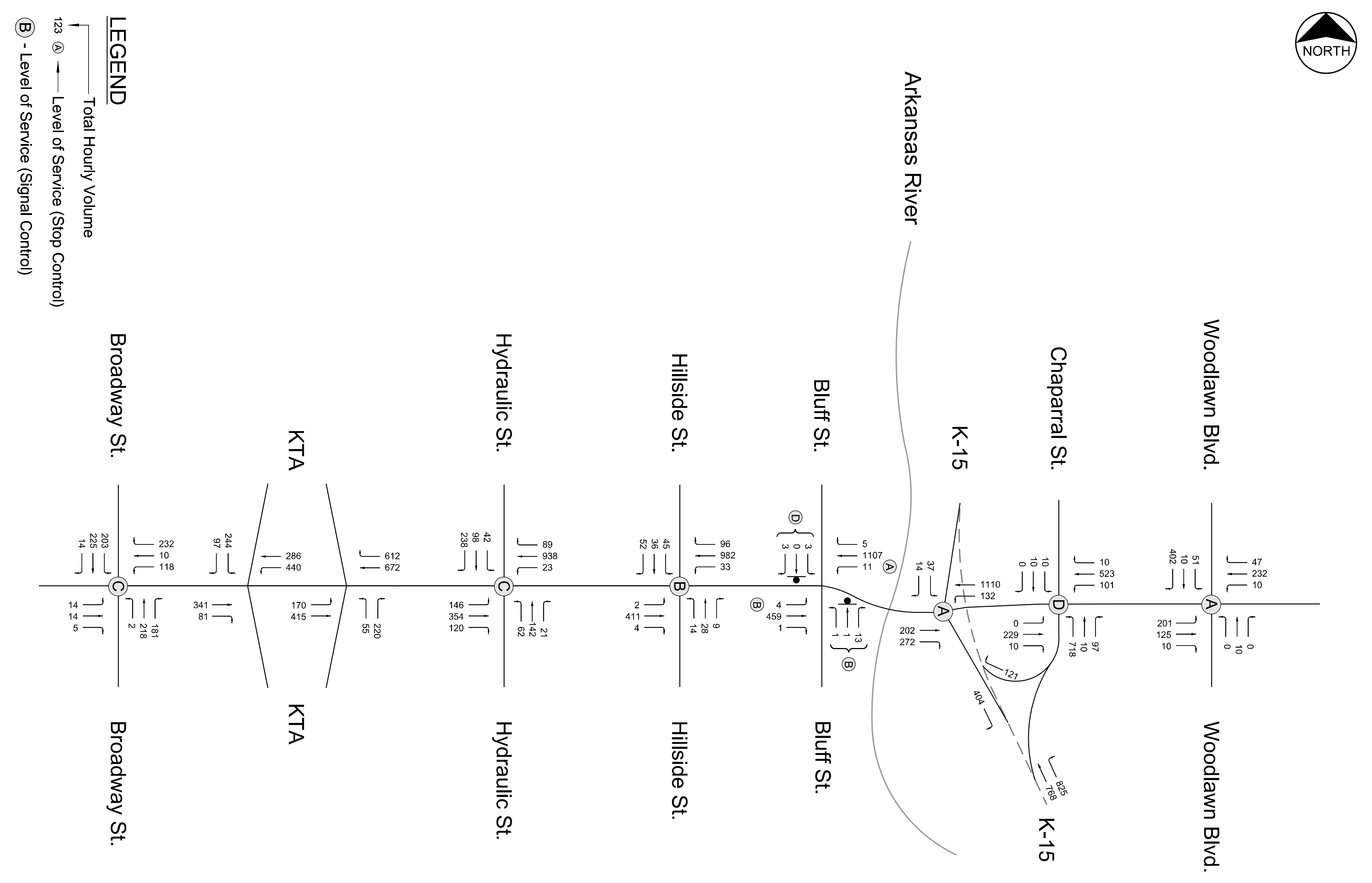
95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-13

$FILEL$



TranSystems

2040: 95th Street with KTA
A.M. Peak Hour Traffic Volumes

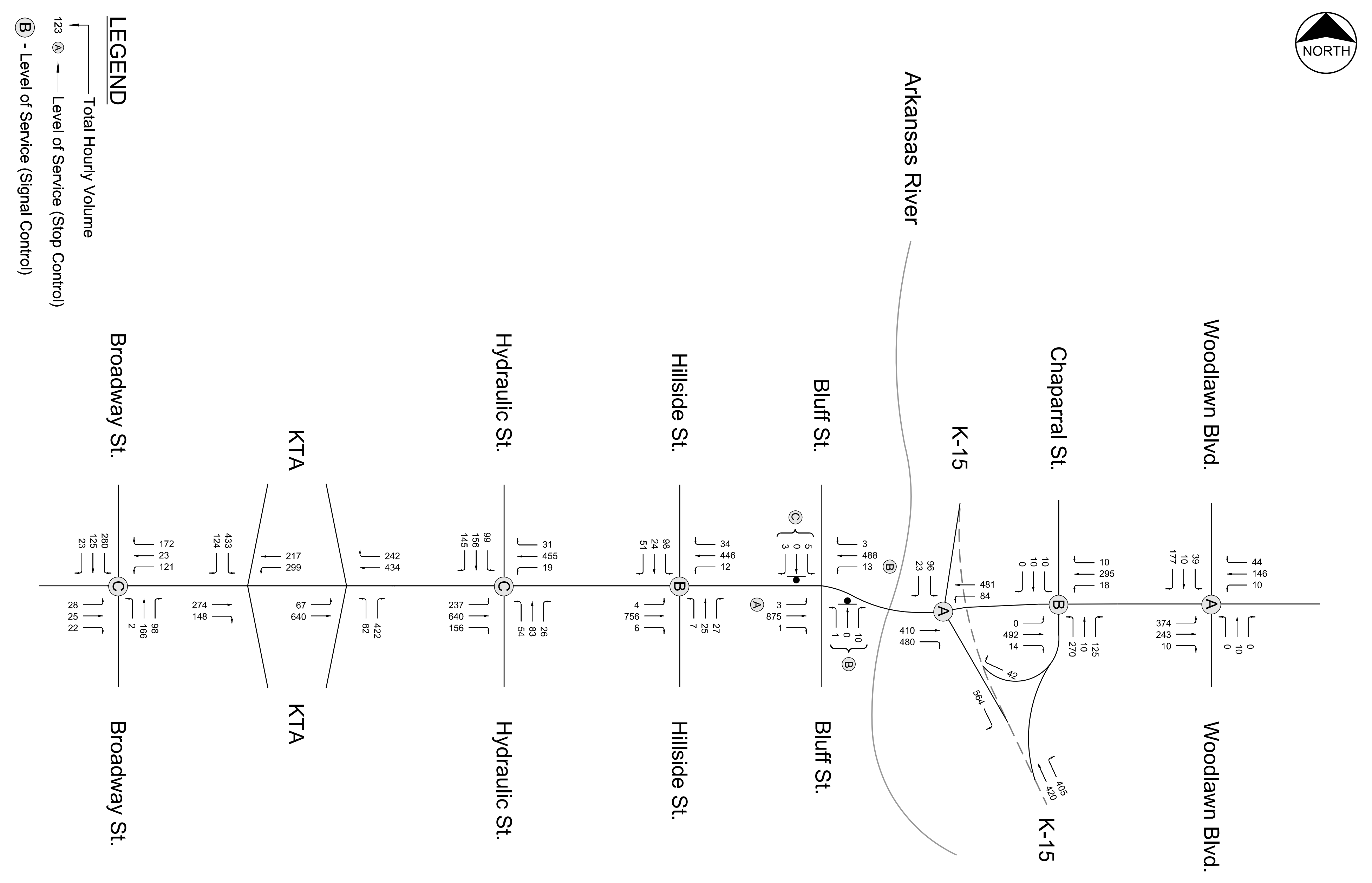
95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-14

$FILEL$



TranSystems

2040: 95th Street with KTA
P.M. Peak Hour Traffic Volumes

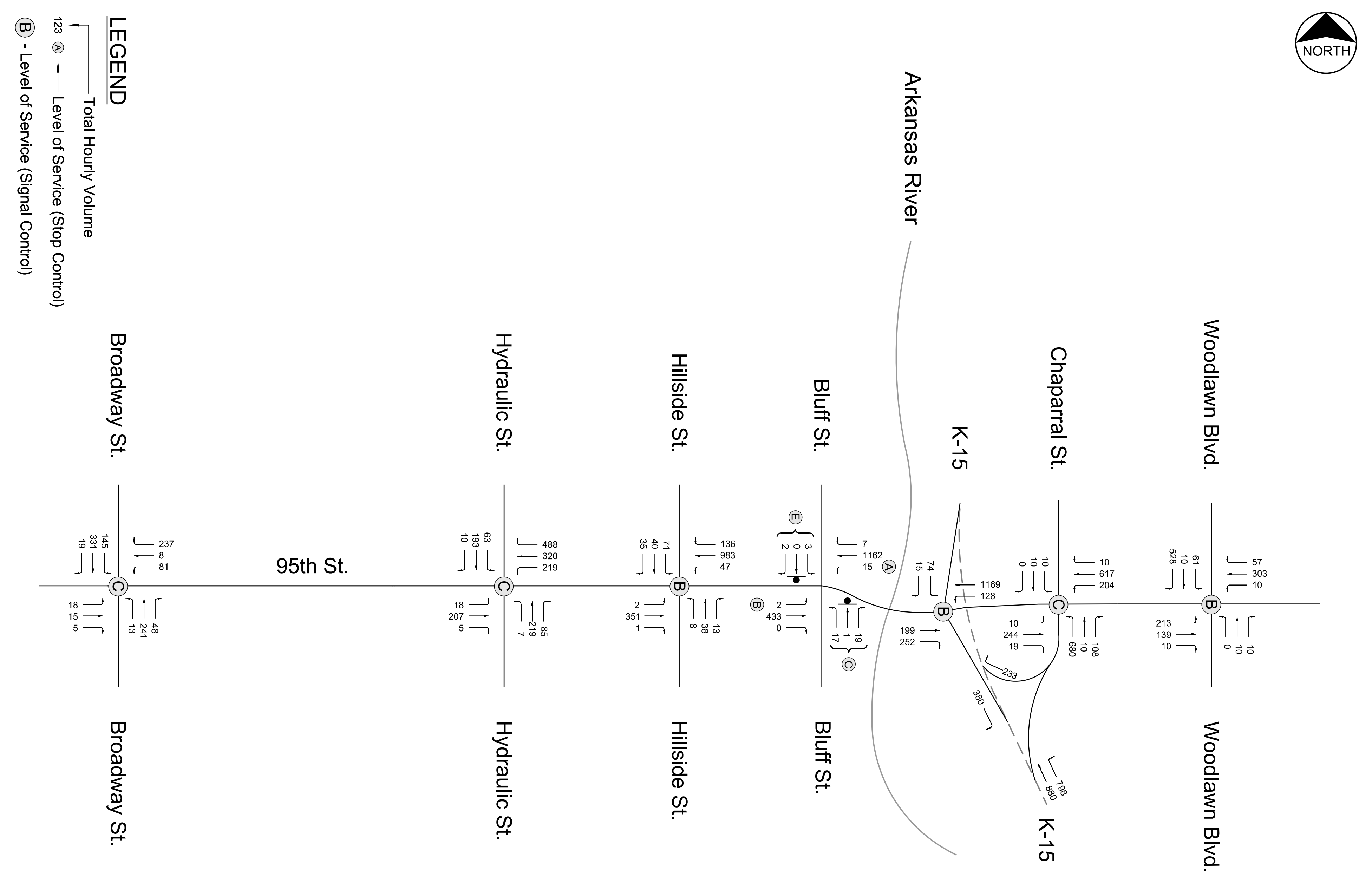
95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-15

$FILEL$



TranSystems

2060 (Moderate): 95th Street
A.M. Peak Hour Traffic Volumes

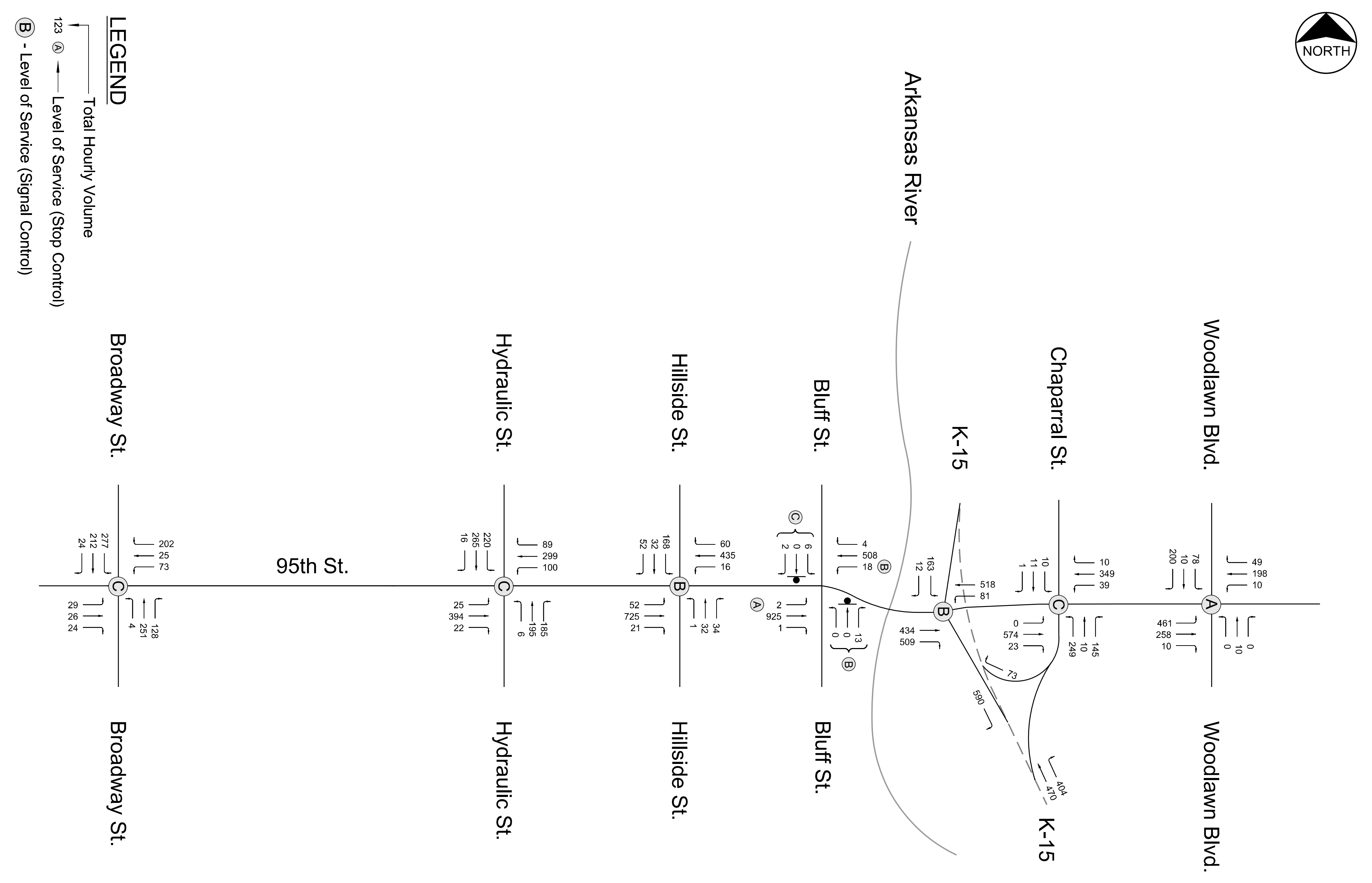
95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-16

$FILEL$



2060 (Moderate): 95th Street
P.M. Peak Hour Traffic Volumes

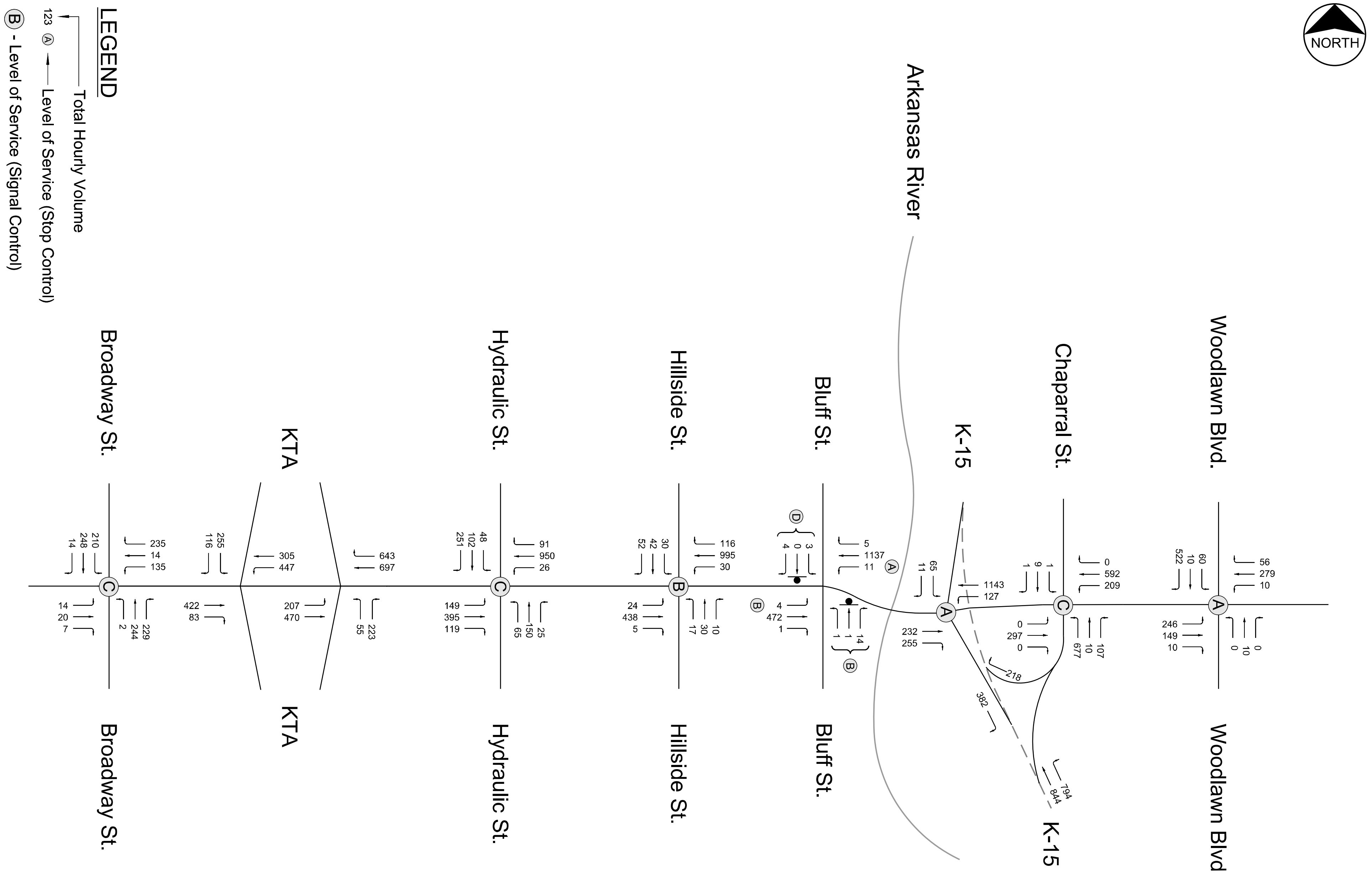
95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

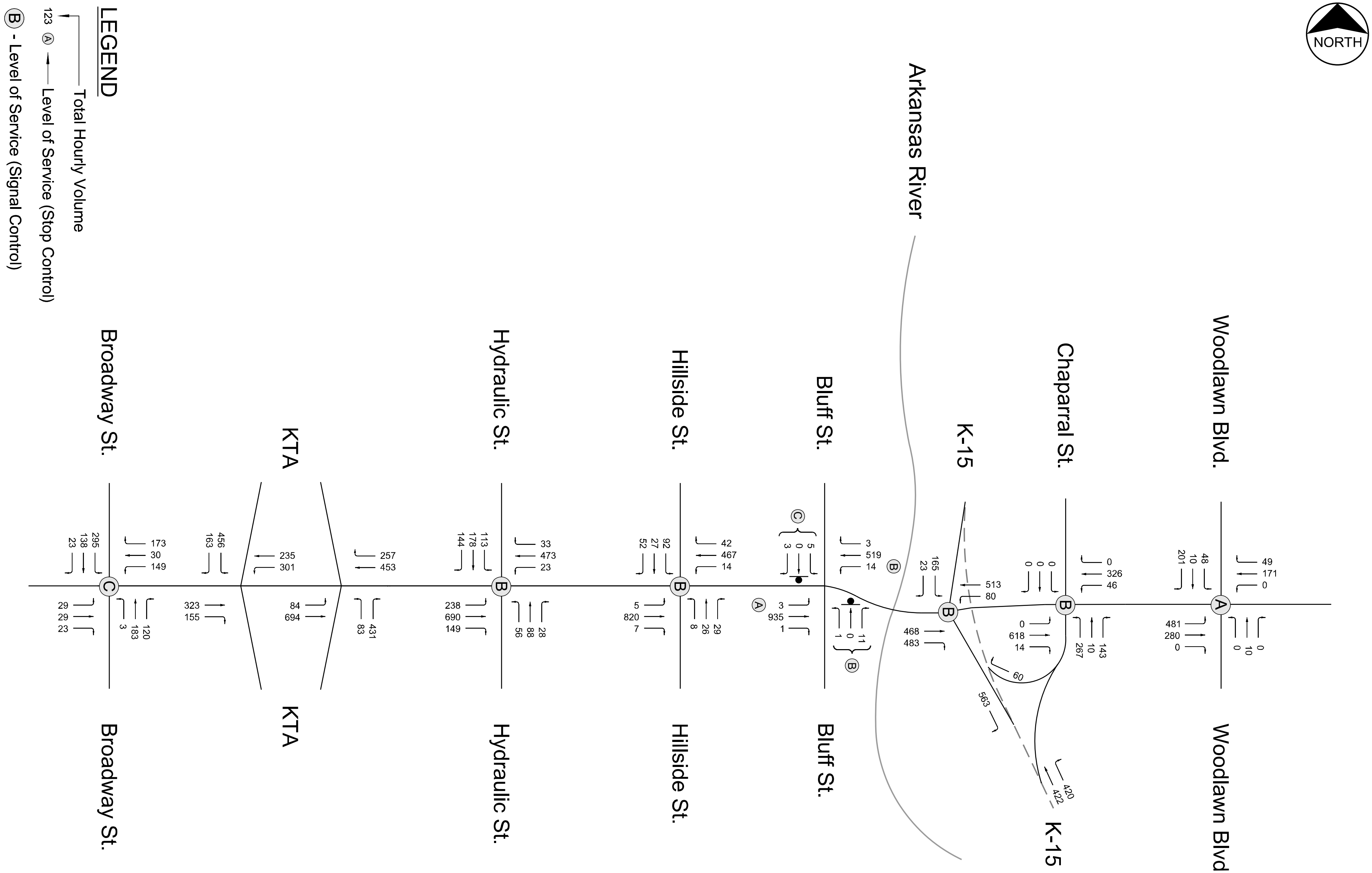
Figure A-17

$FILEL$



TranSystems	2060 (Moderate): 95th Street with KTA A.M. Peak Hour Traffic Volumes	95th Street Corridor Study Sedgwick County, Kansas	August 2017 No Scale
			Figure A-18

$FILEL$



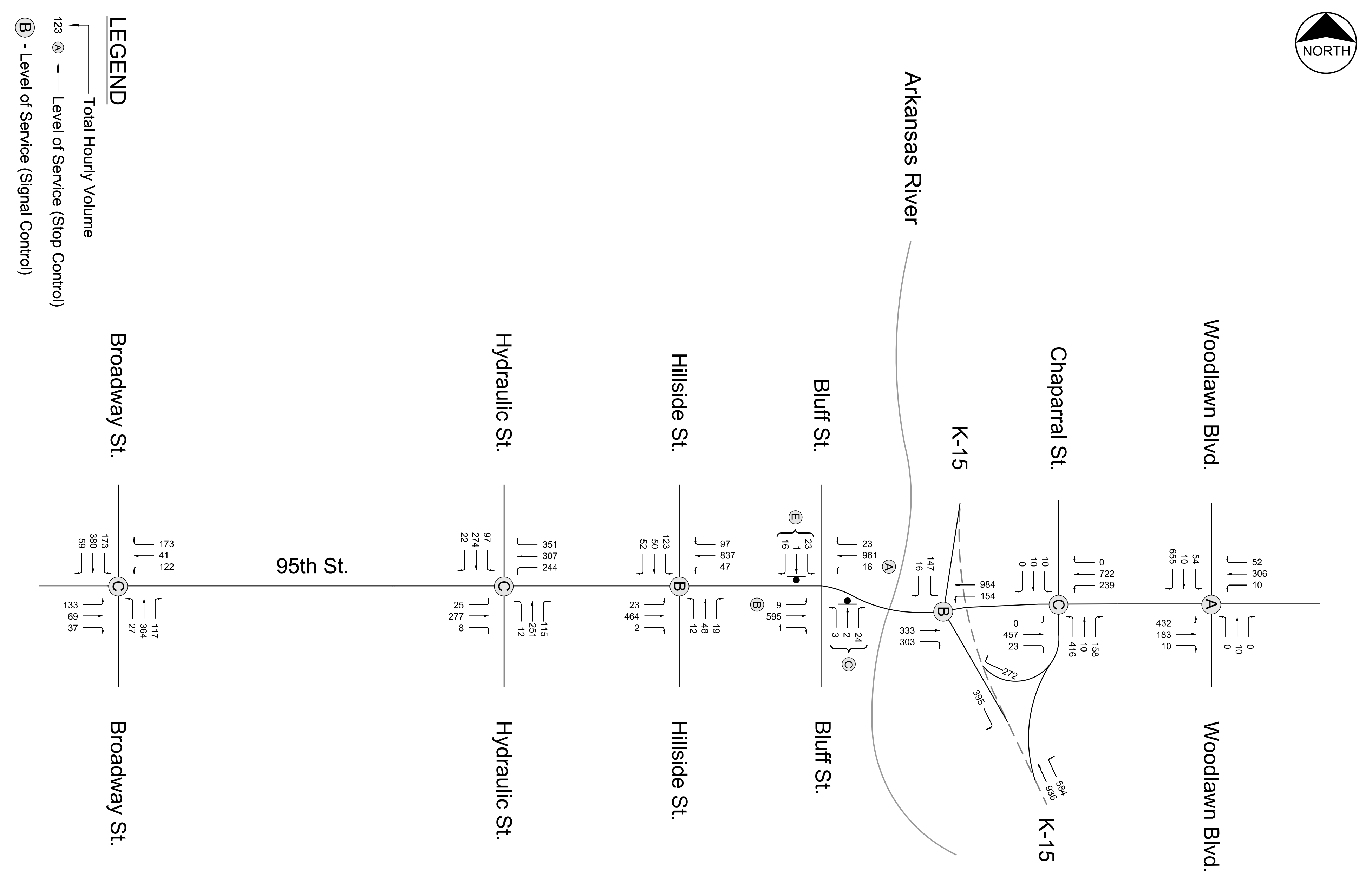
2060 (Moderate): 95th Street with KTA
P.M. Peak Hour Traffic Volumes

95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-19



2060 (High): 95th Street
A.M. Peak Hour Traffic Volumes

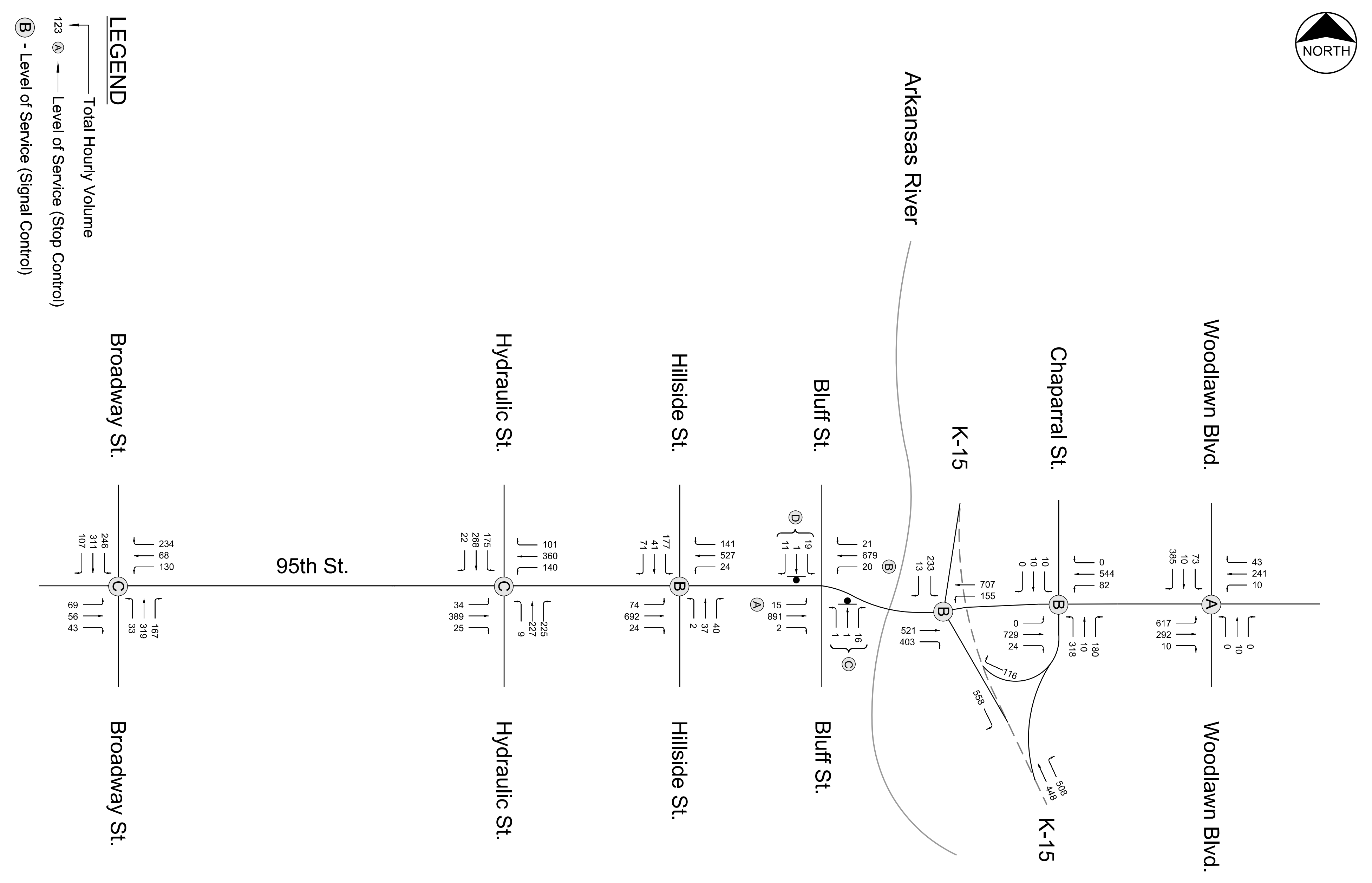
95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-20

$FILEL$



TranSystems

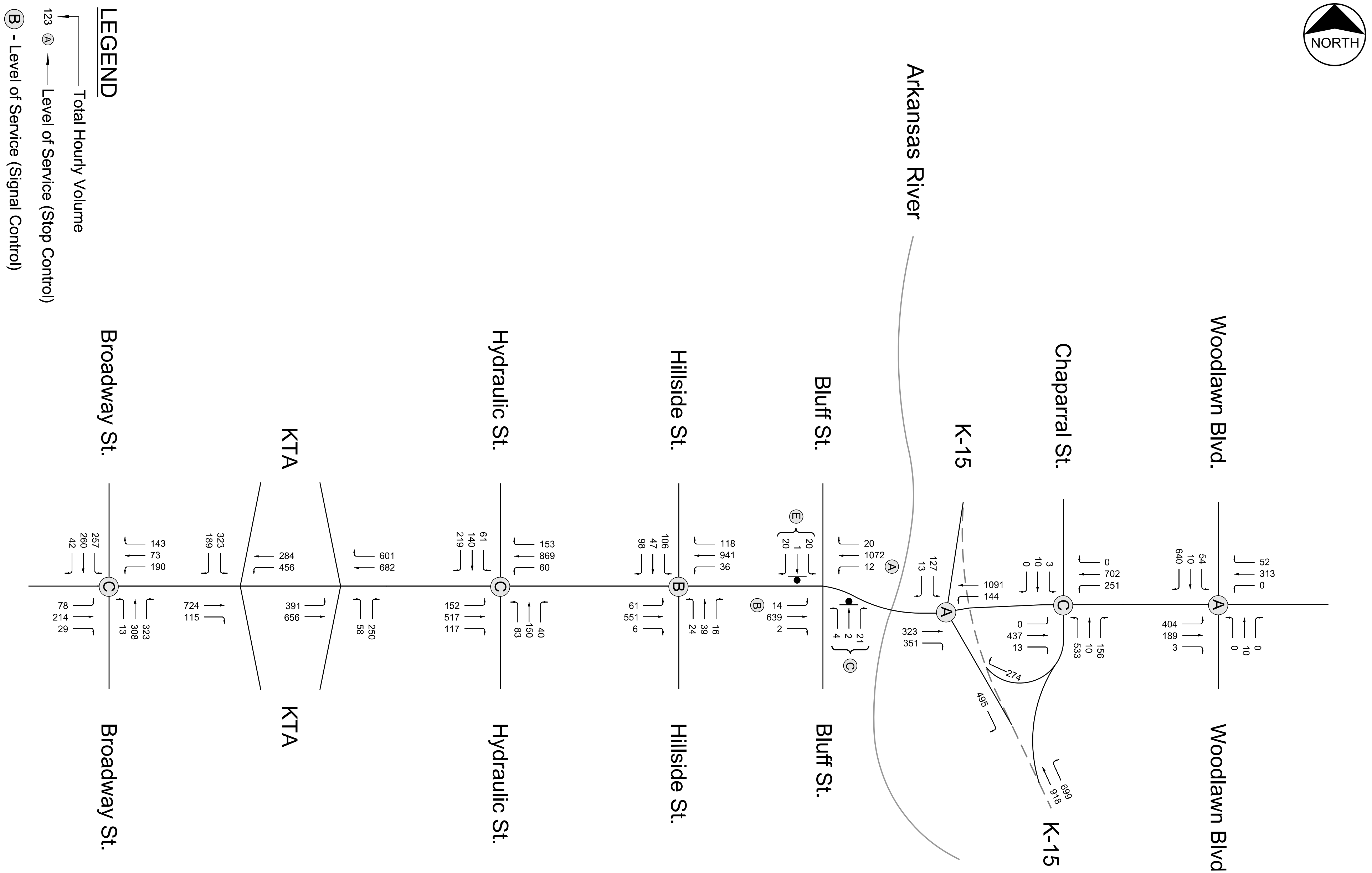
2060 (High): 95th Street
P.M. Peak Hour Traffic Volumes

95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-21



2060 (High): 95th Street with KTA
A.M. Peak Hour Traffic Volumes

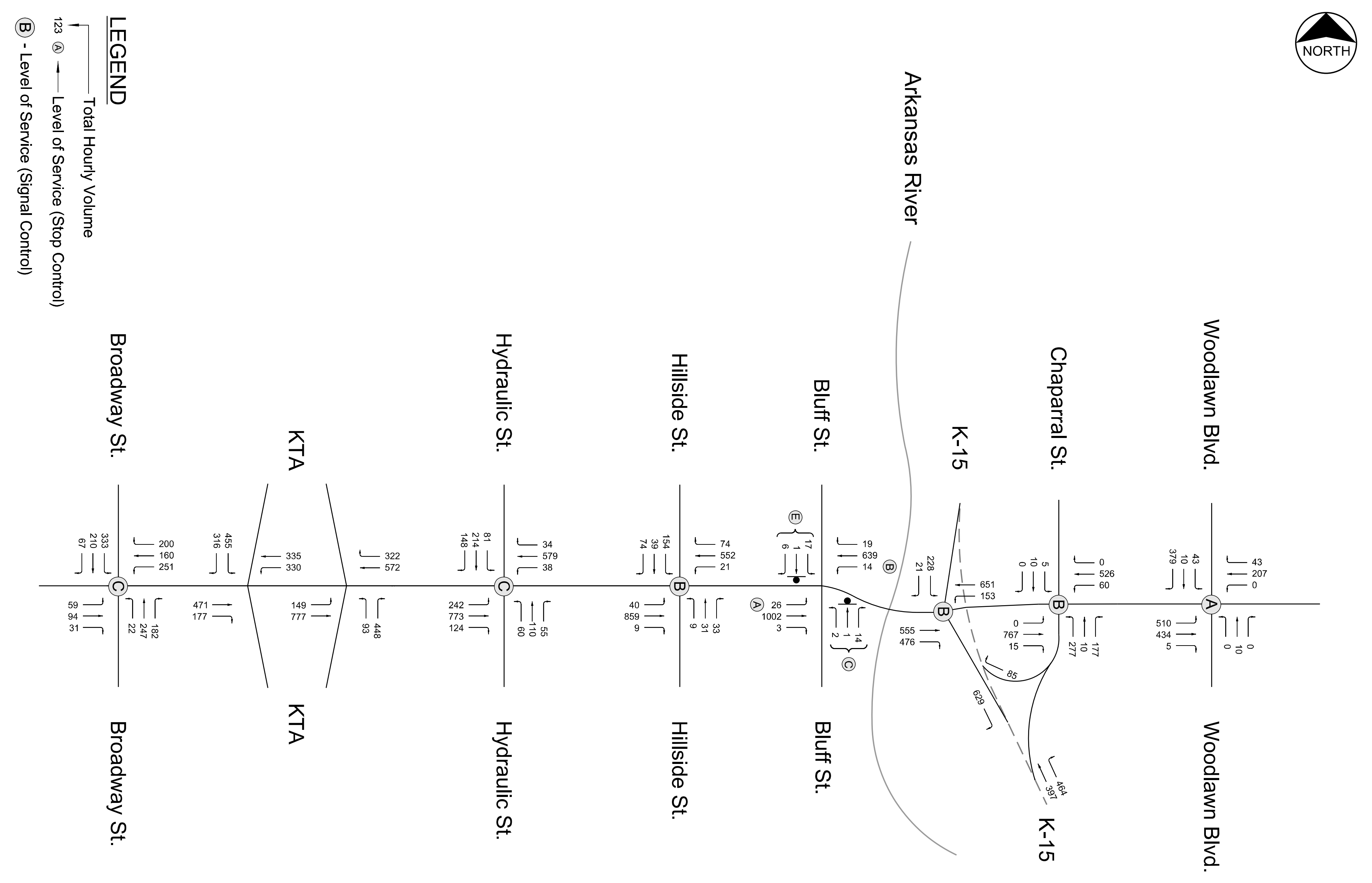
95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-22

$FILEL$



TranSystems

2060 (High): 95th Street with KTA
P.M. Peak Hour Traffic Volumes

95th Street Corridor Study
Sedgwick County, Kansas

August 2017

No Scale

Figure A-23

Appendix B: Roadway Design Criteria

95th Street Corridor Study
Meridian to Greenwich
Urban Roadway Design Criteria

Project Overview	
Functional Classification	Urban Major Arterial
Design Year (Geometrics)	2046
Design Speed (MPH)	45
Design Vehicle	WB-67
Access Control	Land-use Ordinances
Level of Service (2040)	Design: C, Minimum: D
Surface Type	
Flexible	Sedgwick County Pavement Section
Rigid	Sedgwick County Pavement Section
Road Design Information	
Lane Width (FT)(Through Lanes)	12'
Lane Width (FT)(Turn Lanes)	12' - 16'
Number of Lanes	To Be Determined
Auxilary Lanes	To Be Determined
Curb Width	Right: 2.5', Median: 1.75'
Cross Slope: Through Lanes	Minimum: 0.3%; Maximum: 2.0%
Right-of-Way Width	Minimum 120' per MAPD Subdivision Regulations
Lateral Offset	6' from back of curb
****Foreslope*	5:1
Backslope	3:1
Flat Bottom Ditch Width	6' - 8'
Geometric Design Criteria	
Minimum Radius w/out Superelevation	1,039'
**Minimum Radius w/ Superelevation (emax=0.08)*	1,250'
Desirable Stopping Sight Distance	360' (45 mph)
Maximum Degree of Curvature	4° 35'
Maximum Superelevation Rate	6.0%
Maximum Grade (Level Terrain)	5.0%
Minimum Grade	0.5%
Curb Return Radii	50'
Vertical Clearance	16' - 9"
Vertical Curvature for Desirable SSD	
Vertical Curve - Crest (based on sight distance)	K=61
Vertical Curve - Sag (based on sight distance)	K=79
Drainage Design	
Drainage Criteria Used	Wichtia/Sedgwick County Storm Water Criteria
Design Storm	10 Yr (Storm Sewer), 50 Yr (Ditch/Culvert), 100 Yr (Bridge)

** emax 8% table; limited to to 6% maximum*

***Foreslopes of 5:1 to near edge of ditch or to clear zone width; past clear zone 3:1 or 4:1 slopes may be used*

95th Street Corridor Study
Meridian to Greenwich
Rural Roadway Design Criteria

Project Overview

Functional Classification	Rural Major Arterial
Design Year (Geometrics)	2046
Design Speed (MPH)	55
Design Vehicle	WB-67
Access Control	Land-use Ordinances
Level of Service (2040)	Design: B

Surface Type

Flexible	Sedgwick County Pavement Section
Rigid	Sedgwick County Pavement Section

Road Design Information

Lane Width (FT)(Through Lanes)	12'
Lane Width (FT)(Turn Lanes)	12' - 16'
Number of Lanes	To Be Determined
Auxilary Lanes	To Be Determined
Shoulder Width	10'
Cross Slope: Through Lanes	Minimum: 0.3%; Maximum: 2.0%
Cross Slope: Shoulder	2% - 4%
Right-of-Way Width	Minimum 120' per MAPD Subdivision Regulations
***Clear Zone*	26' - 32'
****Foreslope*	5:1
Backslope	3:1
Flat Bottom Ditch Width	6' - 8'

Geometric Design Criteria

Minimum Radius w/out Superelevation (emax=0.08)	9,720'
**Minimum Radius w/ Superelevation (emax=0.08)*	1,920'
Desirable Stopping Sight Distance	495' (55 mph)
Maximum Degree of Curvature	2º59'
Maximum Superelevation Rate	6.0%
Maximum Grade (Level Terrain)	4.0%
Minimum Grade	0.5%
Shoulder Return Radii	50'
Vertical Clearance	16' - 9"

Vertical Curvature for Desirable SSD

Vertical Curve - Crest (based on sight distance)	K=114
Vertical Curve - Sag (based on sight distance)	K=115

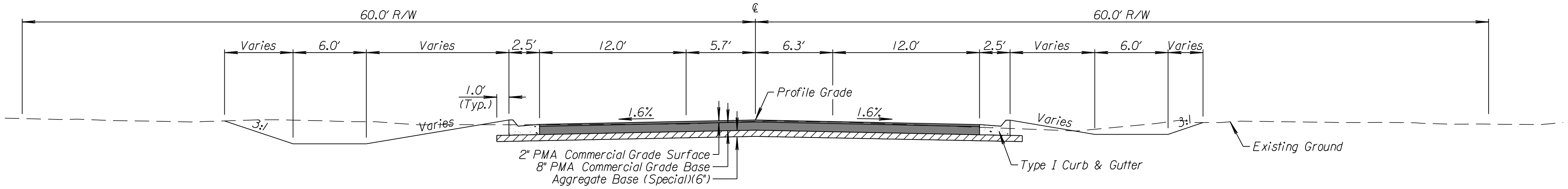
Drainage Design

Drainage Criteria Used	Wichtia/Sedgwick County Storm Water Criteria
Design Storm	10 Yr (Storm Sewer), 50 Yr (Ditch/Culvert), 100 Yr (Bridge)

** emax 8% table; limited to to 6% maximum*

***Design ADT >6000 using 5:1 to 4:1 foreslopes*

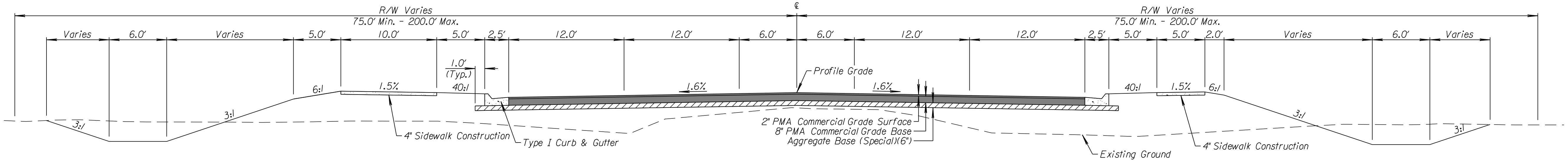
****Foreslopes of 5:1 to near edge of ditch or to clear zone width; past clear zone 3:1 or 4:1 slopes may be used*



TYPICAL SECTION

95TH STREET

WEST PROJECT LIMITS TO BROADWAY

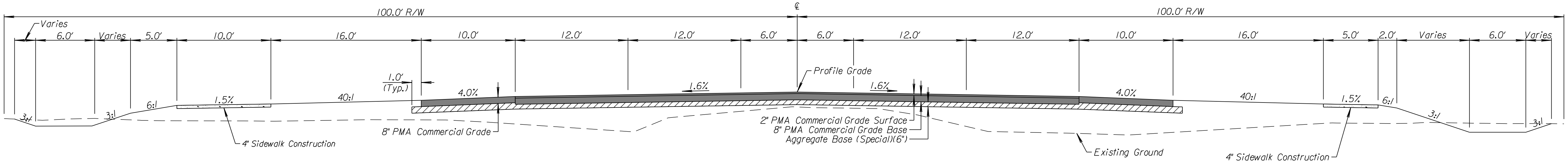


TYPICAL SECTION

95TH STREET

BROADWAY TO HYDRAULIC

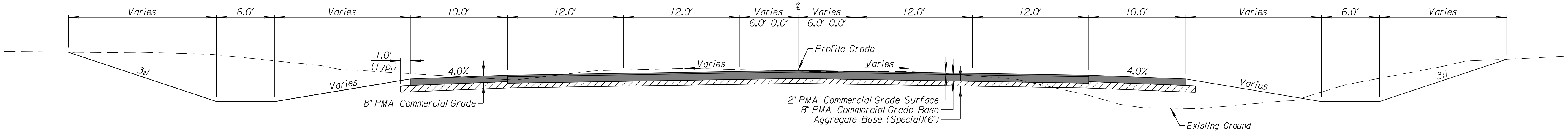
BLUFF TO WOODLAWN (EXCLUDES ARKANSAS RIVER BRIDGE)



TYPICAL SECTION

95TH STREET

HYDRAULIC TO BLUFF



TYPICAL SECTION

95TH STREET

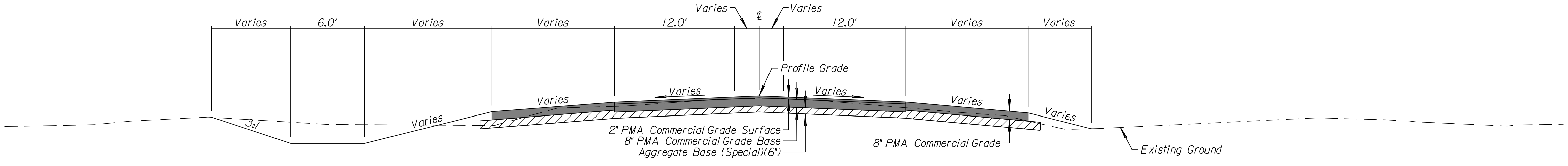
WOODLAWN TO EAST PROJECT LIMITS

95TH STREET CORRIDOR STUDY
PROPOSED STUDY AREA
TYPICAL SECTIONS

June 2017

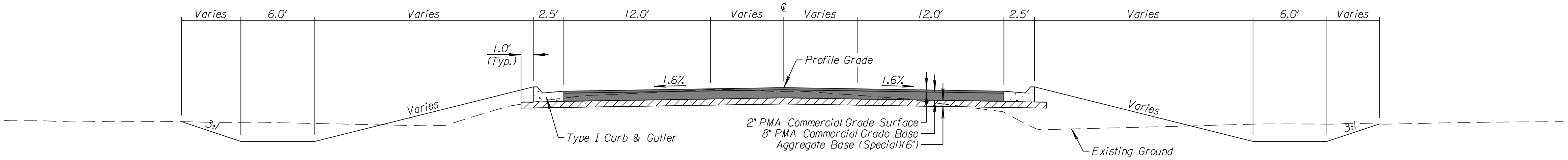
N.T.S

T - 1



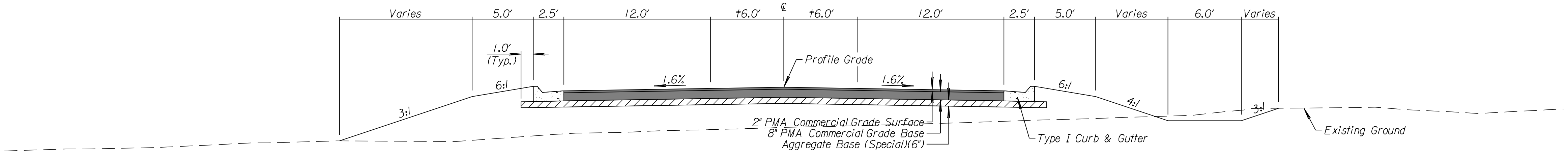
TYPICAL SECTION

SIDEROAD WITH ASPHALT SHOULDERS



TYPICAL SECTION

SIDEROAD WITH CURB & GUTTER



TYPICAL SECTION

SIDEROAD WITH CURB & GUTTER

T - 2

June 2017

N.T.S

95TH STREET CORRIDOR STUDY
PROPOSED STUDY AREA
SIDEROAD TYPICAL SECTIONS

TranSystems®

Appendix C: Proposed Improvement Alternate Sketches

ALT 1 - FOUR QUADRANT GATE SYSTEM

Four Quadrant Gate System

ALT 2 - RAIL OVER ROADWAY

Rail Over Roadway

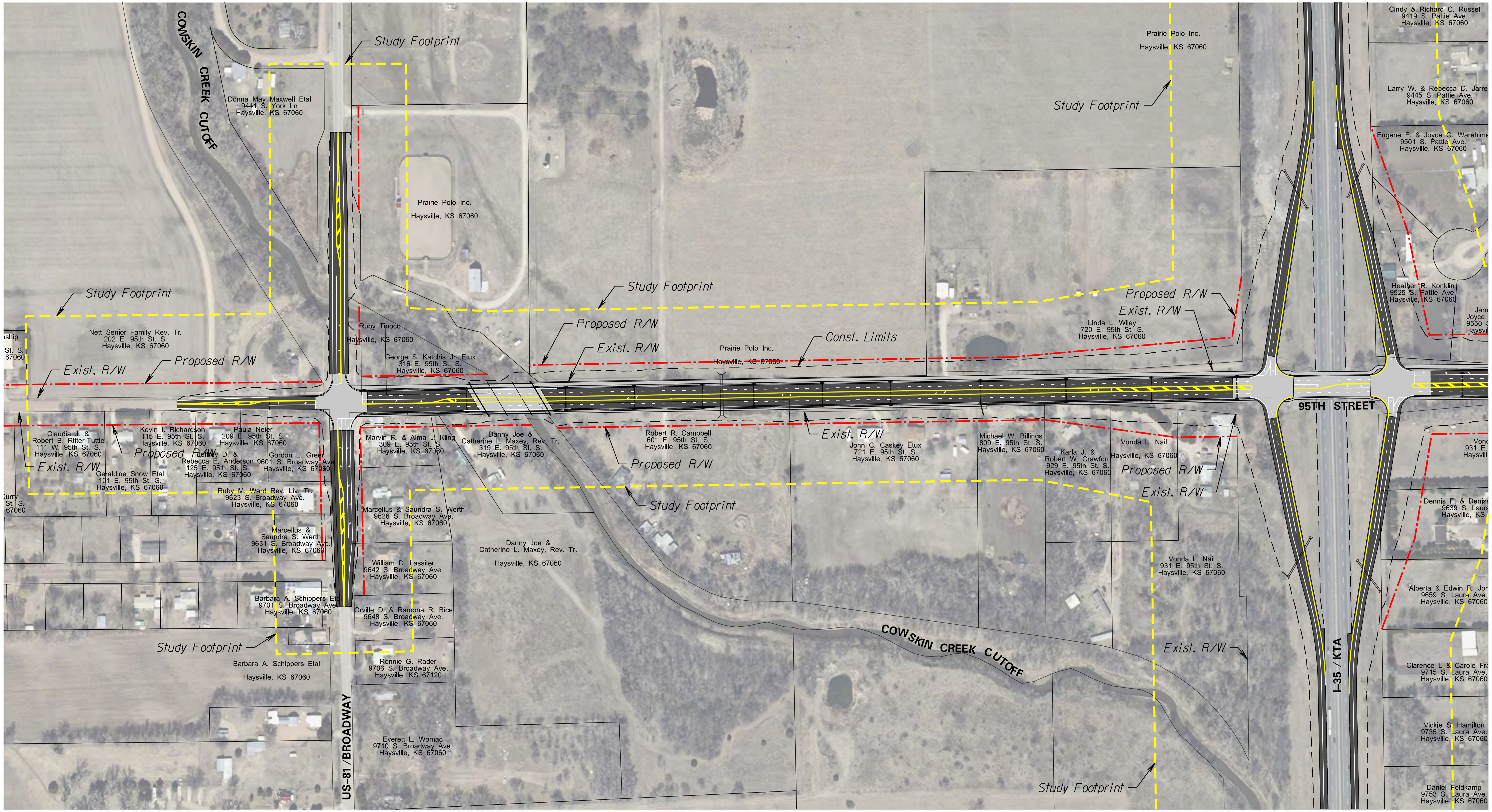
ALT 3 - ROADWAY OVER ROADWAY & RAIL (K-15 INTERSECTION)

Roadway Over Roadway and Rail

ALT 4 - ROADWAY OVER ROADWAY AND RAIL (K-15 INTERCHANGE)

Roadway Over Roadway and Rail

Appendix D: Proposed Improvement Figures



A - 1

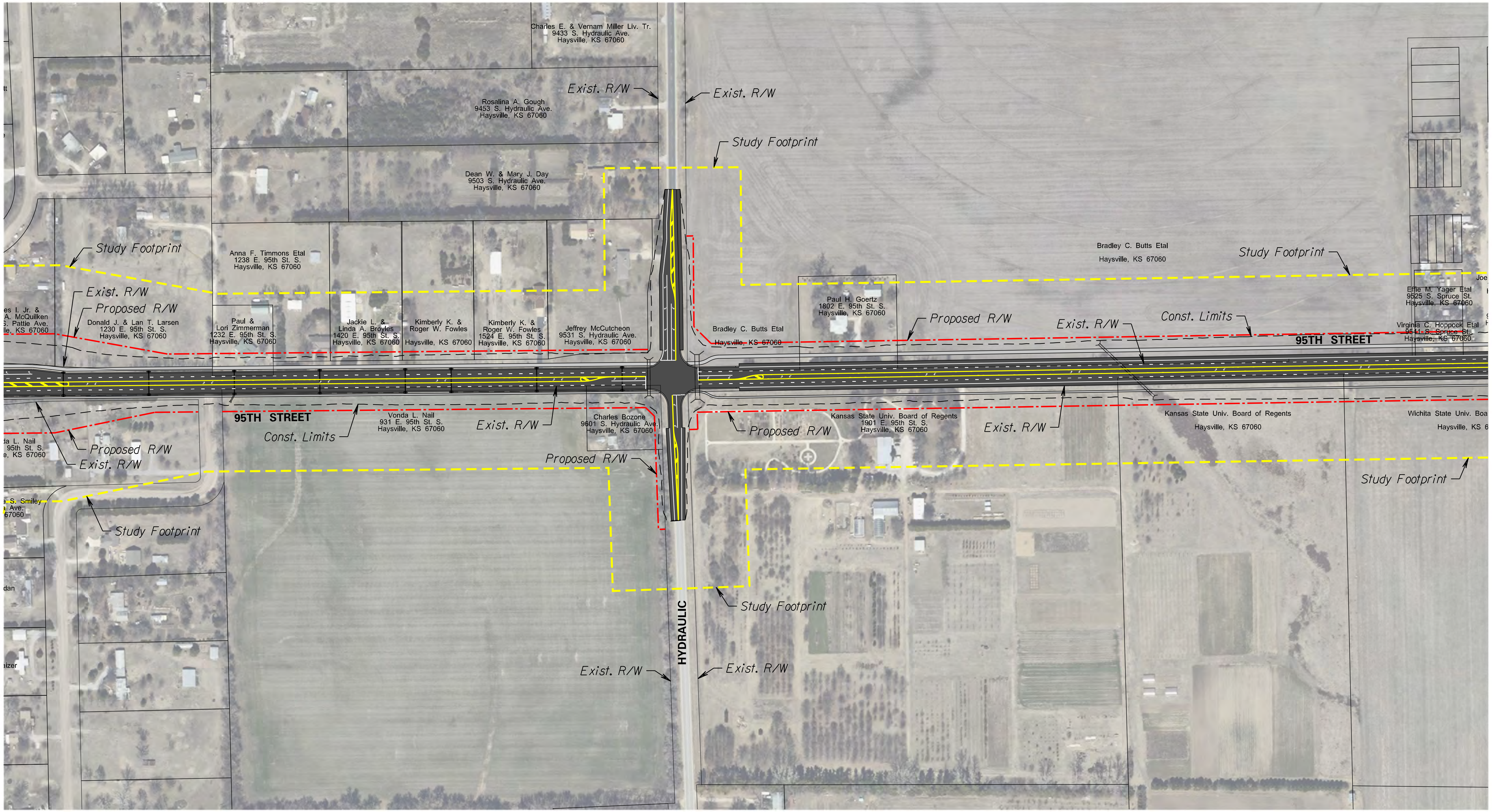
N

August 2017

SCALE
1" = 300'

95TH STREET CORRIDOR STUDY
PRIMARY STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems®



A - 2

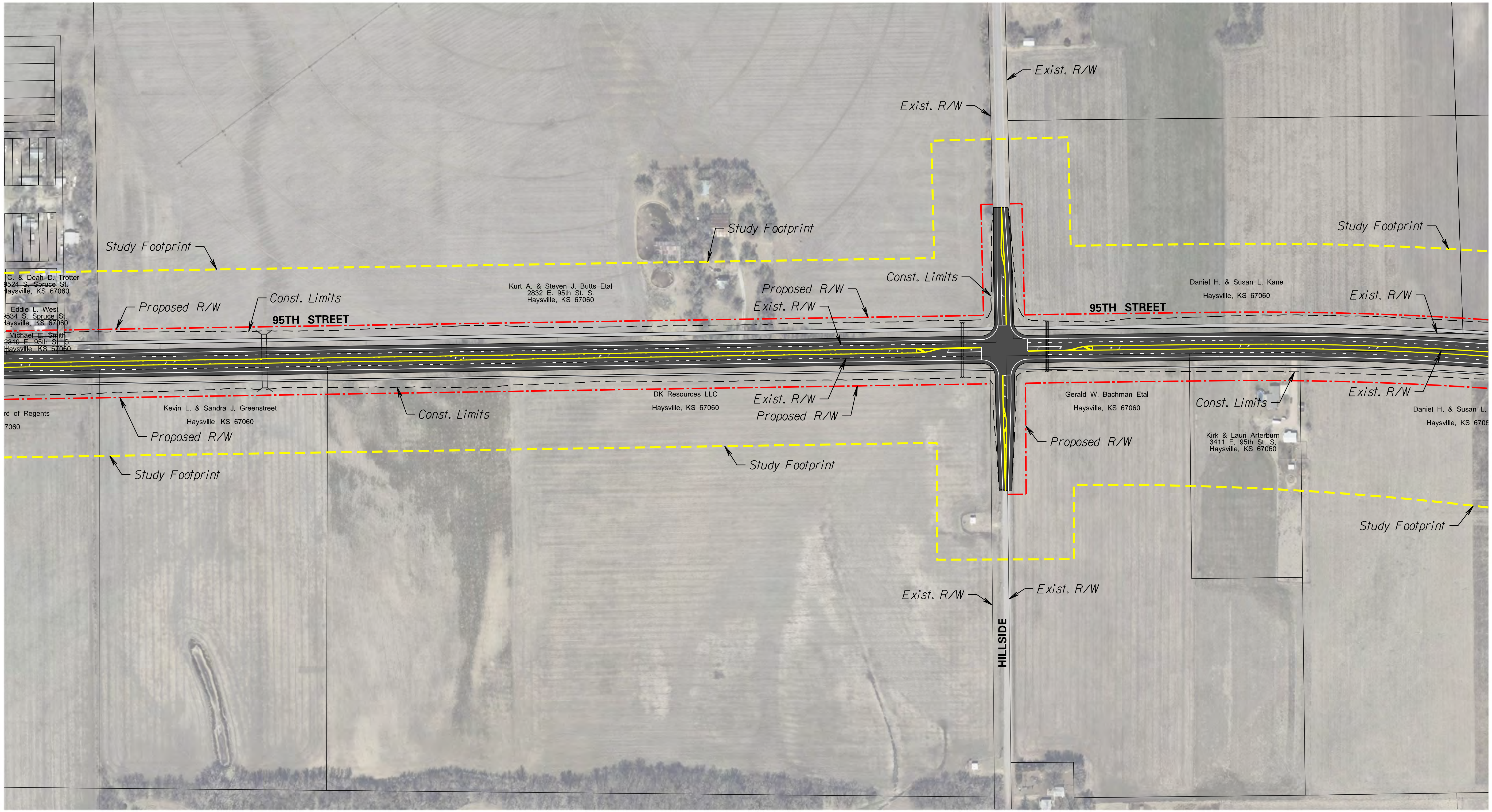
N

August 2017

SCALE
1" = 300'

95TH STREET CORRIDOR STUDY
PRIMARY STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems®



A - 3

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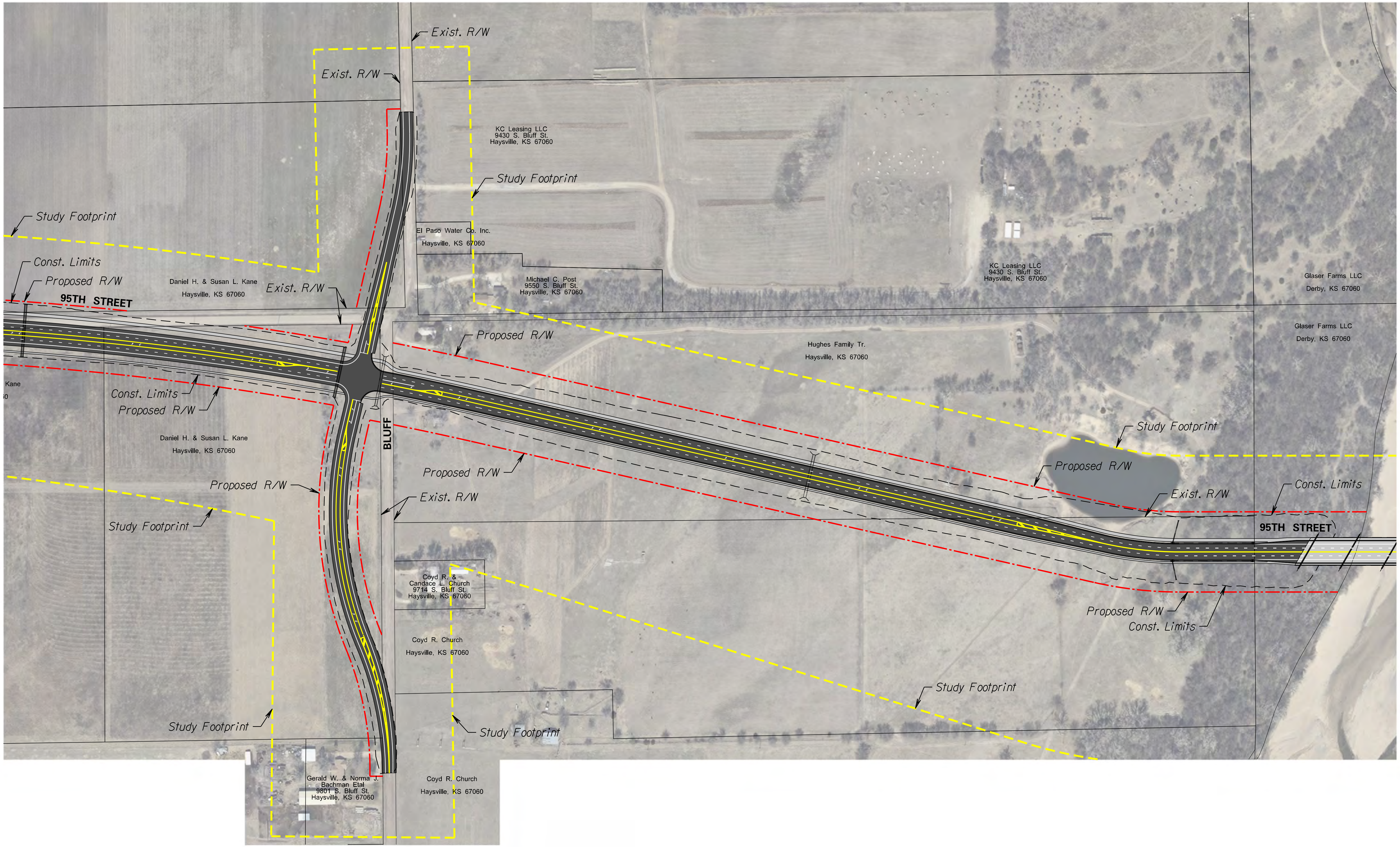
August 2017

SCALE
1" = 300'

95TH STREET CORRIDOR STUDY
PRIMARY STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems®



A - 4

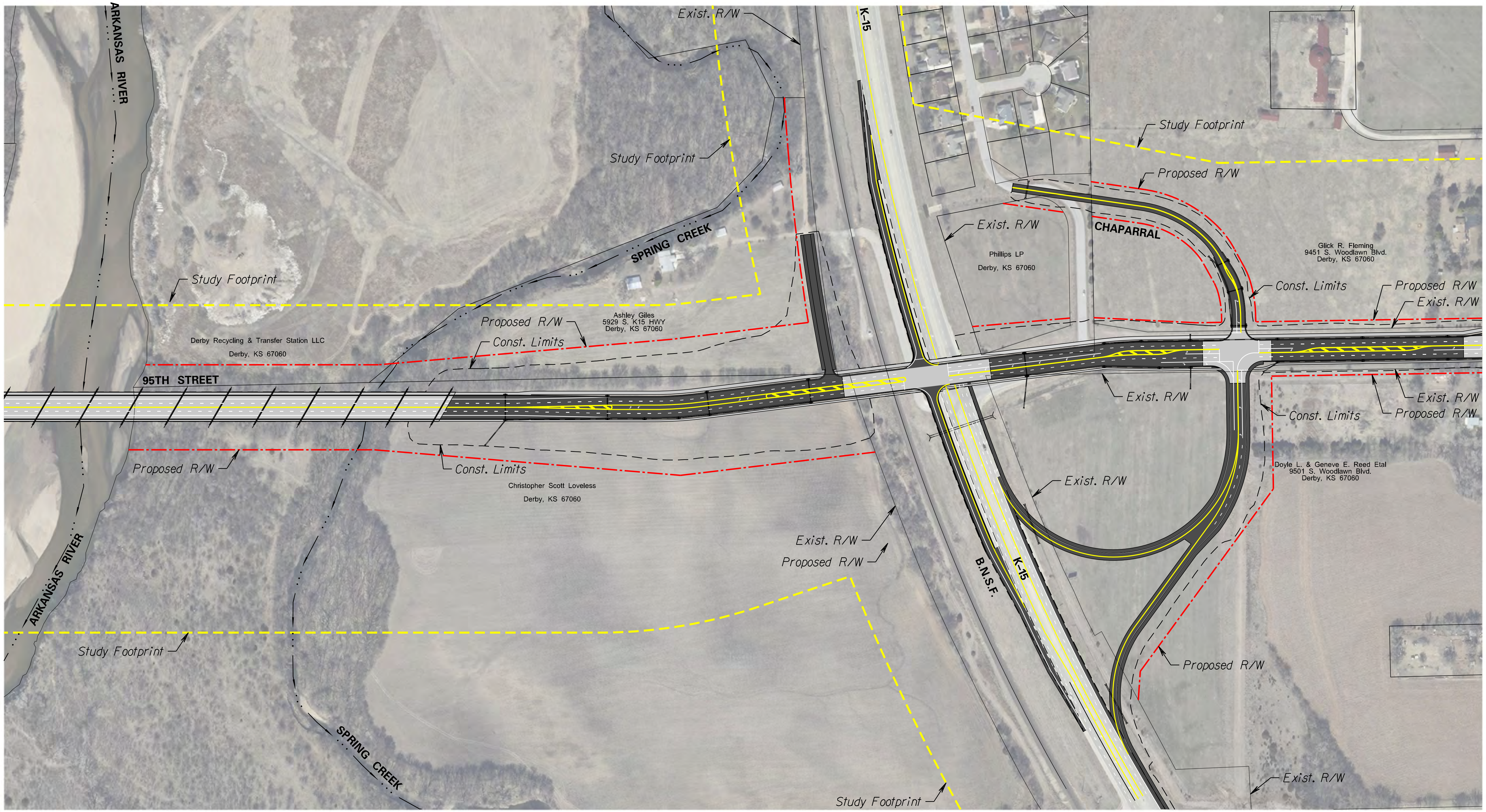
N

August 2017

SCALE
1" = 300'

95TH STREET CORRIDOR STUDY
PRIMARY STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems®



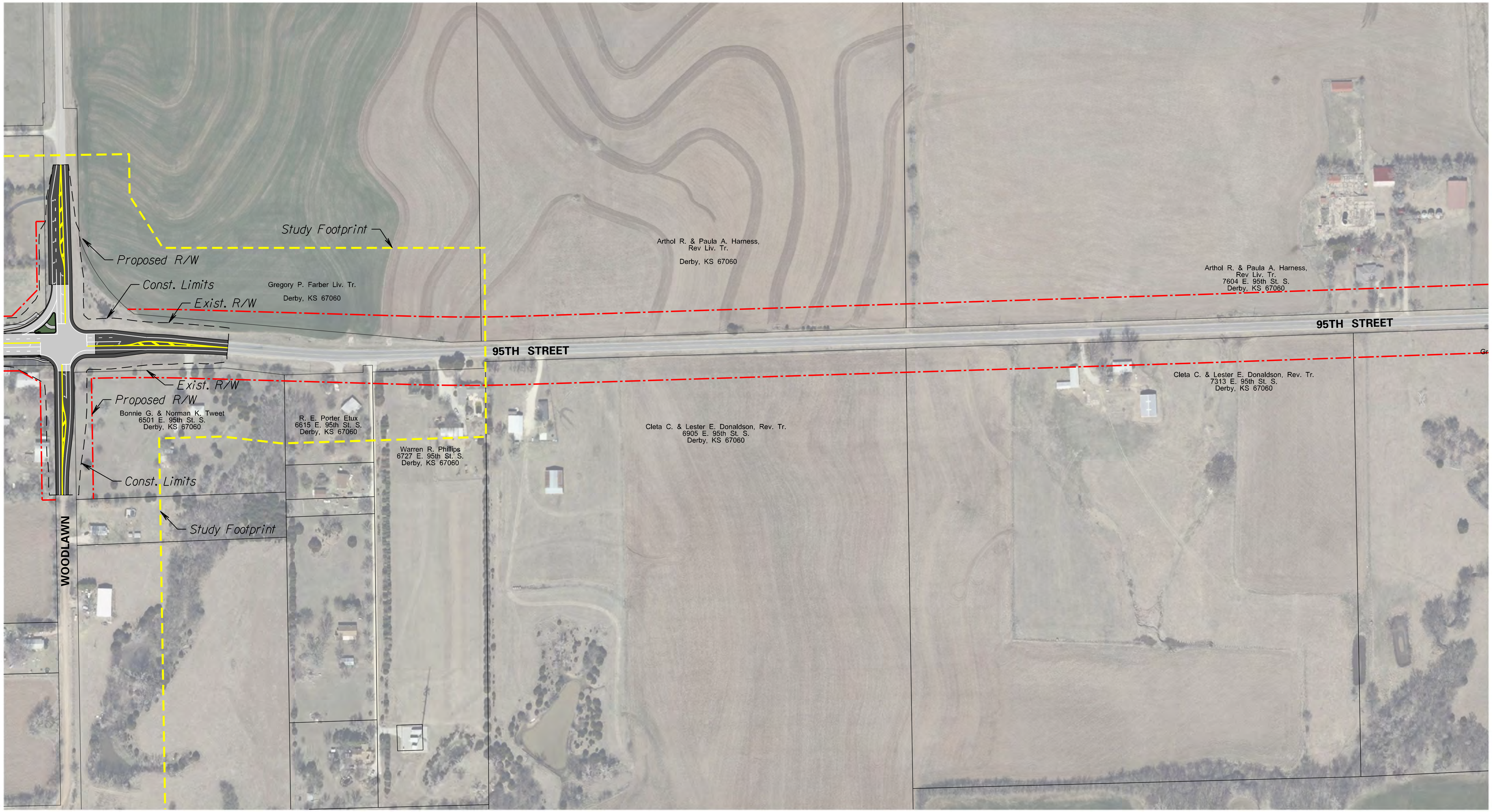
A - 5

August 2017

SCALE
1" = 300'

95TH STREET CORRIDOR STUDY
PRIMARY STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems

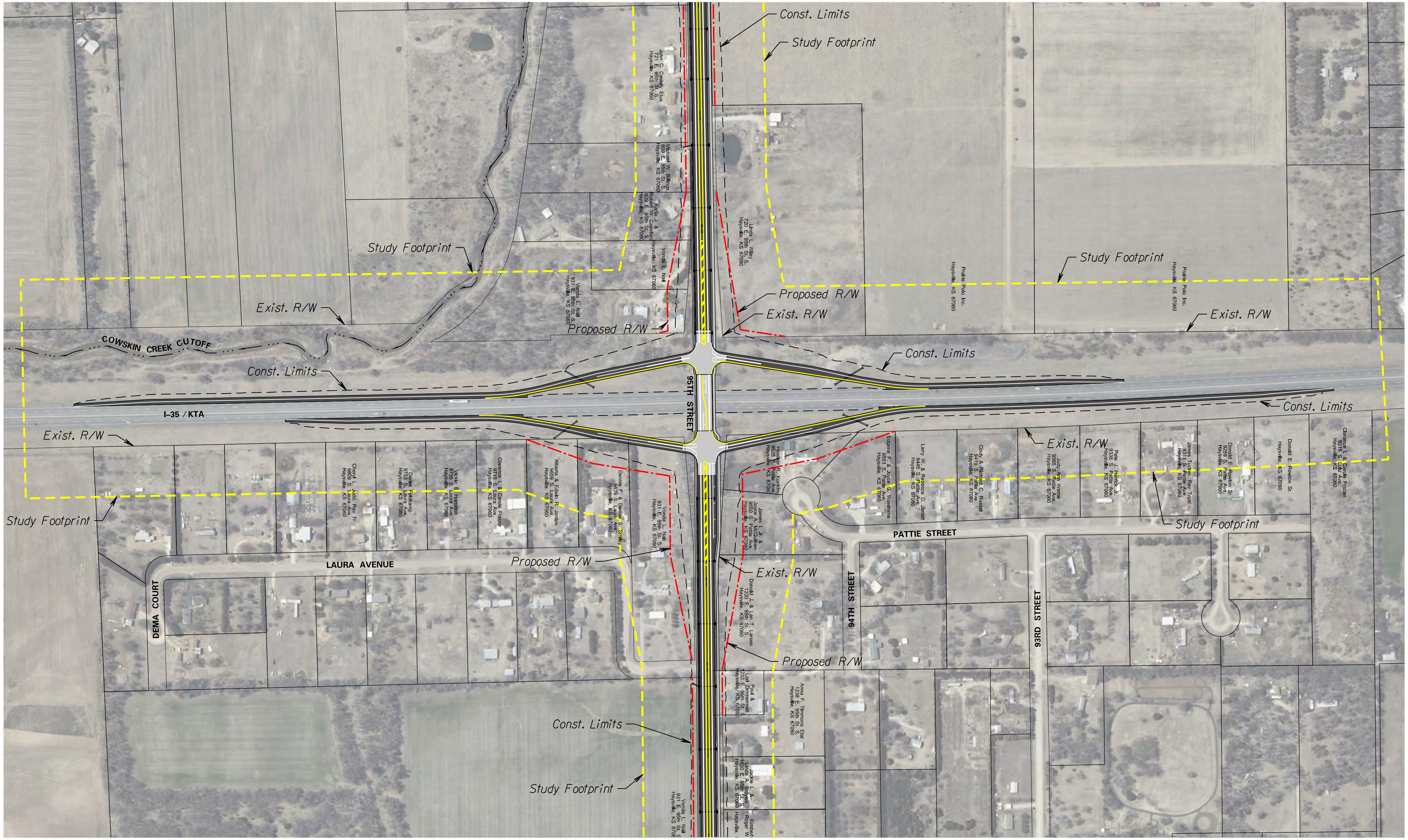


August 2017

SCALE
1" = 300'

95TH STREET CORRIDOR STUDY
PRIMARY STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems



A - 7

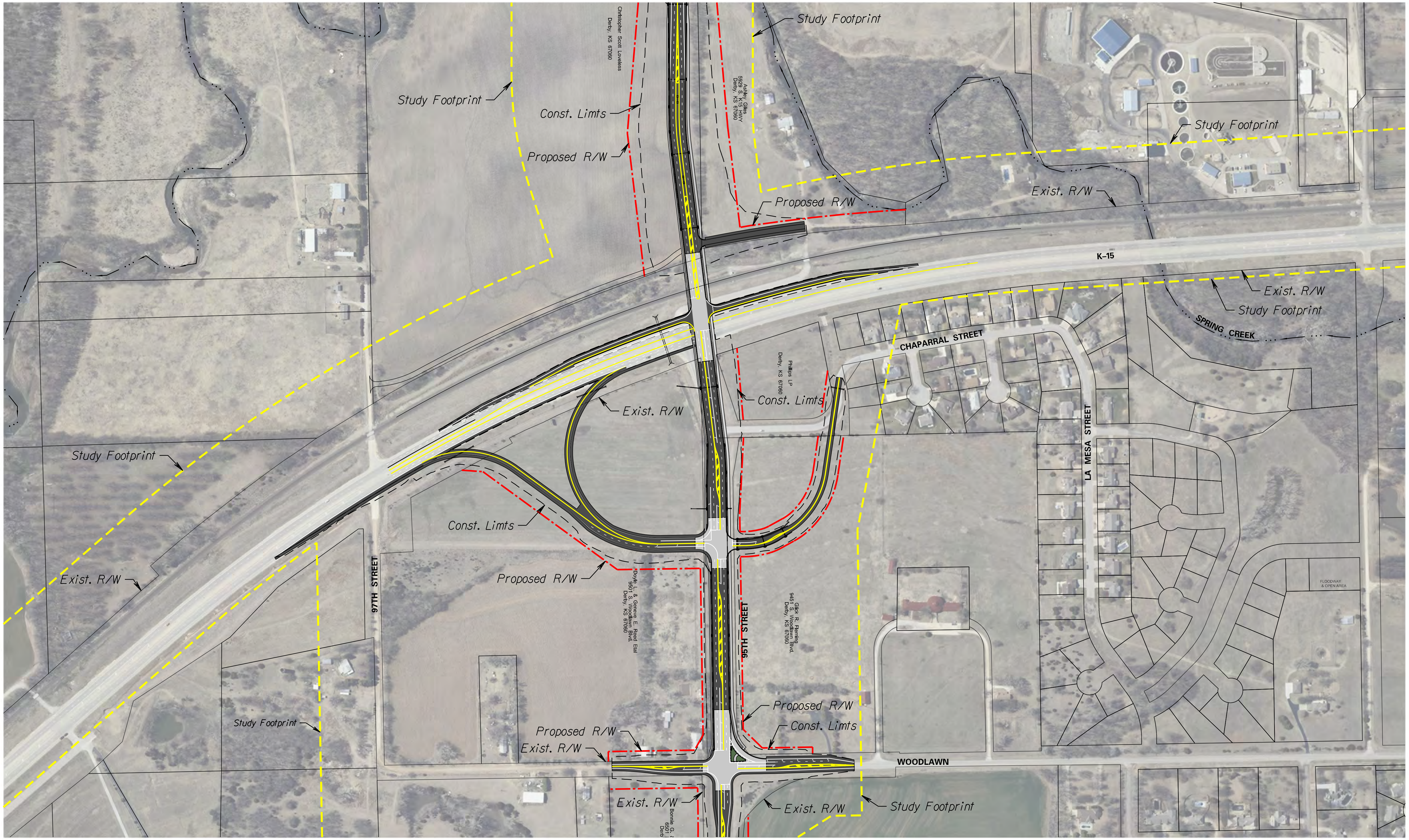
N

August 2017

SCALE
1" = 400'

95TH STREET CORRIDOR STUDY
PRIMARY STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems



A - 8

August 2017

SCALE
1" = 400'

95TH STREET CORRIDOR STUDY
PRIMARY STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems

B - 1

N

August 2017

SCALE
1" = 300'

95TH STREET CORRIDOR STUDY
EXPANDED LIMITS STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems®

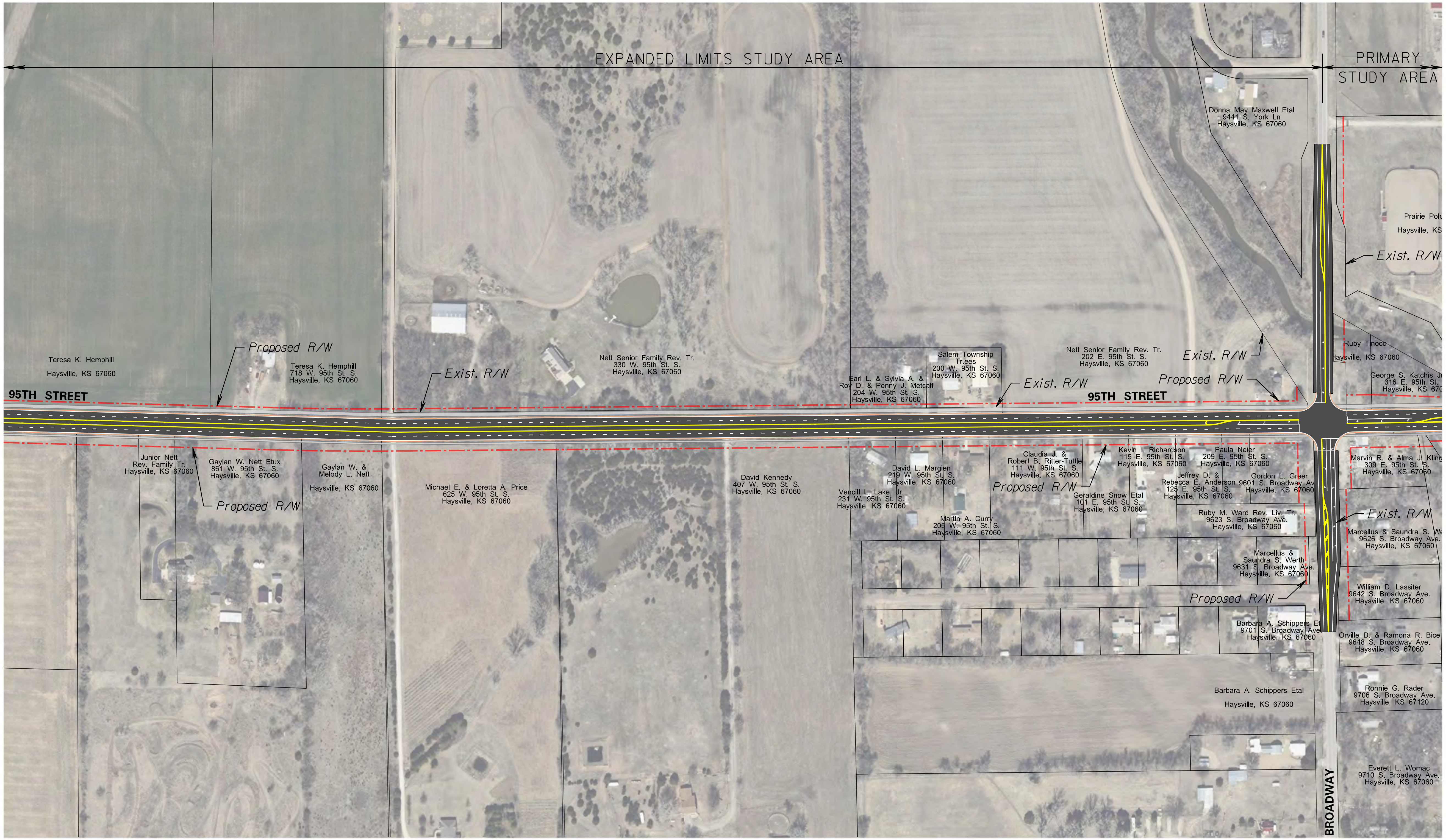
B - 2

August 2017

SCALE
1" = 300'

95TH STREET CORRIDOR STUDY
EXPANDED LIMITS STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems



B - 3

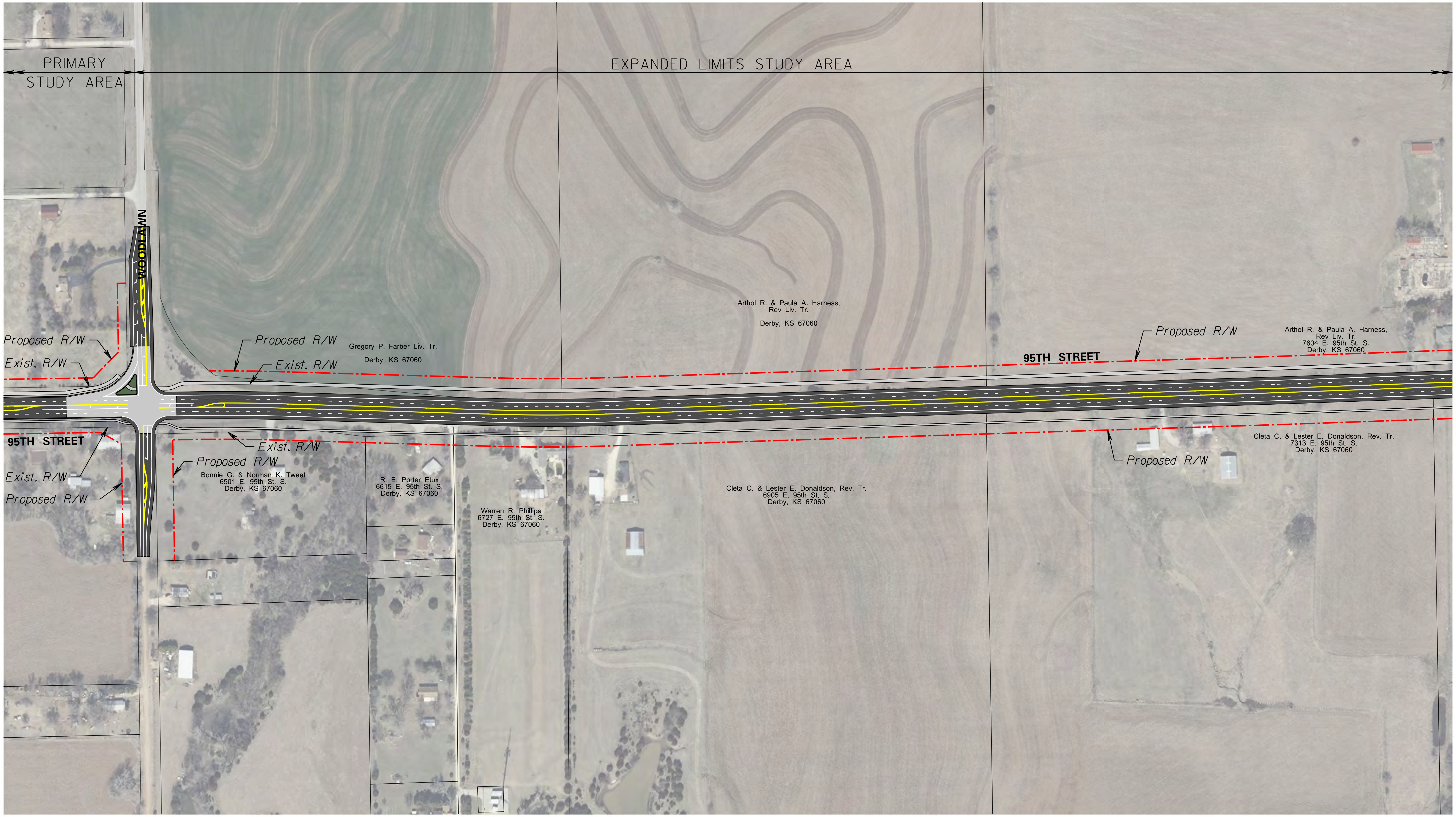
N

August 2017

SCALE
1" = 300'

95TH STREET CORRIDOR STUDY
EXPANDED LIMITS STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems®



B - 4

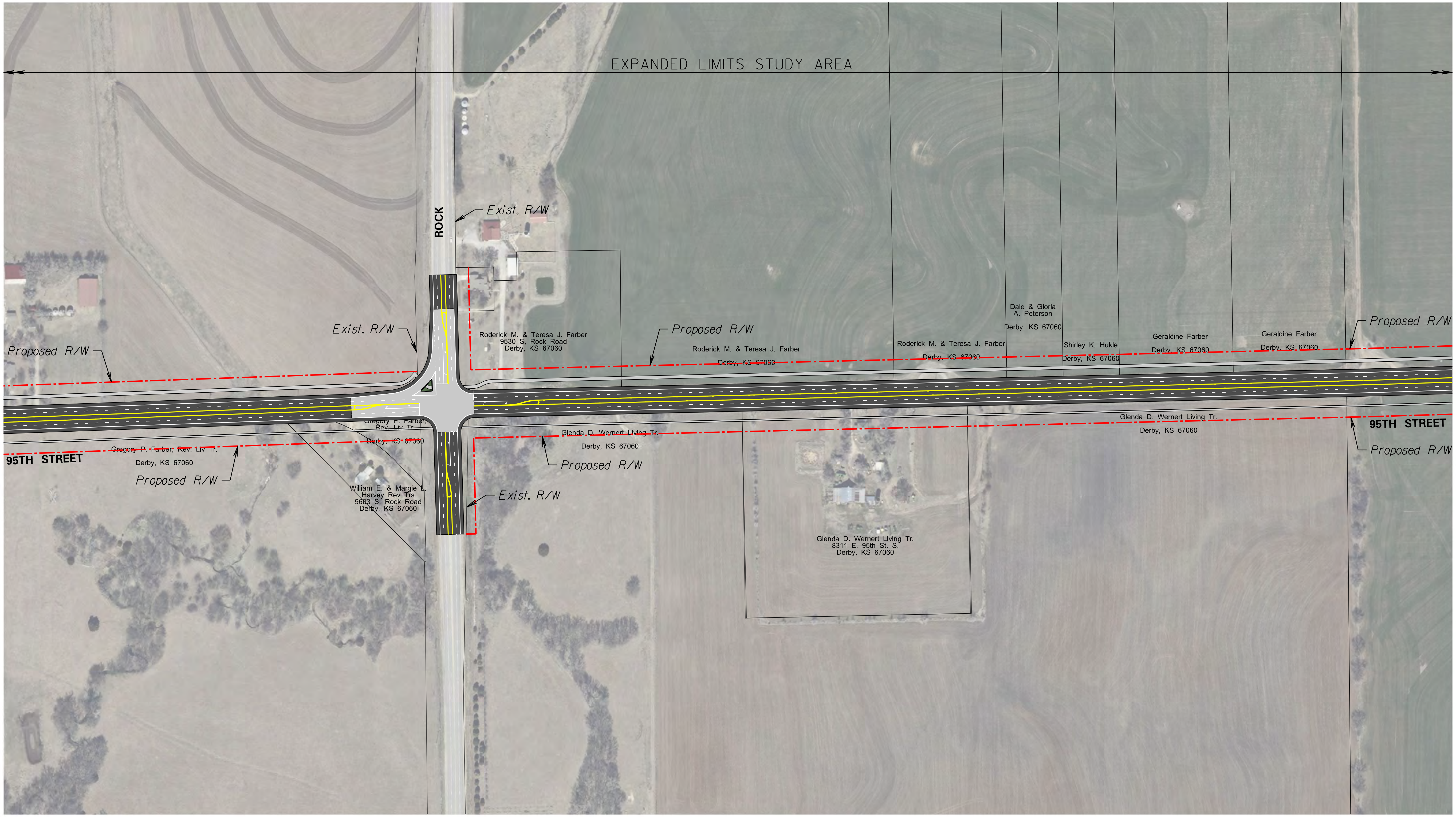
N

August 2017

SCALE
1" = 300'

95TH STREET CORRIDOR STUDY
EXPANDED LIMITS STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems®



B - 5

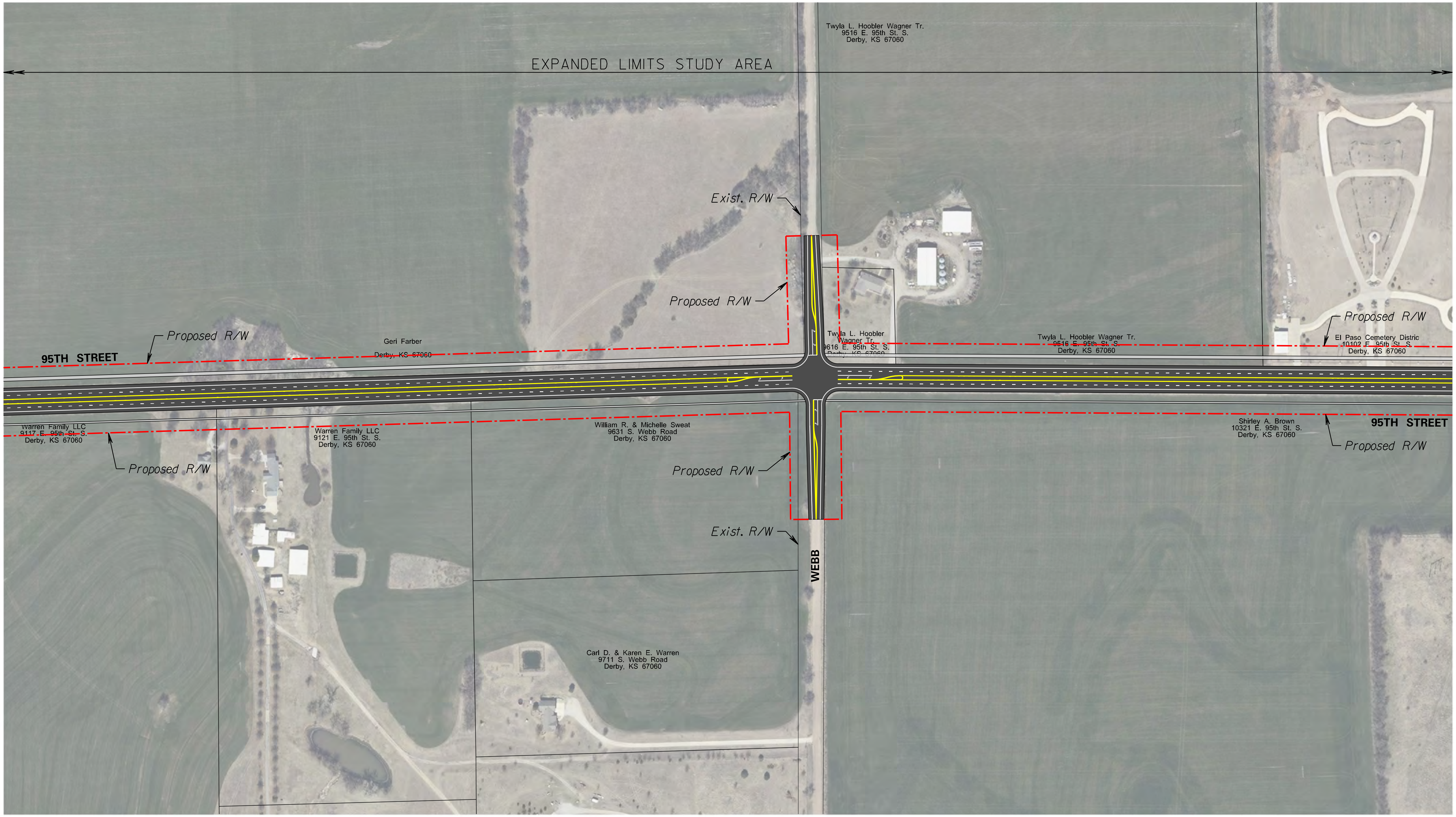
N

August 2017

SCALE
1" = 300'

95TH STREET CORRIDOR STUDY
EXPANDED LIMITS STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems®



B - 6

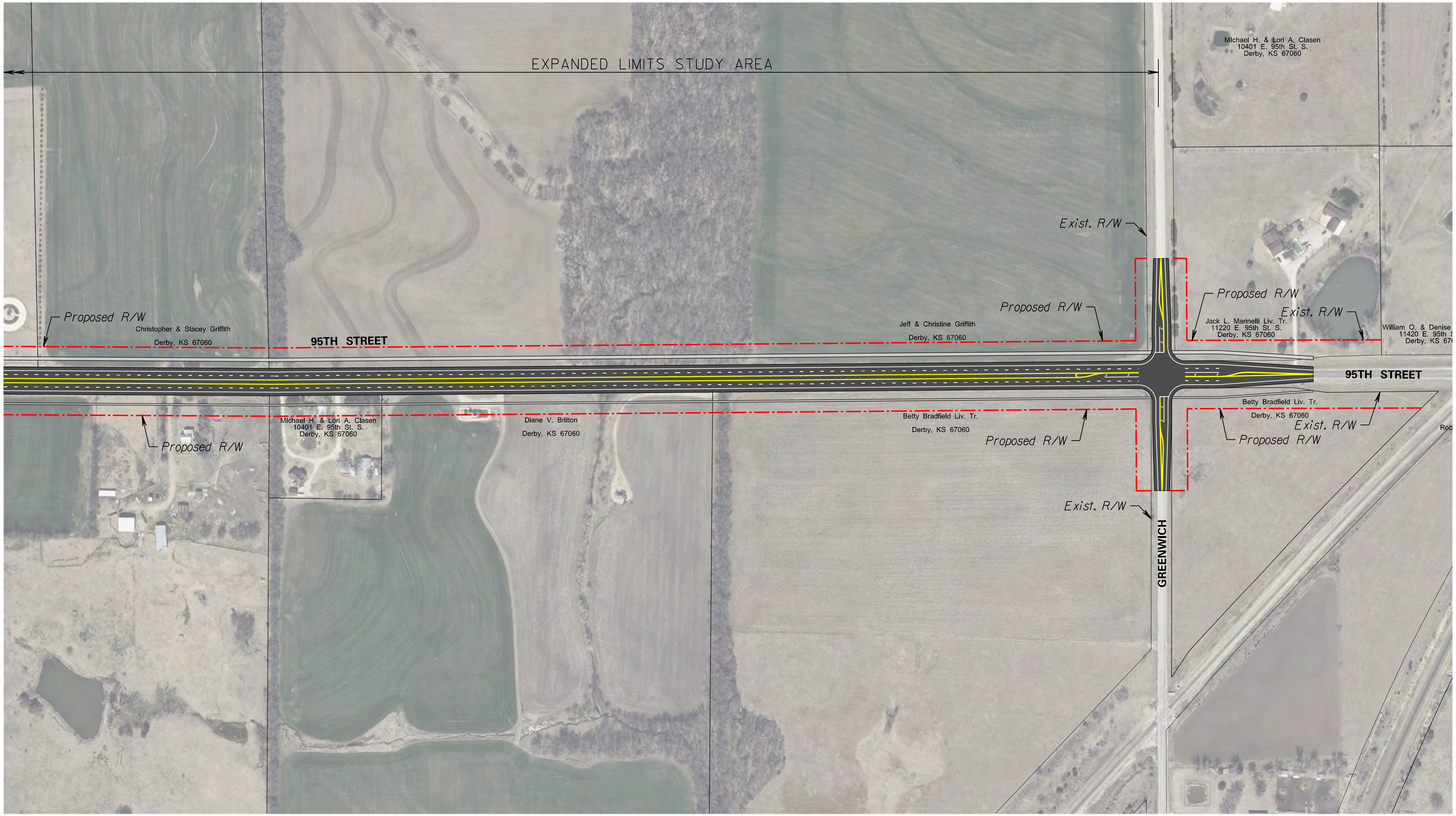
N

August 2017

SCALE
1" = 300'

95TH STREET CORRIDOR STUDY
EXPANDED LIMITS STUDY AREA
SEDGWICK COUNTY, KANSAS

TranSystems®



B - 7

August 2017

SCALE
1" = 300'

95TH STREET CORRIDOR STUDY
EXPANDED LIMITS STUDY AREA
SEDGWICK COUNTY, KANSAS

Appendix E: Synchro Worksheets

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	53	0	0	174	11	1	0	0	13	0	20
Future Vol, veh/h	3	53	0	0	174	11	1	0	0	13	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	58	0	0	189	12	1	0	0	14	0	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	201	0	0	58	0	0	270	265	58	259	259	195
Stage 1	-	-	-	-	-	-	64	64	-	195	195	-
Stage 2	-	-	-	-	-	-	206	201	-	64	64	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1371	-	-	1546	-	-	683	640	1008	694	645	846
Stage 1	-	-	-	-	-	-	947	842	-	807	739	-
Stage 2	-	-	-	-	-	-	796	735	-	947	842	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1371	-	-	1546	-	-	664	639	1008	693	644	846
Mov Cap-2 Maneuver	-	-	-	-	-	-	664	639	-	693	644	-
Stage 1	-	-	-	-	-	-	945	840	-	805	739	-
Stage 2	-	-	-	-	-	-	776	735	-	945	840	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	10.4	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	664	1371	-	-	1546	-	-	778
HCM Lane V/C Ratio	0.002	0.002	-	-	-	-	-	0.046
HCM Control Delay (s)	10.4	7.6	0	-	0	-	-	9.9
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	1	45	0	6	104	1	1	1	4	0	3	2
Future Vol, veh/h	1	45	0	6	104	1	1	1	4	0	3	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	49	0	7	113	1	1	1	4	0	3	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	114	0	0	49	0	0	180	178	49	181	178	114
Stage 1	-	-	-	-	-	-	51	51	-	127	127	-
Stage 2	-	-	-	-	-	-	129	127	-	54	51	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1475	-	-	1558	-	-	782	716	1020	781	716	939
Stage 1	-	-	-	-	-	-	962	852	-	877	791	-
Stage 2	-	-	-	-	-	-	875	791	-	958	852	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1475	-	-	1558	-	-	774	712	1020	773	712	939
Mov Cap-2 Maneuver	-	-	-	-	-	-	774	712	-	773	712	-
Stage 1	-	-	-	-	-	-	961	851	-	876	787	-
Stage 2	-	-	-	-	-	-	865	787	-	952	851	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.4	9	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	907	1475	-	-	1558	-	-	788
HCM Lane V/C Ratio	0.007	0.001	-	-	0.004	-	-	0.007
HCM Control Delay (s)	9	7.4	0	-	7.3	0	-	9.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	6	10	50	23	67	17	114	291	22	14	175	4
Future Vol, veh/h	6	10	50	23	67	17	114	291	22	14	175	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	110	-	-	210	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	11	54	25	73	18	124	316	24	15	190	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	665	811	97	707	801	170	195	0	0	340	0	0
Stage 1	223	223	-	576	576	-	-	-	-	-	-	-
Stage 2	442	588	-	131	225	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	345	312	940	322	316	844	1375	-	-	1216	-	-
Stage 1	759	718	-	470	500	-	-	-	-	-	-	-
Stage 2	564	494	-	859	716	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	251	280	940	272	284	844	1375	-	-	1216	-	-
Mov Cap-2 Maneuver	251	280	-	272	284	-	-	-	-	-	-	-
Stage 1	691	709	-	428	455	-	-	-	-	-	-	-
Stage 2	422	449	-	787	707	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	23.1	2.1	0.6
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1375	-	-	585	314	1216	-	-
HCM Lane V/C Ratio	0.09	-	-	0.123	0.37	0.013	-	-
HCM Control Delay (s)	7.9	-	-	12	23.1	8	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.4	1.7	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	16	33	0	2	92	35	5	38	5	10	14	14
Future Vol, veh/h	16	33	0	2	92	35	5	38	5	10	14	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	36	0	2	100	38	5	41	5	11	15	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	138	0	0	36	0	0	210	213	36	217	194	119
Stage 1	-	-	-	-	-	-	71	71	-	123	123	-
Stage 2	-	-	-	-	-	-	139	142	-	94	71	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1446	-	-	1575	-	-	747	684	1037	739	701	933
Stage 1	-	-	-	-	-	-	939	836	-	881	794	-
Stage 2	-	-	-	-	-	-	864	779	-	913	836	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1446	-	-	1575	-	-	715	675	1037	694	692	933
Mov Cap-2 Maneuver	-	-	-	-	-	-	715	675	-	694	692	-
Stage 1	-	-	-	-	-	-	928	826	-	870	793	-
Stage 2	-	-	-	-	-	-	833	778	-	852	826	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0.1	10.5	10
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	705	1446	-	-	1575	-	-	765
HCM Lane V/C Ratio	0.074	0.012	-	-	0.001	-	-	0.054
HCM Control Delay (s)	10.5	7.5	0	-	7.3	0	-	10
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	5	6	0	2	0	3	0	48	3	0	20	0
Future Vol, veh/h	5	6	0	2	0	3	0	48	3	0	20	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	7	0	2	0	3	0	52	3	0	22	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	77	77	22	79	76	54	22	0	0	55	0	0
Stage 1	22	22	-	54	54	-	-	-	-	-	-	-
Stage 2	55	55	-	25	22	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	912	813	1055	910	814	1013	1593	-	-	1550	-	-
Stage 1	996	877	-	958	850	-	-	-	-	-	-	-
Stage 2	957	849	-	993	877	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	909	813	1055	904	814	1013	1593	-	-	1550	-	-
Mov Cap-2 Maneuver	909	813	-	904	814	-	-	-	-	-	-	-
Stage 1	996	877	-	958	850	-	-	-	-	-	-	-
Stage 2	954	849	-	986	877	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.3	8.7	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1593	-	-	854	966	1550	-	-
HCM Lane V/C Ratio	-	-	-	0.014	0.006	-	-	-
HCM Control Delay (s)	0	-	-	9.3	8.7	0	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	5	2	2	22	0	7	0	176	18	0	82	5
Future Vol, veh/h	5	2	2	22	0	7	0	176	18	0	82	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	2	2	24	0	8	0	191	20	0	89	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	297	303	92	295	296	201	95	0	0	211	0	0
Stage 1	92	92	-	201	201	-	-	-	-	-	-	-
Stage 2	205	211	-	94	95	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	655	610	965	657	616	840	1499	-	-	1360	-	-
Stage 1	915	819	-	801	735	-	-	-	-	-	-	-
Stage 2	797	728	-	913	816	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	649	610	965	654	616	840	1499	-	-	1360	-	-
Mov Cap-2 Maneuver	649	610	-	654	616	-	-	-	-	-	-	-
Stage 1	915	819	-	801	735	-	-	-	-	-	-	-
Stage 2	790	728	-	909	816	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	10.5	0	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1499	-	-	689	691	1360	-	-
HCM Lane V/C Ratio	-	-	-	0.014	0.046	-	-	-
HCM Control Delay (s)	0	-	-	10.3	10.5	0	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	3	17	0	0	14	20	4	0	0	67	36
Future Vol, veh/h	0	3	17	0	0	14	20	4	0	0	67	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	3	18	0	0	15	22	4	0	0	73	39
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.4	7.5	7.4
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	15%	37%	9%
Vol Thru, %	65%	85%	53%	64%
Vol Right, %	35%	0%	11%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	103	20	38	33
LT Vol	0	3	14	3
Through Vol	67	17	20	21
RT Vol	36	0	4	9
Lane Flow Rate	112	22	41	36
Geometry Grp	1	1	1	1
Degree of Util (X)	0.12	0.026	0.048	0.04
Departure Headway (Hd)	3.861	4.254	4.218	3.983
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	924	834	842	892
Service Time	1.903	2.318	2.279	2.036
HCM Lane V/C Ratio	0.121	0.026	0.049	0.04
HCM Control Delay	7.4	7.4	7.5	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.1	0.2	0.1

Intersection				
Intersection Delay, s/veh				
Intersection LOS				

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	3	21	9
Future Vol, veh/h	0	3	21	9
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	3	23	10
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	7.2
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	53	0	3	0	0	1	2	16	0	0	11	36
Future Vol, veh/h	53	0	3	0	0	1	2	16	0	0	11	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	58	0	3	0	0	1	2	17	0	0	12	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	54	54	32	55	73	17	51	0	0	17	0	0
Stage 1	32	32	-	22	22	-	-	-	-	-	-	-
Stage 2	22	22	-	33	51	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	944	837	1042	943	817	1062	1555	-	-	1600	-	-
Stage 1	984	868	-	996	877	-	-	-	-	-	-	-
Stage 2	996	877	-	983	852	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	942	836	1042	939	816	1062	1555	-	-	1600	-	-
Mov Cap-2 Maneuver	942	836	-	939	816	-	-	-	-	-	-	-
Stage 1	983	868	-	995	876	-	-	-	-	-	-	-
Stage 2	994	876	-	980	852	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	8.4	0.8	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1555	-	-	947	1062	1600	-	-
HCM Lane V/C Ratio	0.001	-	-	0.064	0.001	-	-	-
HCM Control Delay (s)	7.3	0	-	9.1	8.4	0	-	-
HCM Lane LOS	A	A	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	0	0	0	15	7	1
Future Vol, veh/h	0	0	0	15	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	16	8	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	24	8	9	0	-	0
Stage 1	8	-	-	-	-	-
Stage 2	16	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	992	1074	1611	-	-	-
Stage 1	1015	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	992	1074	1611	-	-	-
Mov Cap-2 Maneuver	992	-	-	-	-	-
Stage 1	1015	-	-	-	-	-
Stage 2	1007	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1611	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	18	177	519	8	48	239
Future Vol, veh/h	18	177	519	8	48	239
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	430	420	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	192	564	9	52	260

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	798	282	0	0	564	0
Stage 1	564	-	-	-	-	-
Stage 2	234	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	323	715	-	-	1004	-
Stage 1	533	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	306	715	-	-	1004	-
Mov Cap-2 Maneuver	306	-	-	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	742	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	1.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	636	1004	-
HCM Lane V/C Ratio	-	-	0.333	0.052	-
HCM Control Delay (s)	-	-	13.5	8.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	1.5	0.2	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	15	127	1	1	64	11	1	1	0	39	1	9
Future Vol, veh/h	15	127	1	1	64	11	1	1	0	39	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	138	1	1	70	12	1	1	0	42	1	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	82	0	0	139	0	0	254	255	139	250	250	76
Stage 1	-	-	-	-	-	-	171	171	-	78	78	-
Stage 2	-	-	-	-	-	-	83	84	-	172	172	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1515	-	-	1445	-	-	699	649	909	703	653	985
Stage 1	-	-	-	-	-	-	831	757	-	931	830	-
Stage 2	-	-	-	-	-	-	925	825	-	830	756	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1515	-	-	1445	-	-	685	641	909	696	645	985
Mov Cap-2 Maneuver	-	-	-	-	-	-	685	641	-	696	645	-
Stage 1	-	-	-	-	-	-	822	749	-	921	829	-
Stage 2	-	-	-	-	-	-	914	824	-	820	748	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	10.5	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	662	1515	-	-	1445	-	-	734
HCM Lane V/C Ratio	0.003	0.011	-	-	0.001	-	-	0.073
HCM Control Delay (s)	10.5	7.4	0	-	7.5	0	-	10.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	2	114	7	4	54	2	1	2	4	0	6	5
Future Vol, veh/h	2	114	7	4	54	2	1	2	4	0	6	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	124	8	4	59	2	1	2	4	0	7	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	61	0	0	132	0	0	206	202	128	203	204	60
Stage 1	-	-	-	-	-	-	132	132	-	68	68	-
Stage 2	-	-	-	-	-	-	74	70	-	135	136	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1542	-	-	1453	-	-	752	694	922	755	692	1005
Stage 1	-	-	-	-	-	-	871	787	-	942	838	-
Stage 2	-	-	-	-	-	-	935	837	-	868	784	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1542	-	-	1453	-	-	740	691	922	747	689	1005
Mov Cap-2 Maneuver	-	-	-	-	-	-	740	691	-	747	689	-
Stage 1	-	-	-	-	-	-	870	786	-	941	835	-
Stage 2	-	-	-	-	-	-	920	834	-	861	783	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.5	9.5	9.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	815	1542	-	-	1453	-	-	804
HCM Lane V/C Ratio	0.009	0.001	-	-	0.003	-	-	0.015
HCM Control Delay (s)	9.5	7.3	0	-	7.5	0	-	9.5
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	66	97	19	22	19	43	324	15	42	428	11
Future Vol, veh/h	3	66	97	19	22	19	43	324	15	42	428	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	110	-	-	210	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	72	105	21	24	21	47	352	16	46	465	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	845	1025	239	814	1022	184	477	0	0	368	0	0
Stage 1	563	563	-	454	454	-	-	-	-	-	-	-
Stage 2	282	462	-	360	568	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	256	234	762	270	235	827	1082	-	-	1187	-	-
Stage 1	478	507	-	555	568	-	-	-	-	-	-	-
Stage 2	701	563	-	631	505	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	215	215	762	162	216	827	1082	-	-	1187	-	-
Mov Cap-2 Maneuver	215	215	-	162	216	-	-	-	-	-	-	-
Stage 1	457	487	-	531	543	-	-	-	-	-	-	-
Stage 2	625	539	-	446	485	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.6	24.6	1	0.7
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1082	-	-	370	248	1187	-	-
HCM Lane V/C Ratio	0.043	-	-	0.488	0.263	0.038	-	-
HCM Control Delay (s)	8.5	-	-	23.6	24.6	8.2	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.6	1	0.1	-	-

16: 95th Street & Greenwich Road

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	8	101	9	6	38	22	3	15	4	39	57	19
Future Vol, veh/h	8	101	9	6	38	22	3	15	4	39	57	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	110	10	7	41	24	3	16	4	42	62	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	65	0	0	120	0	0	240	210	115	208	203	53
Stage 1	-	-	-	-	-	-	132	132	-	66	66	-
Stage 2	-	-	-	-	-	-	108	78	-	142	137	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1537	-	-	1468	-	-	714	687	937	749	693	1014
Stage 1	-	-	-	-	-	-	871	787	-	945	840	-
Stage 2	-	-	-	-	-	-	897	830	-	861	783	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1537	-	-	1468	-	-	646	679	937	726	685	1014
Mov Cap-2 Maneuver	-	-	-	-	-	-	646	679	-	726	685	-
Stage 1	-	-	-	-	-	-	866	782	-	939	836	-
Stage 2	-	-	-	-	-	-	810	826	-	834	778	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.7	10.2	10.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	710	1537	-	-	1468	-	-	739
HCM Lane V/C Ratio	0.034	0.006	-	-	0.004	-	-	0.169
HCM Control Delay (s)	10.2	7.4	0	-	7.5	0	-	10.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.6

19: Meridian Avenue & 95th Street

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	0	0	1	6	7	1	37	2	7	72	7
Future Vol, veh/h	3	0	0	1	6	7	1	37	2	7	72	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	0	1	7	8	1	40	2	8	78	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	148	142	82	140	144	41	86	0	0	42	0	0
Stage 1	97	97	-	43	43	-	-	-	-	-	-	-
Stage 2	51	45	-	97	101	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	820	749	978	830	747	1030	1510	-	-	1567	-	-
Stage 1	910	815	-	971	859	-	-	-	-	-	-	-
Stage 2	962	857	-	910	811	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	805	745	978	826	743	1030	1510	-	-	1567	-	-
Mov Cap-2 Maneuver	805	745	-	826	743	-	-	-	-	-	-	-
Stage 1	909	811	-	970	858	-	-	-	-	-	-	-
Stage 2	947	856	-	905	807	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.2	0.2	0.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1510	-	-	805	871	1567	-	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.017	0.005	-	-
HCM Control Delay (s)	7.4	0	-	9.5	9.2	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	2	4	3	38	8	13	2	159	21	10	223	4
Future Vol, veh/h	2	4	3	38	8	13	2	159	21	10	223	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	4	3	41	9	14	2	173	23	11	242	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	466	466	245	459	457	184	247	0	0	196	0	0
Stage 1	266	266	-	189	189	-	-	-	-	-	-	-
Stage 2	200	200	-	270	268	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	507	494	794	512	500	858	1319	-	-	1377	-	-
Stage 1	739	689	-	813	744	-	-	-	-	-	-	-
Stage 2	802	736	-	736	687	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	488	489	794	502	495	858	1319	-	-	1377	-	-
Mov Cap-2 Maneuver	488	489	-	502	495	-	-	-	-	-	-	-
Stage 1	738	683	-	811	743	-	-	-	-	-	-	-
Stage 2	778	735	-	722	681	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	12.4	0.1	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1319	-	-	561	551	1377	-	-
HCM Lane V/C Ratio	0.002	-	-	0.017	0.116	0.008	-	-
HCM Control Delay (s)	7.7	0	-	11.5	12.4	7.6	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0	-	-

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Traffic Vol, veh/h	0	6	24	5	0	50	32	5	0	4	51	48
Future Vol, veh/h	0	6	24	5	0	50	32	5	0	4	51	48
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	26	5	0	54	35	5	0	4	55	52
Number of Lanes	0	0	1	0	0	0	1	0	0	0	1	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	SB
Opposing Lanes	1	1	1
Conflicting Approach Left	SB	NB	EB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	NB	SB	WB
Conflicting Lanes Right	1	1	1
HCM Control Delay	7.8	8.2	7.7
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	17%	57%	2%
Vol Thru, %	50%	69%	37%	79%
Vol Right, %	47%	14%	6%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	103	35	87	119
LT Vol	4	6	50	2
Through Vol	51	24	32	94
RT Vol	48	5	5	23
Lane Flow Rate	112	38	95	129
Geometry Grp	1	1	1	1
Degree of Util (X)	0.128	0.048	0.12	0.153
Departure Headway (Hd)	4.112	4.518	4.582	4.25
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	874	794	784	846
Service Time	2.126	2.537	2.599	2.263
HCM Lane V/C Ratio	0.128	0.048	0.121	0.152
HCM Control Delay	7.7	7.8	8.2	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.4	0.5

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Movement	SBU	SBL	SBT	SBR
Traffic Vol, veh/h	0	2	94	23
Future Vol, veh/h	0	2	94	23
Peak Hour Factor	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2
Mvmt Flow	0	2	102	25
Number of Lanes	0	0	1	0

Approach	SB
Opposing Approach	NB
Opposing Lanes	1
Conflicting Approach Left	WB
Conflicting Lanes Left	1
Conflicting Approach Right	EB
Conflicting Lanes Right	1
HCM Control Delay	8
HCM LOS	A

Lane

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	70	0	4	1	0	0	0	12	0	3	22	87
Future Vol, veh/h	70	0	4	1	0	0	0	12	0	3	22	87
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	0	4	1	0	0	0	13	0	3	24	95

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	91	91	71	93	138	13	118	0	0	13	0	0
Stage 1	78	78	-	13	13	-	-	-	-	-	-	-
Stage 2	13	13	-	80	125	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	893	799	991	891	753	1067	1470	-	-	1606	-	-
Stage 1	931	830	-	1007	885	-	-	-	-	-	-	-
Stage 2	1007	885	-	929	792	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	892	797	991	886	751	1067	1470	-	-	1606	-	-
Mov Cap-2 Maneuver	892	797	-	886	751	-	-	-	-	-	-	-
Stage 1	931	828	-	1007	885	-	-	-	-	-	-	-
Stage 2	1007	885	-	923	790	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.4	9.1	0	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1470	-	-	897	886	1606	-	-
HCM Lane V/C Ratio	-	-	-	0.09	0.001	0.002	-	-
HCM Control Delay (s)	0	-	-	9.4	9.1	7.2	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0	0	-	-

32: 95th Street & Bluff Street

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	3	0	1	4	11	0
Future Vol, veh/h	3	0	1	4	11	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	0	1	4	12	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	19	12	12	0	-	0
Stage 1	12	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	998	1069	1607	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	1016	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	997	1069	1607	-	-	-
Mov Cap-2 Maneuver	997	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	1015	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	1.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1607	-	997	-	-
HCM Lane V/C Ratio	0.001	-	0.003	-	-
HCM Control Delay (s)	7.2	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

35: K-15

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	7	67	337	12	131	522
Future Vol, veh/h	7	67	337	12	131	522
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	440	420	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	73	366	13	142	567

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	934	183	0	0	366	0
Stage 1	366	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	264	828	-	-	1189	-
Stage 1	672	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	232	828	-	-	1189	-
Mov Cap-2 Maneuver	232	-	-	-	-	-
Stage 1	672	-	-	-	-	-
Stage 2	467	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	666	1189	-
HCM Lane V/C Ratio	-	-	0.121	0.12	-
HCM Control Delay (s)	-	-	11.1	8.4	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.4	-

	↰	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	194	115	10	10	269	47	10	10	10	82	10	399
Future Volume (veh/h)	194	115	10	10	269	47	10	10	10	82	10	399
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	211	125	11	11	292	51	11	11	11	89	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	854	2474	215	974	2156	372	127	27	27	183	137	116
Arrive On Green	0.02	0.25	0.25	0.01	0.71	0.71	0.01	0.03	0.03	0.05	0.07	0.00
Sat Flow, veh/h	1774	3295	287	1774	3019	521	1774	856	856	1774	1863	1583
Grp Volume(v), veh/h	211	67	69	11	170	173	11	0	22	89	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1812	1774	1770	1771	1774	0	1712	1774	1863	1583
Q Serve(g_s), s	3.4	3.4	3.5	0.2	3.6	3.7	0.7	0.0	1.5	5.7	0.7	0.0
Cycle Q Clear(g_c), s	3.4	3.4	3.5	0.2	3.6	3.7	0.7	0.0	1.5	5.7	0.7	0.0
Prop In Lane	1.00		0.16	1.00		0.29	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	854	1329	1361	974	1264	1264	127	0	55	183	137	116
V/C Ratio(X)	0.25	0.05	0.05	0.01	0.13	0.14	0.09	0.00	0.40	0.49	0.08	0.00
Avail Cap(c_a), veh/h	1498	1329	1361	1047	1264	1264	201	0	364	183	396	336
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	3.6	12.5	12.6	4.5	5.4	5.4	55.1	0.0	56.9	50.9	51.8	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.1	0.0	0.2	0.2	0.3	0.0	4.7	2.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.7	1.8	0.1	1.8	1.9	0.4	0.0	0.8	2.9	0.3	0.0
LnGrp Delay(d),s/veh	3.7	12.6	12.6	4.5	5.6	5.7	55.4	0.0	61.6	52.9	52.1	0.0
LnGrp LOS	A	B	B	A	A	A	E		E	D	D	
Approach Vol, veh/h		347			354			33			100	
Approach Delay, s/veh		7.2			5.6			59.5			52.8	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	94.6	11.0	8.3	10.5	90.2	6.0	13.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	63.5	6.5	25.5	49.5	20.5	6.5	25.5
Max Q Clear Time (g_c+I1), s	2.2	5.5	7.7	3.5	5.4	5.7	2.7	2.7
Green Ext Time (p_c), s	0.0	2.7	0.0	0.1	0.6	2.1	0.0	0.1

Intersection Summary		
HCM 2010 Ctrl Delay		14.1
HCM 2010 LOS		B

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	189	50	142	9	118	100	82	696	7	40	675	211
Future Volume (veh/h)	189	50	142	9	118	100	82	696	7	40	675	211
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	205	54	154	10	128	109	89	757	8	43	734	229
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	492	1306	584	410	531	418	297	1548	693	315	1507	674
Arrive On Green	0.10	0.37	0.37	0.01	0.28	0.28	0.04	0.44	0.44	0.03	0.43	0.43
Sat Flow, veh/h	1774	3539	1583	1774	1886	1485	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	205	54	154	10	119	118	89	757	8	43	734	229
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1601	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	9.4	1.2	8.2	0.5	6.2	6.8	3.4	18.4	0.3	1.6	18.0	11.6
Cycle Q Clear(g_c), s	9.4	1.2	8.2	0.5	6.2	6.8	3.4	18.4	0.3	1.6	18.0	11.6
Prop In Lane	1.00		1.00	1.00		0.93	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	492	1306	584	410	498	451	297	1548	693	315	1507	674
V/C Ratio(X)	0.42	0.04	0.26	0.02	0.24	0.26	0.30	0.49	0.01	0.14	0.49	0.34
Avail Cap(c_a), veh/h	737	1306	584	485	498	451	464	1548	693	355	1507	674
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.0	24.3	26.5	30.1	33.2	33.4	19.4	24.1	19.1	19.4	25.0	23.1
Incr Delay (d2), s/veh	0.6	0.1	1.1	0.0	1.1	1.4	0.6	1.1	0.0	0.2	1.1	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.6	3.8	0.2	3.2	3.2	1.7	9.2	0.2	0.8	9.0	5.3
LnGrp Delay(d),s/veh	25.6	24.3	27.6	30.2	34.4	34.8	20.0	25.3	19.1	19.6	26.1	24.5
LnGrp LOS	C	C	C	C	C	C	B	C	B	B	C	C
Approach Vol, veh/h		413			247			854			1006	
Approach Delay, s/veh		26.2			34.4			24.6			25.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	48.8	8.3	57.0	16.4	38.3	9.7	55.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	36.5	6.5	52.5	28.5	14.5	16.5	42.5
Max Q Clear Time (g_c+I1), s	2.5	10.2	3.6	20.4	11.4	8.8	5.4	20.0
Green Ext Time (p_c), s	0.0	2.1	0.0	12.2	0.5	1.0	0.1	10.5

Intersection Summary			
HCM 2010 Ctrl Delay			26.2
HCM 2010 LOS			C

	↰	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	14	8	6	78	6	305	2	210	71	159	283	14
Future Volume (veh/h)	14	8	6	78	6	305	2	210	71	159	283	14
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	15	9	7	85	7	332	2	228	77	173	308	15
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	608	420	560	591	529	476	799	680	559	876	43
Arrive On Green	0.02	0.30	0.30	0.05	0.33	0.33	0.00	0.43	0.43	0.07	0.50	0.50
Sat Flow, veh/h	1774	2004	1384	1774	1770	1583	1774	1863	1583	1774	1762	86
Grp Volume(v), veh/h	15	8	8	85	7	332	2	228	77	173	0	323
Grp Sat Flow(s),veh/h/ln	1774	1770	1618	1774	1770	1583	1774	1863	1583	1774	0	1848
Q Serve(g_s), s	0.7	0.4	0.4	3.9	0.3	21.2	0.1	9.6	3.5	6.3	0.0	12.8
Cycle Q Clear(g_c), s	0.7	0.4	0.4	3.9	0.3	21.2	0.1	9.6	3.5	6.3	0.0	12.8
Prop In Lane	1.00		0.86	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	252	537	491	560	591	529	476	799	680	559	0	918
V/C Ratio(X)	0.06	0.01	0.02	0.15	0.01	0.63	0.00	0.29	0.11	0.31	0.00	0.35
Avail Cap(c_a), veh/h	452	537	491	677	591	529	582	799	680	663	0	918
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.3	29.2	29.3	25.8	26.7	33.7	19.5	22.3	20.6	16.2	0.0	18.4
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.1	0.0	4.6	0.0	0.9	0.3	0.3	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.2	0.2	1.9	0.2	9.9	0.0	5.1	1.6	3.1	0.0	6.7
LnGrp Delay(d),s/veh	29.4	29.3	29.3	26.0	26.8	38.3	19.5	23.2	20.9	16.5	0.0	19.4
LnGrp LOS	C	C	C	C	C	D	B	C	C	B		B
Approach Vol, veh/h		31			424			307			496	
Approach Delay, s/veh		29.3			35.6			22.6			18.4	
Approach LOS		C			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	40.9	13.0	56.0	6.5	44.6	4.8	64.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	21.5	15.5	51.5	15.5	19.5	7.5	59.5
Max Q Clear Time (g_c+I1), s	5.9	2.4	8.3	11.6	2.7	23.2	2.1	14.8
Green Ext Time (p_c), s	0.1	2.0	0.2	3.2	0.0	0.0	0.0	3.2

Intersection Summary			
HCM 2010 Ctrl Delay			25.5
HCM 2010 LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	10	236	5	189	386	379	5	207	78	152	214	7
Future Volume (veh/h)	10	236	5	189	386	379	5	207	78	152	214	7
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	257	5	205	420	412	5	225	85	165	233	8
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	202	1106	21	516	698	624	471	478	181	441	782	27
Arrive On Green	0.01	0.31	0.31	0.10	0.39	0.39	0.01	0.37	0.37	0.07	0.44	0.44
Sat Flow, veh/h	1774	3551	69	1774	1770	1583	1774	1290	487	1774	1790	61
Grp Volume(v), veh/h	11	128	134	205	420	412	5	0	310	165	0	241
Grp Sat Flow(s),veh/h/ln	1774	1770	1851	1774	1770	1583	1774	0	1777	1774	0	1852
Q Serve(g_s), s	0.5	6.4	6.5	9.0	22.6	25.6	0.2	0.0	16.0	6.7	0.0	10.1
Cycle Q Clear(g_c), s	0.5	6.4	6.5	9.0	22.6	25.6	0.2	0.0	16.0	6.7	0.0	10.1
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.27	1.00		0.03
Lane Grp Cap(c), veh/h	202	551	576	516	698	624	471	0	659	441	0	808
V/C Ratio(X)	0.05	0.23	0.23	0.40	0.60	0.66	0.01	0.00	0.47	0.37	0.00	0.30
Avail Cap(c_a), veh/h	275	551	576	724	698	624	556	0	659	454	0	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	0.93	0.93	0.93	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.6	30.7	30.7	22.9	28.9	29.8	23.4	0.0	28.8	20.9	0.0	21.9
Incr Delay (d2), s/veh	0.1	1.0	0.9	0.5	3.5	5.0	0.0	0.0	2.4	0.5	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.3	3.5	4.5	11.8	12.0	0.1	0.0	8.3	3.3	0.0	5.4
LnGrp Delay(d),s/veh	28.7	31.6	31.6	23.4	32.4	34.8	23.4	0.0	31.2	21.4	0.0	22.8
LnGrp LOS	C	C	C	C	C	C	C		C	C		C
Approach Vol, veh/h		273			1037			315			406	
Approach Delay, s/veh		31.5			31.6			31.1			22.3	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	41.9	13.1	49.0	6.0	51.8	5.3	56.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	25.5	22.5	9.5	44.5	6.5	41.5	6.5	47.5
Max Q Clear Time (g_c+I1), s	11.0	8.5	8.7	18.0	2.5	27.6	2.2	12.1
Green Ext Time (p_c), s	0.4	5.5	0.0	2.9	0.0	5.4	0.0	3.0

Intersection Summary			
HCM 2010 Ctrl Delay			29.6
HCM 2010 LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	1	464	0	44	918	13	22	30	10	94	38	15
Future Volume (veh/h)	1	464	0	44	918	13	22	30	10	94	38	15
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	1	504	0	48	998	14	24	33	11	102	41	16
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	416	2500	0	705	2638	37	157	56	19	205	112	44
Arrive On Green	0.00	0.71	0.00	0.03	0.74	0.74	0.02	0.04	0.04	0.07	0.09	0.09
Sat Flow, veh/h	1774	3632	0	1774	3573	50	1774	1338	446	1774	1277	498
Grp Volume(v), veh/h	1	504	0	48	494	518	24	0	44	102	0	57
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	1854	1774	0	1784	1774	0	1775
Q Serve(g_s), s	0.0	5.9	0.0	0.8	12.2	12.2	1.5	0.0	2.9	6.4	0.0	3.6
Cycle Q Clear(g_c), s	0.0	5.9	0.0	0.8	12.2	12.2	1.5	0.0	2.9	6.4	0.0	3.6
Prop In Lane	1.00		0.00	1.00		0.03	1.00		0.25	1.00		0.28
Lane Grp Cap(c), veh/h	416	2500	0	705	1306	1369	157	0	75	205	0	155
V/C Ratio(X)	0.00	0.20	0.00	0.07	0.38	0.38	0.15	0.00	0.59	0.50	0.00	0.37
Avail Cap(c_a), veh/h	539	2500	0	772	1306	1369	242	0	201	313	0	303
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.4	6.0	0.0	4.1	5.7	5.7	53.2	0.0	56.5	48.6	0.0	51.6
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.8	0.8	0.4	0.0	7.1	1.9	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.9	0.0	0.4	6.2	6.5	0.8	0.0	1.6	3.2	0.0	1.9
LnGrp Delay(d),s/veh	5.4	6.2	0.0	4.1	6.5	6.5	53.6	0.0	63.6	50.5	0.0	53.1
LnGrp LOS	A	A		A	A	A	D		E	D		D
Approach Vol, veh/h		505			1060			68			159	
Approach Delay, s/veh		6.2			6.4			60.1			51.4	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	89.3	12.7	9.5	4.7	93.1	7.3	15.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	64.5	15.5	13.5	8.5	64.5	8.5	20.5
Max Q Clear Time (g_c+I1), s	2.8	7.9	8.4	4.9	2.0	14.2	3.5	5.6
Green Ext Time (p_c), s	0.0	11.5	0.1	0.2	0.0	11.4	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.4
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	2	556	0	13	971	36	1	1	19	3	30	2
Future Vol, veh/h	2	556	0	13	971	36	1	1	19	3	30	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	75	-	-	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	604	0	14	1055	39	1	1	21	3	33	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1095	0	0	604	0	0	1181	1732	302	1410	1712	547
Stage 1	-	-	-	-	-	-	609	609	-	1103	1103	-
Stage 2	-	-	-	-	-	-	572	1123	-	307	609	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	633	-	-	970	-	-	145	87	694	98	90	481
Stage 1	-	-	-	-	-	-	449	484	-	225	285	-
Stage 2	-	-	-	-	-	-	472	279	-	678	484	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	633	-	-	970	-	-	101	85	694	93	88	481
Mov Cap-2 Maneuver	-	-	-	-	-	-	101	85	-	93	88	-
Stage 1	-	-	-	-	-	-	448	482	-	224	281	-
Stage 2	-	-	-	-	-	-	409	275	-	654	482	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	13.8	63.5
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	101	511	633	-	-	970	-	-	93	93
HCM Lane V/C Ratio	0.011	0.043	0.003	-	-	0.015	-	-	0.035	0.374
HCM Control Delay (s)	41	12.4	10.7	-	-	8.8	-	-	45.1	65.2
HCM Lane LOS	E	B	B	-	-	A	-	-	E	F
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0	-	-	0.1	1.5

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	10	210	43	108	560	10	548	10	99	10	10	10
Future Volume (veh/h)	10	210	43	108	560	10	548	10	99	10	10	10
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	228	0	117	609	11	596	11	108	11	11	11
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	414	1463	654	584	1618	29	700	55	538	151	46	46
Arrive On Green	0.01	0.41	0.00	0.11	0.91	0.91	0.33	0.37	0.37	0.01	0.05	0.05
Sat Flow, veh/h	1774	3539	1583	1774	3557	64	1774	148	1457	1774	856	856
Grp Volume(v), veh/h	11	228	0	117	303	317	596	0	119	11	0	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1851	1774	0	1606	1774	0	1712
Q Serve(g_s), s	0.4	4.8	0.0	4.4	2.8	2.8	36.5	0.0	6.1	0.7	0.0	1.5
Cycle Q Clear(g_c), s	0.4	4.8	0.0	4.4	2.8	2.8	36.5	0.0	6.1	0.7	0.0	1.5
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.91	1.00		0.50
Lane Grp Cap(c), veh/h	414	1463	654	584	805	842	700	0	593	151	0	93
V/C Ratio(X)	0.03	0.16	0.00	0.20	0.38	0.38	0.85	0.00	0.20	0.07	0.00	0.24
Avail Cap(c_a), veh/h	487	1463	654	806	805	842	746	0	593	225	0	93
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.87	0.87	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.9	22.1	0.0	16.3	3.1	3.1	32.7	0.0	25.8	52.6	0.0	54.4
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.1	1.2	1.1	8.9	0.0	0.8	0.2	0.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.4	0.0	2.1	1.4	1.5	19.4	0.0	2.8	0.4	0.0	0.8
LnGrp Delay(d),s/veh	19.9	22.3	0.0	16.5	4.2	4.2	41.6	0.0	26.5	52.8	0.0	60.3
LnGrp LOS	B	C		B	A	A	D		C	D		E
Approach Vol, veh/h		239			737			715			33	
Approach Delay, s/veh		22.2			6.2			39.1			57.8	
Approach LOS		C			A			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	54.1	6.0	48.8	6.0	59.1	43.9	11.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	21.5	31.5	6.5	39.5	6.5	46.5	42.5	6.5
Max Q Clear Time (g_c+I1), s	6.4	6.8	2.7	8.1	2.4	4.8	38.5	3.5
Green Ext Time (p_c), s	0.2	4.9	0.0	0.9	0.0	5.3	0.9	0.2

Intersection Summary		
HCM 2010 Ctrl Delay		23.0
HCM 2010 LOS		C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✥	
Traffic Volume (veh/h)	0	220	357	132	986	0	0	0	0	43	0	15
Future Volume (veh/h)	0	220	357	132	986	0	0	0	0	43	0	15
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	239	388	143	1072	0				47	0	16
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1033	925	505	2374	0				326	0	111
Arrive On Green	0.00	0.58	0.58	0.05	0.67	0.00				0.25	0.00	0.25
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1284	0	437
Grp Volume(v), veh/h	0	239	388	143	1072	0				63	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1721	0	0
Q Serve(g_s), s	0.0	7.8	16.2	3.7	17.2	0.0				3.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	7.8	16.2	3.7	17.2	0.0				3.4	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.75		0.25
Lane Grp Cap(c), veh/h	0	1033	925	505	2374	0				438	0	0
V/C Ratio(X)	0.00	0.23	0.42	0.28	0.45	0.00				0.14	0.00	0.00
Avail Cap(c_a), veh/h	0	1033	925	735	2374	0				438	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	12.0	13.8	9.7	9.3	0.0				34.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.4	0.3	0.6	0.0				0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.9	7.4	1.8	8.5	0.0				1.7	0.0	0.0
LnGrp Delay(d),s/veh	0.0	12.5	15.2	10.0	9.9	0.0				35.3	0.0	0.0
LnGrp LOS		B	B	A	A					D		
Approach Vol, veh/h		627			1215						63	
Approach Delay, s/veh		14.2			10.0						35.3	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.4	74.6				85.0		35.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	21.5	54.5				80.5		30.5
Max Q Clear Time (g_c+I1), s	5.7	18.2				19.2		5.4
Green Ext Time (p_c), s	0.3	14.7				16.9		0.3

Intersection Summary			
HCM 2010 Ctrl Delay			12.2
HCM 2010 LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	340	227	10	0	172	44	0	10	10	70	10	179
Future Volume (veh/h)	340	227	10	0	172	44	0	10	10	70	10	179
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	370	247	11	0	187	48	0	11	11	76	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	968	2786	124	821	1908	478	100	24	24	174	220	187
Arrive On Green	0.15	1.00	1.00	0.00	0.68	0.68	0.00	0.03	0.03	0.05	0.12	0.00
Sat Flow, veh/h	1774	3452	153	1774	2806	703	1774	856	856	1774	1863	1583
Grp Volume(v), veh/h	370	126	132	0	116	119	0	0	22	76	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1836	1774	1770	1739	1774	0	1712	1774	1863	1583
Q Serve(g_s), s	7.7	0.0	0.0	0.0	2.7	2.8	0.0	0.0	1.5	4.8	0.6	0.0
Cycle Q Clear(g_c), s	7.7	0.0	0.0	0.0	2.7	2.8	0.0	0.0	1.5	4.8	0.6	0.0
Prop In Lane	1.00		0.08	1.00		0.40	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	968	1428	1482	821	1203	1182	100	0	48	174	220	187
V/C Ratio(X)	0.38	0.09	0.09	0.00	0.10	0.10	0.00	0.00	0.46	0.44	0.05	0.00
Avail Cap(c_a), veh/h	1585	1428	1482	915	1203	1182	195	0	364	177	396	336
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.97	0.97	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	3.5	0.0	0.0	0.0	6.6	6.6	0.0	0.0	57.4	51.2	47.0	0.0
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.0	0.2	0.2	0.0	0.0	6.8	1.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	0.0	1.4	1.4	0.0	0.0	0.8	2.4	0.3	0.0
LnGrp Delay(d),s/veh	3.7	0.1	0.1	0.0	6.7	6.8	0.0	0.0	64.3	52.9	47.1	0.0
LnGrp LOS	A	A	A		A	A			E	D	D	
Approach Vol, veh/h		628			235			22			87	
Approach Delay, s/veh		2.2			6.8			64.3			52.1	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	0.0	101.4	10.8	7.8	15.3	86.1	0.0	18.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	63.5	6.5	25.5	52.5	17.5	6.5	25.5
Max Q Clear Time (g_c+I1), s	0.0	2.0	6.8	3.5	9.7	4.8	0.0	2.6
Green Ext Time (p_c), s	0.0	2.8	0.0	0.1	1.1	2.1	0.0	0.1

Intersection Summary			
HCM 2010 Ctrl Delay			9.2
HCM 2010 LOS			A

	↰	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	201	89	112	6	64	39	108	583	7	41	622	164
Future Volume (veh/h)	201	89	112	6	64	39	108	583	7	41	622	164
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	218	97	122	7	70	42	117	634	8	45	676	178
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	565	1315	588	393	603	335	335	1548	693	364	1471	658
Arrive On Green	0.11	0.37	0.37	0.01	0.27	0.27	0.05	0.44	0.44	0.03	0.42	0.42
Sat Flow, veh/h	1774	3539	1583	1774	2196	1221	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	218	97	122	7	55	57	117	634	8	45	676	178
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1647	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	10.1	2.1	6.3	0.3	2.8	3.1	4.5	14.7	0.3	1.7	16.6	8.9
Cycle Q Clear(g_c), s	10.1	2.1	6.3	0.3	2.8	3.1	4.5	14.7	0.3	1.7	16.6	8.9
Prop In Lane	1.00		1.00	1.00		0.74	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	565	1315	588	393	486	452	335	1548	693	364	1471	658
V/C Ratio(X)	0.39	0.07	0.21	0.02	0.11	0.13	0.35	0.41	0.01	0.12	0.46	0.27
Avail Cap(c_a), veh/h	814	1315	588	474	486	452	483	1548	693	403	1471	658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.0	24.4	25.7	30.9	32.6	32.7	19.4	23.1	19.1	19.4	25.3	23.1
Incr Delay (d2), s/veh	0.4	0.1	0.8	0.0	0.5	0.6	0.6	0.8	0.0	0.2	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	1.1	2.9	0.2	1.4	1.5	2.2	7.4	0.2	0.9	8.3	4.0
LnGrp Delay(d),s/veh	25.5	24.5	26.5	31.0	33.1	33.3	20.0	23.9	19.1	19.6	26.4	24.1
LnGrp LOS	C	C	C	C	C	C	C	C	B	B	C	C
Approach Vol, veh/h		437			119			759			899	
Approach Delay, s/veh		25.5			33.0			23.3			25.6	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	49.1	8.4	57.0	17.2	37.5	11.0	54.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	36.5	6.5	52.5	29.5	13.5	16.5	42.5
Max Q Clear Time (g_c+I1), s	2.3	8.3	3.7	16.7	12.1	5.1	6.5	18.6
Green Ext Time (p_c), s	0.0	1.5	0.0	10.4	0.5	0.9	0.2	9.2

Intersection Summary			
HCM 2010 Ctrl Delay			25.2
HCM 2010 LOS			C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	28	25	22	64	23	162	3	229	116	194	183	23
Future Volume (veh/h)	28	25	22	64	23	162	3	229	116	194	183	23
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	30	27	24	70	25	176	3	249	126	211	199	25
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	366	554	434	511	544	486	566	806	685	555	832	104
Arrive On Green	0.03	0.29	0.29	0.04	0.31	0.31	0.00	0.43	0.43	0.08	0.51	0.51
Sat Flow, veh/h	1774	1890	1481	1774	1770	1583	1774	1863	1583	1774	1623	204
Grp Volume(v), veh/h	30	25	26	70	25	176	3	249	126	211	0	224
Grp Sat Flow(s),veh/h/ln	1774	1770	1601	1774	1770	1583	1774	1863	1583	1774	0	1827
Q Serve(g_s), s	1.4	1.2	1.4	3.3	1.2	10.4	0.1	10.5	5.9	7.6	0.0	8.2
Cycle Q Clear(g_c), s	1.4	1.2	1.4	3.3	1.2	10.4	0.1	10.5	5.9	7.6	0.0	8.2
Prop In Lane	1.00		0.93	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	366	519	469	511	544	486	566	806	685	555	0	936
V/C Ratio(X)	0.08	0.05	0.06	0.14	0.05	0.36	0.01	0.31	0.18	0.38	0.00	0.24
Avail Cap(c_a), veh/h	445	519	469	669	544	486	670	806	685	798	0	936
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.6	30.4	30.5	27.8	29.2	32.4	19.1	22.3	21.0	15.7	0.0	16.3
Incr Delay (d2), s/veh	0.1	0.2	0.2	0.1	0.2	2.0	0.0	1.0	0.6	0.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.6	0.6	1.6	0.6	4.8	0.1	5.6	2.7	3.7	0.0	4.3
LnGrp Delay(d),s/veh	28.7	30.6	30.7	27.9	29.4	34.4	19.1	23.3	21.6	16.1	0.0	16.9
LnGrp LOS	C	C	C	C	C	C	B	C	C	B		B
Approach Vol, veh/h		81			271			378			435	
Approach Delay, s/veh		29.9			32.3			22.7			16.5	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	39.7	14.5	56.4	7.7	41.4	5.0	66.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	17.5	26.5	42.5	8.5	24.5	7.5	61.5
Max Q Clear Time (g_c+I1), s	5.3	3.4	9.6	12.5	3.4	12.4	2.1	10.2
Green Ext Time (p_c), s	0.1	1.1	0.5	2.8	0.0	1.0	0.0	2.9

Intersection Summary	
HCM 2010 Ctrl Delay	23.1
HCM 2010 LOS	C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	21	301	21	91	250	41	5	188	175	213	252	9
Future Volume (veh/h)	21	301	21	91	250	41	5	188	175	213	252	9
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	23	327	23	99	272	45	5	204	190	232	274	10
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	389	1036	73	393	1033	169	495	352	328	437	861	31
Arrive On Green	0.02	0.31	0.31	0.05	0.34	0.34	0.01	0.40	0.40	0.09	0.48	0.48
Sat Flow, veh/h	1774	3356	235	1774	3047	498	1774	889	828	1774	1786	65
Grp Volume(v), veh/h	23	172	178	99	157	160	5	0	394	232	0	284
Grp Sat Flow(s),veh/h/ln	1774	1770	1821	1774	1770	1775	1774	0	1717	1774	0	1851
Q Serve(g_s), s	1.1	8.9	9.0	4.5	7.7	7.9	0.2	0.0	21.6	8.9	0.0	11.3
Cycle Q Clear(g_c), s	1.1	8.9	9.0	4.5	7.7	7.9	0.2	0.0	21.6	8.9	0.0	11.3
Prop In Lane	1.00		0.13	1.00		0.28	1.00		0.48	1.00		0.04
Lane Grp Cap(c), veh/h	389	546	562	393	600	602	495	0	680	437	0	893
V/C Ratio(X)	0.06	0.31	0.32	0.25	0.26	0.27	0.01	0.00	0.58	0.53	0.00	0.32
Avail Cap(c_a), veh/h	445	546	562	500	600	602	580	0	680	487	0	893
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.99	0.99	0.99	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.3	31.8	31.8	25.6	28.8	28.8	21.5	0.0	28.4	19.9	0.0	19.0
Incr Delay (d2), s/veh	0.1	1.5	1.5	0.3	1.0	1.1	0.0	0.0	3.6	1.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.6	4.7	2.2	4.0	4.1	0.1	0.0	10.9	4.4	0.0	6.0
LnGrp Delay(d),s/veh	27.3	33.2	33.2	25.9	29.8	29.9	21.5	0.0	32.0	20.9	0.0	19.9
LnGrp LOS	C	C	C	C	C	C	C		C	C		B
Approach Vol, veh/h		373			416			399			516	
Approach Delay, s/veh		32.9			28.9			31.9			20.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	41.5	15.6	52.0	7.2	45.2	5.3	62.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	26.5	14.5	47.5	6.5	33.5	6.5	55.5
Max Q Clear Time (g_c+I1), s	10.5	11.0	10.9	23.6	3.1	9.9	2.2	13.3
Green Ext Time (p_c), s	0.1	3.1	0.2	3.7	0.0	3.6	0.0	3.9

Intersection Summary	
HCM 2010 Ctrl Delay	27.9
HCM 2010 LOS	C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	51	617	20	14	331	68	0	30	32	117	29	51
Future Volume (veh/h)	51	617	20	14	331	68	0	30	32	117	29	51
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	55	671	22	15	360	74	0	33	35	127	32	55
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	719	2422	79	552	1975	402	138	49	52	232	110	189
Arrive On Green	0.04	0.69	0.69	0.02	0.67	0.67	0.00	0.06	0.06	0.08	0.18	0.18
Sat Flow, veh/h	1774	3498	115	1774	2931	596	1774	829	879	1774	616	1059
Grp Volume(v), veh/h	55	339	354	15	216	218	0	0	68	127	0	87
Grp Sat Flow(s),veh/h/ln	1774	1770	1843	1774	1770	1758	1774	0	1708	1774	0	1676
Q Serve(g_s), s	1.1	8.8	8.8	0.3	5.4	5.5	0.0	0.0	4.7	7.8	0.0	5.4
Cycle Q Clear(g_c), s	1.1	8.8	8.8	0.3	5.4	5.5	0.0	0.0	4.7	7.8	0.0	5.4
Prop In Lane	1.00		0.06	1.00		0.34	1.00		0.51	1.00		0.63
Lane Grp Cap(c), veh/h	719	1226	1276	552	1193	1184	138	0	100	232	0	299
V/C Ratio(X)	0.08	0.28	0.28	0.03	0.18	0.18	0.00	0.00	0.68	0.55	0.00	0.29
Avail Cap(c_a), veh/h	812	1226	1276	649	1193	1184	262	0	221	448	0	440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.4	7.0	7.0	6.0	7.3	7.3	0.0	0.0	55.4	46.1	0.0	42.7
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.0	0.3	0.3	0.0	0.0	7.8	2.0	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.4	4.6	0.2	2.7	2.8	0.0	0.0	2.4	3.9	0.0	2.5
LnGrp Delay(d),s/veh	5.4	7.5	7.5	6.0	7.6	7.6	0.0	0.0	63.1	48.1	0.0	43.2
LnGrp LOS	A	A	A	A	A	A			E	D		D
Approach Vol, veh/h		748			449			68			214	
Approach Delay, s/veh		7.4			7.6			63.1			46.1	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	87.6	14.4	11.5	8.7	85.4	0.0	25.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	53.5	24.5	15.5	10.5	51.5	8.5	31.5
Max Q Clear Time (g_c+I1), s	2.3	10.8	9.8	6.7	3.1	7.5	0.0	7.4
Green Ext Time (p_c), s	0.0	6.8	0.2	0.4	0.0	6.8	0.0	0.7

Intersection Summary		
HCM 2010 Ctrl Delay		15.6
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	2	765	1	22	412	8	0	0	17	12	0	2
Future Vol, veh/h	2	765	1	22	412	8	0	0	17	12	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	75	-	-	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	832	1	24	448	9	0	0	18	13	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	457	0	0	833	0	0	1108	1340	416	920	1337	228
Stage 1	-	-	-	-	-	-	836	836	-	500	500	-
Stage 2	-	-	-	-	-	-	272	504	-	420	837	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1100	-	-	796	-	-	164	151	585	226	152	775
Stage 1	-	-	-	-	-	-	328	381	-	521	541	-
Stage 2	-	-	-	-	-	-	711	539	-	581	380	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1100	-	-	796	-	-	160	146	585	214	147	775
Mov Cap-2 Maneuver	-	-	-	-	-	-	160	146	-	214	147	-
Stage 1	-	-	-	-	-	-	327	380	-	520	525	-
Stage 2	-	-	-	-	-	-	688	523	-	562	379	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	11.4	21
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	585	1100	-	-	796	-	-	214	775
HCM Lane V/C Ratio	-	0.032	0.002	-	-	0.03	-	-	0.061	0.003
HCM Control Delay (s)	0	11.4	8.3	-	-	9.7	-	-	22.9	9.7
HCM Lane LOS	A	B	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	-	0.1	0	-	-	0.1	-	-	0.2	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	10	440	23	20	321	10	184	10	127	10	10	10
Future Volume (veh/h)	10	440	23	20	321	10	184	10	127	10	10	10
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	478	0	22	349	11	200	11	138	11	11	11
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	586	1751	783	478	1764	55	548	38	476	366	197	197
Arrive On Green	0.01	0.49	0.00	0.04	1.00	1.00	0.10	0.32	0.32	0.01	0.23	0.23
Sat Flow, veh/h	1774	3539	1583	1774	3503	110	1774	118	1483	1774	856	856
Grp Volume(v), veh/h	11	478	0	22	176	184	200	0	149	11	0	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1843	1774	0	1601	1774	0	1712
Q Serve(g_s), s	0.4	9.5	0.0	0.7	0.0	0.0	9.9	0.0	8.4	0.6	0.0	1.2
Cycle Q Clear(g_c), s	0.4	9.5	0.0	0.7	0.0	0.0	9.9	0.0	8.4	0.6	0.0	1.2
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.93	1.00		0.50
Lane Grp Cap(c), veh/h	586	1751	783	478	891	928	548	0	514	366	0	393
V/C Ratio(X)	0.02	0.27	0.00	0.05	0.20	0.20	0.36	0.00	0.29	0.03	0.00	0.06
Avail Cap(c_a), veh/h	659	1751	783	595	891	928	933	0	514	440	0	393
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.96	0.96	0.96	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	17.7	0.0	14.3	0.0	0.0	28.6	0.0	30.5	34.6	0.0	36.1
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.5	0.5	0.4	0.0	1.4	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.7	0.0	0.4	0.1	0.1	4.9	0.0	3.9	0.3	0.0	0.6
LnGrp Delay(d),s/veh	14.7	18.1	0.0	14.3	0.5	0.5	29.0	0.0	31.9	34.7	0.0	36.3
LnGrp LOS	B	B		B	A	A	C		C	C		D
Approach Vol, veh/h		489			382			349			33	
Approach Delay, s/veh		18.0			1.3			30.3			35.8	
Approach LOS		B			A			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	63.9	6.0	43.0	6.0	64.9	17.0	32.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	46.5	6.5	38.5	6.5	50.5	38.5	6.5
Max Q Clear Time (g_c+I1), s	2.7	11.5	2.6	10.4	2.4	2.0	11.9	3.2
Green Ext Time (p_c), s	0.0	5.3	0.0	1.1	0.0	5.5	0.6	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	16.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✣	
Traffic Volume (veh/h)	0	377	416	85	430	0	0	0	0	96	0	12
Future Volume (veh/h)	0	377	416	85	430	0	0	0	0	96	0	12
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	410	452	92	467	0				104	0	13
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1021	913	391	2315	0				421	0	53
Arrive On Green	0.00	0.58	0.58	0.04	0.65	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1556	0	195
Grp Volume(v), veh/h	0	410	452	92	467	0				117	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1751	0	0
Q Serve(g_s), s	0.0	15.3	20.3	2.4	6.3	0.0				6.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	15.3	20.3	2.4	6.3	0.0				6.3	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.89		0.11
Lane Grp Cap(c), veh/h	0	1021	913	391	2315	0				474	0	0
V/C Ratio(X)	0.00	0.40	0.49	0.24	0.20	0.00				0.25	0.00	0.00
Avail Cap(c_a), veh/h	0	1021	913	594	2315	0				474	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	14.0	15.0	10.9	8.3	0.0				34.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	1.9	0.3	0.2	0.0				1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.7	9.3	1.2	3.1	0.0				3.2	0.0	0.0
LnGrp Delay(d),s/veh	0.0	15.2	16.9	11.2	8.5	0.0				35.4	0.0	0.0
LnGrp LOS		B	B	B	A					D		
Approach Vol, veh/h		862			559						117	
Approach Delay, s/veh		16.1			8.9						35.4	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.3	73.7				83.0		37.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	18.5	55.5				78.5		32.5
Max Q Clear Time (g_c+I1), s	4.4	22.3				8.3		8.3
Green Ext Time (p_c), s	0.2	9.9				11.0		0.6

Intersection Summary			
HCM 2010 Ctrl Delay			15.0
HCM 2010 LOS			B

1: KTA SB Ramp & 95th Street

HCM 2010 methodology does not support clustered intersections.

	↰	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	201	125	10	10	232	47	0	10	0	51	10	402
Future Volume (veh/h)	201	125	10	10	232	47	0	10	0	51	10	402
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	218	136	11	11	252	51	0	11	0	55	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	959	2712	217	1052	2309	460	60	107	0	133	107	111
Arrive On Green	0.08	1.00	1.00	0.01	0.78	0.78	0.00	0.06	0.00	0.06	0.06	0.00
Sat Flow, veh/h	1774	3320	266	1774	2943	586	1398	1863	0	1398	1863	1583
Grp Volume(v), veh/h	218	72	75	11	150	153	0	11	0	55	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1816	1774	1770	1759	1398	1863	0	1398	1863	1583
Q Serve(g_s), s	2.8	0.0	0.0	0.2	2.4	2.5	0.0	0.7	0.0	4.7	0.7	0.0
Cycle Q Clear(g_c), s	2.8	0.0	0.0	0.2	2.4	2.5	0.0	0.7	0.0	5.3	0.7	0.0
Prop In Lane	1.00		0.15	1.00		0.33	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	959	1446	1484	1052	1388	1380	60	107	0	133	107	111
V/C Ratio(X)	0.23	0.05	0.05	0.01	0.11	0.11	0.00	0.10	0.00	0.41	0.10	0.00
Avail Cap(c_a), veh/h	1492	1446	1484	1126	1388	1380	277	396	0	349	396	357
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	1.7	0.0	0.0	2.5	3.0	3.1	0.0	53.6	0.0	56.1	53.6	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.1	0.0	0.2	0.2	0.0	0.4	0.0	2.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.1	1.2	1.3	0.0	0.4	0.0	1.9	0.4	0.0
LnGrp Delay(d),s/veh	1.9	0.1	0.1	2.5	3.2	3.2	0.0	54.0	0.0	58.2	54.0	0.0
LnGrp LOS	A	A	A	A	A	A		D		E	D	
Approach Vol, veh/h		365			314			11			66	
Approach Delay, s/veh		1.1			3.2			54.0			57.5	
Approach LOS		A			A			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.0	102.6		11.4	9.9	98.6		11.4
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.5	74.5		25.5	41.5	39.5		25.5
Max Q Clear Time (g_c+I1), s	2.2	2.0		2.7	4.8	4.5		7.3
Green Ext Time (p_c), s	0.0	2.5		0.2	0.6	2.5		0.2

Intersection Summary		
HCM 2010 Ctrl Delay		7.7
HCM 2010 LOS		A

HCM 2010 methodology does not support clustered intersections.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	194	52	111	9	128	48	82	689	7	41	676	160
Future Volume (veh/h)	194	52	111	9	128	48	82	689	7	41	676	160
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	211	57	121	10	139	52	89	749	8	45	735	174
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	715	1885	843	638	1185	426	187	967	433	173	899	402
Arrive On Green	0.08	0.53	0.53	0.01	0.46	0.46	0.05	0.27	0.27	0.03	0.25	0.25
Sat Flow, veh/h	1774	3539	1583	1774	2553	918	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	211	57	121	10	95	96	89	749	8	45	735	174
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1701	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.1	0.9	4.6	0.4	3.6	3.9	4.4	23.4	0.4	2.2	23.5	11.1
Cycle Q Clear(g_c), s	7.1	0.9	4.6	0.4	3.6	3.9	4.4	23.4	0.4	2.2	23.5	11.1
Prop In Lane	1.00		1.00	1.00		0.54	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	715	1885	843	638	821	789	187	967	433	173	899	402
V/C Ratio(X)	0.30	0.03	0.14	0.02	0.12	0.12	0.47	0.77	0.02	0.26	0.82	0.43
Avail Cap(c_a), veh/h	1009	1885	843	758	821	789	414	1224	548	256	899	402
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.3	13.3	14.2	16.6	18.2	18.3	33.1	40.2	31.8	33.3	42.1	37.5
Incr Delay (d2), s/veh	0.2	0.0	0.4	0.0	0.3	0.3	1.9	2.4	0.0	0.8	6.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.5	2.1	0.2	1.8	1.9	2.2	11.8	0.2	1.1	12.2	4.9
LnGrp Delay(d),s/veh	13.5	13.4	14.6	16.6	18.5	18.6	35.0	42.6	31.9	34.1	48.1	38.3
LnGrp LOS	B	B	B	B	B	B	C	D	C	C	D	D
Approach Vol, veh/h		389			201			846			954	
Approach Delay, s/veh		13.8			18.4			41.7			45.7	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.9	68.4	8.4	37.3	14.1	60.2	10.7	35.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	41.5	9.5	41.5	29.5	21.5	21.5	29.5
Max Q Clear Time (g_c+I1), s	2.4	6.6	4.2	25.4	9.1	5.9	6.4	25.5
Green Ext Time (p_c), s	0.0	1.7	0.0	7.4	0.5	1.5	0.1	3.0

Intersection Summary	
HCM 2010 Ctrl Delay	36.8
HCM 2010 LOS	D

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	14	14	5	118	10	232	2	218	181	203	225	14
Future Volume (veh/h)	14	14	5	118	10	232	2	218	181	203	225	14
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	15	15	5	128	11	252	2	237	197	221	245	15
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	606	1364	432	861	973	871	246	305	260	312	488	30
Arrive On Green	0.02	0.52	0.52	0.05	0.55	0.55	0.00	0.16	0.16	0.12	0.28	0.28
Sat Flow, veh/h	1774	2647	837	1774	1770	1583	1774	1863	1583	1774	1738	106
Grp Volume(v), veh/h	15	10	10	128	11	252	2	237	197	221	0	260
Grp Sat Flow(s),veh/h/ln	1774	1770	1715	1774	1770	1583	1774	1863	1583	1774	0	1844
Q Serve(g_s), s	0.5	0.3	0.3	3.9	0.3	10.2	0.1	14.6	14.3	11.9	0.0	14.2
Cycle Q Clear(g_c), s	0.5	0.3	0.3	3.9	0.3	10.2	0.1	14.6	14.3	11.9	0.0	14.2
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	606	912	884	861	973	871	246	305	260	312	0	518
V/C Ratio(X)	0.02	0.01	0.01	0.15	0.01	0.29	0.01	0.78	0.76	0.71	0.00	0.50
Avail Cap(c_a), veh/h	732	912	884	1133	973	871	353	598	508	477	0	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.4	14.2	14.2	11.4	12.2	14.5	41.7	48.0	47.9	35.0	0.0	36.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.8	0.0	4.2	4.5	2.9	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.2	1.9	0.2	4.7	0.1	7.9	6.6	6.1	0.0	7.3
LnGrp Delay(d),s/veh	13.4	14.2	14.2	11.5	12.3	15.3	41.7	52.3	52.4	38.0	0.0	36.9
LnGrp LOS	B	B	B	B	B	B	D	D	D	D		D
Approach Vol, veh/h		35			391			436			481	
Approach Delay, s/veh		13.9			14.0			52.3			37.4	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	66.3	18.9	24.2	6.5	70.5	4.8	38.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	24.5	13.5	25.5	38.5	10.5	27.5	7.5	56.5
Max Q Clear Time (g_c+I1), s	5.9	2.3	13.9	16.6	2.5	12.2	2.1	16.2
Green Ext Time (p_c), s	0.3	1.2	0.4	3.1	0.0	1.4	0.0	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	34.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	146	354	120	23	938	89	62	142	21	42	98	238
Future Volume (veh/h)	146	354	120	23	938	89	62	142	21	42	98	238
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	159	385	130	25	1020	97	67	154	23	46	107	259
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	340	1551	517	515	1842	175	277	316	47	254	354	301
Arrive On Green	0.02	0.20	0.20	0.02	0.56	0.56	0.04	0.20	0.20	0.03	0.19	0.19
Sat Flow, veh/h	1774	2609	870	1774	3267	311	1774	1584	237	1774	1863	1583
Grp Volume(v), veh/h	159	260	255	25	552	565	67	0	177	46	107	259
Grp Sat Flow(s),veh/h/ln	1774	1770	1709	1774	1770	1808	1774	0	1821	1774	1863	1583
Q Serve(g_s), s	4.3	14.9	15.2	0.7	23.8	23.8	3.6	0.0	10.3	2.5	5.9	19.0
Cycle Q Clear(g_c), s	4.3	14.9	15.2	0.7	23.8	23.8	3.6	0.0	10.3	2.5	5.9	19.0
Prop In Lane	1.00		0.51	1.00		0.17	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	340	1052	1016	515	998	1019	277	0	363	254	354	301
V/C Ratio(X)	0.47	0.25	0.25	0.05	0.55	0.55	0.24	0.00	0.49	0.18	0.30	0.86
Avail Cap(c_a), veh/h	473	1052	1016	569	998	1019	313	0	508	307	520	442
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	0.90	0.90	0.90	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	25.5	25.7	10.9	16.6	16.6	36.9	0.0	42.6	37.6	41.8	47.1
Incr Delay (d2), s/veh	0.9	0.5	0.6	0.0	2.0	2.0	0.4	0.0	1.0	0.3	0.5	11.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	7.5	7.3	0.3	12.1	12.3	1.8	0.0	5.3	1.2	3.1	9.2
LnGrp Delay(d),s/veh	14.4	26.1	26.2	11.0	18.6	18.6	37.4	0.0	43.6	37.9	42.2	58.1
LnGrp LOS	B	C	C	B	B	B	D		D	D	D	E
Approach Vol, veh/h		674			1142			244			412	
Approach Delay, s/veh		23.4			18.4			41.9			51.7	
Approach LOS		C			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	75.8	8.4	28.4	11.0	72.2	9.5	27.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	54.5	7.5	33.5	15.5	45.5	7.5	33.5
Max Q Clear Time (g_c+I1), s	2.7	17.2	4.5	12.3	6.3	25.8	5.6	21.0
Green Ext Time (p_c), s	0.0	12.8	0.0	2.1	0.2	9.8	0.0	1.8

Intersection Summary			
HCM 2010 Ctrl Delay			27.6
HCM 2010 LOS			C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	2	411	4	33	982	96	14	28	9	45	36	52
Future Volume (veh/h)	2	411	4	33	982	96	14	28	9	45	36	52
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	2	447	4	36	1067	104	15	30	10	49	39	57
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	367	2616	23	756	2457	239	116	79	26	172	53	77
Arrive On Green	0.00	0.73	0.73	0.03	0.75	0.75	0.02	0.06	0.06	0.03	0.08	0.08
Sat Flow, veh/h	1774	3595	32	1774	3259	317	1774	1338	446	1774	685	1001
Grp Volume(v), veh/h	2	220	231	36	579	592	15	0	40	49	0	96
Grp Sat Flow(s),veh/h/ln	1774	1770	1857	1774	1770	1807	1774	0	1784	1774	0	1686
Q Serve(g_s), s	0.0	4.6	4.6	0.6	14.4	14.4	0.9	0.0	2.6	3.1	0.0	6.7
Cycle Q Clear(g_c), s	0.0	4.6	4.6	0.6	14.4	14.4	0.9	0.0	2.6	3.1	0.0	6.7
Prop In Lane	1.00		0.02	1.00		0.18	1.00		0.25	1.00		0.59
Lane Grp Cap(c), veh/h	367	1288	1351	756	1334	1362	116	0	105	172	0	130
V/C Ratio(X)	0.01	0.17	0.17	0.05	0.43	0.43	0.13	0.00	0.38	0.29	0.00	0.74
Avail Cap(c_a), veh/h	533	1288	1351	816	1334	1362	183	0	290	355	0	414
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.9	5.1	5.1	3.6	5.4	5.4	51.8	0.0	54.4	50.8	0.0	54.2
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.0	1.0	1.0	0.5	0.0	2.3	0.9	0.0	8.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.4	2.5	0.3	7.3	7.5	0.5	0.0	1.3	1.5	0.0	3.4
LnGrp Delay(d),s/veh	4.9	5.4	5.4	3.6	6.4	6.4	52.3	0.0	56.6	51.7	0.0	62.3
LnGrp LOS	A	A	A	A	A	A	D		E	D		E
Approach Vol, veh/h		453			1207			55			145	
Approach Delay, s/veh		5.4			6.3			55.5			58.7	
Approach LOS		A			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	91.8	8.6	11.6	4.8	95.0	6.5	13.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	58.5	16.5	19.5	11.5	54.5	6.5	29.5
Max Q Clear Time (g_c+I1), s	2.6	6.6	5.1	4.6	2.0	16.4	2.9	8.7
Green Ext Time (p_c), s	0.0	12.4	0.1	0.5	0.0	11.7	0.0	0.6

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	4	459	1	11	1107	5	1	1	13	3	0	3
Future Vol, veh/h	4	459	1	11	1107	5	1	1	13	3	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	75	-	-	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	499	1	12	1203	5	1	1	14	3	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1209	0	0	500	0	0	1134	1741	250	1489	1739	604
Stage 1	-	-	-	-	-	-	508	508	-	1230	1230	-
Stage 2	-	-	-	-	-	-	626	1233	-	259	509	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	573	-	-	1060	-	-	157	86	750	86	86	441
Stage 1	-	-	-	-	-	-	516	537	-	188	248	-
Stage 2	-	-	-	-	-	-	439	247	-	723	536	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	573	-	-	1060	-	-	154	84	750	82	84	441
Mov Cap-2 Maneuver	-	-	-	-	-	-	154	84	-	82	84	-
Stage 1	-	-	-	-	-	-	512	533	-	187	245	-
Stage 2	-	-	-	-	-	-	431	244	-	703	532	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	13.8	32
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	154	479	573	-	-	1060	-	-	82	441
HCM Lane V/C Ratio	0.007	0.032	0.008	-	-	0.011	-	-	0.04	0.007
HCM Control Delay (s)	28.5	12.8	11.3	-	-	8.4	-	-	50.7	13.2
HCM Lane LOS	D	B	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0	-	-	0.1	0

	↰	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	0	229	10	101	523	10	718	10	97	10	10	0
Future Volume (veh/h)	0	229	10	101	523	10	718	10	97	10	10	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	249	0	110	568	11	780	11	105	11	11	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	1275	570	508	1606	31	809	64	614	133	73	0
Arrive On Green	0.00	0.36	0.00	0.02	0.15	0.15	0.40	0.42	0.42	0.01	0.04	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3551	69	1774	152	1454	1774	1863	0
Grp Volume(v), veh/h	0	249	0	110	283	296	780	0	116	11	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1851	1774	0	1606	1774	1863	0
Q Serve(g_s), s	0.0	5.8	0.0	4.5	17.2	17.2	47.5	0.0	5.4	0.7	0.7	0.0
Cycle Q Clear(g_c), s	0.0	5.8	0.0	4.5	17.2	17.2	47.5	0.0	5.4	0.7	0.7	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.91	1.00		0.00
Lane Grp Cap(c), veh/h	318	1275	570	508	800	837	809	0	679	133	73	0
V/C Ratio(X)	0.00	0.20	0.00	0.22	0.35	0.35	0.96	0.00	0.17	0.08	0.15	0.00
Avail Cap(c_a), veh/h	413	1275	570	773	800	837	809	0	679	206	116	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.88	0.88	0.88	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	26.4	0.0	21.8	35.3	35.3	32.4	0.0	21.6	54.2	55.7	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.2	1.1	1.0	23.1	0.0	0.1	0.3	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.9	0.0	2.2	8.7	9.1	7.6	0.0	2.4	0.4	0.4	0.0
LnGrp Delay(d),s/veh	0.0	26.8	0.0	22.0	36.4	36.3	55.5	0.0	21.7	54.5	56.6	0.0
LnGrp LOS		C		C	D	D	E		C	D	E	
Approach Vol, veh/h		249			689			896			22	
Approach Delay, s/veh		26.8			34.1			51.1			55.6	
Approach LOS		C			C			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	47.7	6.0	55.2	0.0	58.8	52.0	9.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	24.5	22.5	6.5	48.5	6.5	40.5	47.5	7.5
Max Q Clear Time (g_c+I1), s	16.5	7.8	2.7	7.4	0.0	19.2	49.5	2.7
Green Ext Time (p_c), s	0.2	4.0	0.0	0.8	0.0	4.6	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		41.6
HCM 2010 LOS		D

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✣	
Traffic Volume (veh/h)	0	202	272	132	1110	0	0	0	0	37	0	14
Future Volume (veh/h)	0	202	272	132	1110	0	0	0	0	37	0	14
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	220	296	143	1207	0				40	0	15
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1423	1273	802	3125	0				53	0	20
Arrive On Green	0.00	0.80	0.80	0.04	0.88	0.00				0.04	0.00	0.04
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1249	0	468
Grp Volume(v), veh/h	0	220	296	143	1207	0				55	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1718	0	0
Q Serve(g_s), s	0.0	3.3	5.4	1.5	7.3	0.0				3.8	0.0	0.0
Cycle Q Clear(g_c), s	0.0	3.3	5.4	1.5	7.3	0.0				3.8	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.73		0.27
Lane Grp Cap(c), veh/h	0	1423	1273	802	3125	0				72	0	0
V/C Ratio(X)	0.00	0.15	0.23	0.18	0.39	0.00				0.76	0.00	0.00
Avail Cap(c_a), veh/h	0	1423	1273	1032	3125	0				408	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	2.6	2.8	1.5	1.2	0.0				56.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.4	0.1	0.4	0.0				15.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.7	2.5	0.7	3.5	0.0				2.1	0.0	0.0
LnGrp Delay(d),s/veh	0.0	2.9	3.3	1.6	1.6	0.0				71.8	0.0	0.0
LnGrp LOS		A	A	A	A					E		
Approach Vol, veh/h		516			1350						55	
Approach Delay, s/veh		3.1			1.6						71.8	
Approach LOS		A			A						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.5	101.0				110.4		9.6
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	20.5	57.5				82.5		28.5
Max Q Clear Time (g_c+I1), s	13.5	7.4				9.3		5.8
Green Ext Time (p_c), s	0.3	16.9				18.1		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	4.0
HCM 2010 LOS	A

1: KTA SB Ramp & 95th Street

HCM 2010 methodology does not support clustered intersections.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	374	243	10	10	146	44	0	10	0	39	10	177
Future Volume (veh/h)	374	243	10	10	146	44	0	10	0	39	10	177
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	407	264	11	11	159	48	0	11	0	42	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1070	2867	119	927	2075	607	60	87	0	118	87	74
Arrive On Green	0.10	1.00	1.00	0.01	0.77	0.77	0.00	0.05	0.00	0.05	0.05	0.00
Sat Flow, veh/h	1774	3463	144	1774	2702	791	1398	1863	0	1398	1863	1583
Grp Volume(v), veh/h	407	134	141	11	102	105	0	11	0	42	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1837	1774	1770	1723	1398	1863	0	1398	1863	1583
Q Serve(g_s), s	5.5	0.0	0.0	0.2	1.7	1.8	0.0	0.7	0.0	3.6	0.7	0.0
Cycle Q Clear(g_c), s	5.5	0.0	0.0	0.2	1.7	1.8	0.0	0.7	0.0	4.2	0.7	0.0
Prop In Lane	1.00		0.08	1.00		0.46	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1070	1465	1521	927	1359	1323	60	87	0	118	87	74
V/C Ratio(X)	0.38	0.09	0.09	0.01	0.08	0.08	0.00	0.13	0.00	0.36	0.13	0.00
Avail Cap(c_a), veh/h	1673	1465	1521	1001	1359	1323	292	396	0	349	396	336
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	1.7	0.0	0.0	2.9	3.4	3.4	0.0	54.8	0.0	56.9	54.8	0.0
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.6	0.0	1.8	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.1	0.1	0.9	0.9	0.0	0.4	0.0	1.4	0.4	0.0
LnGrp Delay(d),s/veh	1.9	0.1	0.1	2.9	3.5	3.6	0.0	55.5	0.0	58.7	55.5	0.0
LnGrp LOS	A	A	A	A	A	A		E		E	E	
Approach Vol, veh/h		682			218			11			53	
Approach Delay, s/veh		1.2			3.5			55.5			58.0	
Approach LOS		A			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.0	103.8		10.1	13.2	96.6		10.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.5	74.5		25.5	49.5	31.5		25.5
Max Q Clear Time (g_c+I1), s	2.2	2.0		2.7	7.5	3.8		6.2
Green Ext Time (p_c), s	0.0	2.7		0.1	1.2	2.6		0.1

Intersection Summary			
HCM 2010 Ctrl Delay			5.4
HCM 2010 LOS			A

HCM 2010 methodology does not support clustered intersections.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	210	94	82	6	65	39	67	582	7	41	620	175
Future Volume (veh/h)	210	94	82	6	65	39	67	582	7	41	620	175
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	228	102	89	7	71	42	73	633	8	45	674	190
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	782	1925	861	631	1032	567	187	938	420	200	900	402
Arrive On Green	0.09	0.54	0.54	0.01	0.47	0.47	0.04	0.26	0.26	0.03	0.25	0.25
Sat Flow, veh/h	1774	3539	1583	1774	2207	1212	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	228	102	89	7	56	57	73	633	8	45	674	190
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1649	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.6	1.6	3.3	0.2	2.1	2.3	3.6	19.2	0.4	2.2	21.1	12.2
Cycle Q Clear(g_c), s	7.6	1.6	3.3	0.2	2.1	2.3	3.6	19.2	0.4	2.2	21.1	12.2
Prop In Lane	1.00		1.00	1.00		0.73	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	782	1925	861	631	827	771	187	938	420	200	900	402
V/C Ratio(X)	0.29	0.05	0.10	0.01	0.07	0.07	0.39	0.67	0.02	0.23	0.75	0.47
Avail Cap(c_a), veh/h	1097	1925	861	711	827	771	295	1312	587	238	1135	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.9	12.8	13.2	16.5	17.6	17.6	33.0	39.5	32.6	32.8	41.2	37.9
Incr Delay (d2), s/veh	0.2	0.1	0.2	0.0	0.2	0.2	1.3	0.9	0.0	0.6	2.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.8	1.5	0.1	1.0	1.1	1.8	9.5	0.2	1.1	10.6	5.5
LnGrp Delay(d),s/veh	13.1	12.9	13.5	16.5	17.7	17.8	34.3	40.3	32.6	33.3	43.4	38.8
LnGrp LOS	B	B	B	B	B	B	C	D	C	C	D	D
Approach Vol, veh/h		419			120			714			909	
Approach Delay, s/veh		13.1			17.7			39.6			41.9	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	69.8	8.4	36.3	14.7	60.6	9.7	35.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	44.5	6.5	44.5	31.5	19.5	12.5	38.5
Max Q Clear Time (g_c+I1), s	2.2	5.3	4.2	21.2	9.6	4.3	5.6	23.1
Green Ext Time (p_c), s	0.0	1.5	0.0	9.1	0.6	1.2	0.1	7.4

Intersection Summary	
HCM 2010 Ctrl Delay	34.2
HCM 2010 LOS	C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	28	25	22	121	23	172	2	166	98	280	125	23
Future Volume (veh/h)	28	25	22	121	23	172	2	166	98	280	125	23
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	30	27	24	132	25	187	2	180	107	304	136	25
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	655	957	750	827	944	845	218	234	199	387	440	81
Arrive On Green	0.03	0.51	0.51	0.05	0.53	0.53	0.00	0.13	0.13	0.16	0.29	0.29
Sat Flow, veh/h	1774	1890	1481	1774	1770	1583	1774	1863	1583	1774	1532	282
Grp Volume(v), veh/h	30	25	26	132	25	187	2	180	107	304	0	161
Grp Sat Flow(s),veh/h/ln	1774	1770	1601	1774	1770	1583	1774	1863	1583	1774	0	1813
Q Serve(g_s), s	1.0	0.9	1.0	4.2	0.8	7.5	0.1	11.2	7.6	17.2	0.0	8.3
Cycle Q Clear(g_c), s	1.0	0.9	1.0	4.2	0.8	7.5	0.1	11.2	7.6	17.2	0.0	8.3
Prop In Lane	1.00		0.93	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	655	896	811	827	944	845	218	234	199	387	0	521
V/C Ratio(X)	0.05	0.03	0.03	0.16	0.03	0.22	0.01	0.77	0.54	0.79	0.00	0.31
Avail Cap(c_a), veh/h	705	896	811	1124	944	845	309	504	429	501	0	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.4	14.8	14.9	12.2	13.2	14.8	45.6	50.8	49.2	35.8	0.0	33.4
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.1	0.1	0.6	0.0	5.3	2.3	6.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.4	0.4	2.0	0.4	3.4	0.1	6.1	3.5	9.0	0.0	4.2
LnGrp Delay(d),s/veh	13.4	14.9	14.9	12.3	13.3	15.4	45.7	56.1	51.5	41.9	0.0	33.8
LnGrp LOS	B	B	B	B	B	B	D	E	D	D		C
Approach Vol, veh/h		81			344			289			465	
Approach Delay, s/veh		14.4			14.1			54.3			39.1	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	65.3	24.2	19.6	7.7	68.5	4.8	39.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	26.5	15.5	27.5	32.5	6.5	35.5	6.5	53.5
Max Q Clear Time (g_c+I1), s	6.2	3.0	19.2	13.2	3.0	9.5	2.1	10.3
Green Ext Time (p_c), s	0.3	1.1	0.5	1.8	0.0	1.5	0.0	2.1

Intersection Summary	
HCM 2010 Ctrl Delay	33.8
HCM 2010 LOS	C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	237	640	156	19	455	31	54	83	26	99	156	145
Future Volume (veh/h)	237	640	156	19	455	31	54	83	26	99	156	145
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	258	696	170	21	495	34	59	90	28	108	170	158
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	659	1865	455	384	2056	141	173	155	48	221	240	204
Arrive On Green	0.02	0.22	0.22	0.02	0.61	0.61	0.04	0.11	0.11	0.05	0.13	0.13
Sat Flow, veh/h	1774	2822	689	1774	3361	230	1774	1364	424	1774	1863	1583
Grp Volume(v), veh/h	258	436	430	21	260	269	59	0	118	108	170	158
Grp Sat Flow(s),veh/h/ln	1774	1770	1741	1774	1770	1822	1774	0	1788	1774	1863	1583
Q Serve(g_s), s	5.8	25.2	25.2	0.5	8.0	8.1	3.5	0.0	7.5	6.5	10.5	11.6
Cycle Q Clear(g_c), s	5.8	25.2	25.2	0.5	8.0	8.1	3.5	0.0	7.5	6.5	10.5	11.6
Prop In Lane	1.00		0.40	1.00		0.13	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	659	1170	1151	384	1082	1115	173	0	204	221	240	204
V/C Ratio(X)	0.39	0.37	0.37	0.05	0.24	0.24	0.34	0.00	0.58	0.49	0.71	0.78
Avail Cap(c_a), veh/h	882	1170	1151	428	1082	1115	199	0	574	221	598	508
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	0.99	0.99	0.99	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.3	25.8	25.8	9.8	10.6	10.6	44.8	0.0	50.4	44.5	50.1	50.6
Incr Delay (d2), s/veh	0.3	0.8	0.8	0.1	0.5	0.5	1.2	0.0	2.6	1.7	3.8	6.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	12.6	12.4	0.3	4.1	4.2	1.8	0.0	3.9	3.3	5.7	5.4
LnGrp Delay(d),s/veh	7.6	26.5	26.6	9.9	11.1	11.1	46.0	0.0	53.0	46.1	54.0	56.8
LnGrp LOS	A	C	C	A	B	B	D		D	D	D	E
Approach Vol, veh/h		1124			550			177			436	
Approach Delay, s/veh		22.2			11.1			50.7			53.1	
Approach LOS		C			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	83.8	11.0	18.2	12.9	77.9	9.2	19.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	51.5	6.5	38.5	23.5	33.5	6.5	38.5
Max Q Clear Time (g_c+I1), s	2.5	27.2	8.5	9.5	7.8	10.1	5.5	13.6
Green Ext Time (p_c), s	0.0	8.8	0.0	1.9	0.6	8.7	0.0	1.9

Intersection Summary			
HCM 2010 Ctrl Delay			27.6
HCM 2010 LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	4	756	6	12	446	34	7	25	27	98	24	51
Future Volume (veh/h)	4	756	6	12	446	34	7	25	27	98	24	51
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	4	822	7	13	485	37	8	27	29	107	26	55
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	684	2561	22	499	2548	194	129	43	46	213	86	182
Arrive On Green	0.71	0.71	0.71	0.01	0.76	0.76	0.05	0.05	0.05	0.07	0.16	0.16
Sat Flow, veh/h	876	3596	31	1774	3334	254	1312	823	884	1774	534	1129
Grp Volume(v), veh/h	4	404	425	13	257	265	8	0	56	107	0	81
Grp Sat Flow(s),veh/h/ln	876	1770	1857	1774	1770	1818	1312	0	1707	1774	0	1663
Q Serve(g_s), s	0.2	10.2	10.2	0.2	4.8	4.8	0.7	0.0	3.9	6.6	0.0	5.2
Cycle Q Clear(g_c), s	0.2	10.2	10.2	0.2	4.8	4.8	0.7	0.0	3.9	6.6	0.0	5.2
Prop In Lane	1.00		0.02	1.00		0.14	1.00		0.52	1.00		0.68
Lane Grp Cap(c), veh/h	684	1260	1322	499	1352	1389	129	0	90	213	0	268
V/C Ratio(X)	0.01	0.32	0.32	0.03	0.19	0.19	0.06	0.00	0.62	0.50	0.00	0.30
Avail Cap(c_a), veh/h	684	1260	1322	569	1352	1389	284	0	292	331	0	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.0	6.5	6.5	4.6	3.9	3.9	54.2	0.0	55.7	47.4	0.0	44.4
Incr Delay (d2), s/veh	0.0	0.6	0.6	0.0	0.3	0.3	0.2	0.0	6.9	1.8	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.2	5.4	0.1	2.5	2.5	0.3	0.0	2.0	3.3	0.0	2.4
LnGrp Delay(d),s/veh	5.0	7.1	7.0	4.6	4.2	4.2	54.4	0.0	62.6	49.2	0.0	45.0
LnGrp LOS	A	A	A	A	A	A	D		E	D		D
Approach Vol, veh/h		833			535			64			188	
Approach Delay, s/veh		7.1			4.2			61.6			47.4	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6		8
Phs Duration (G+Y+Rc), s	6.3	89.9	13.0	10.8		96.2		23.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	6.5	58.5	16.5	20.5		69.5		41.5
Max Q Clear Time (g_c+I1), s	2.2	12.2	8.6	5.9		6.8		7.2
Green Ext Time (p_c), s	0.0	8.8	0.1	0.5		9.0		0.7

Intersection Summary			
HCM 2010 Ctrl Delay			13.0
HCM 2010 LOS			B

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	875	1	13	488	3	1	0	10	5	0	3
Future Vol, veh/h	3	875	1	13	488	3	1	0	10	5	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	75	-	-	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	951	1	14	530	3	1	0	11	5	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	534	0	0	952	0	0	1251	1520	476	1042	1519	267
Stage 1	-	-	-	-	-	-	958	958	-	560	560	-
Stage 2	-	-	-	-	-	-	293	562	-	482	959	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1030	-	-	717	-	-	129	118	535	184	118	731
Stage 1	-	-	-	-	-	-	276	334	-	480	509	-
Stage 2	-	-	-	-	-	-	691	508	-	534	334	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1030	-	-	717	-	-	126	115	535	177	115	731
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	115	-	177	115	-
Stage 1	-	-	-	-	-	-	275	333	-	479	499	-
Stage 2	-	-	-	-	-	-	674	498	-	522	333	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	13.9	20
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	126	535	1030	-	-	717	-	-	177	731
HCM Lane V/C Ratio	0.009	0.02	0.003	-	-	0.02	-	-	0.031	0.004
HCM Control Delay (s)	33.8	11.9	8.5	-	-	10.1	-	-	26	9.9
HCM Lane LOS	D	B	A	-	-	B	-	-	D	A
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0.1	-	-	0.1	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	0	492	14	18	295	10	270	10	125	10	10	0
Future Volume (veh/h)	0	492	14	18	295	10	270	10	125	10	10	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	535	0	20	321	11	293	11	136	11	11	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	702	2171	971	568	2344	80	420	24	301	134	77	0
Arrive On Green	0.00	0.61	0.00	0.04	1.00	1.00	0.17	0.20	0.20	0.01	0.04	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3492	119	1774	120	1481	1774	1863	0
Grp Volume(v), veh/h	0	535	0	20	162	170	293	0	147	11	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1842	1774	0	1601	1774	1863	0
Q Serve(g_s), s	0.0	8.3	0.0	0.5	0.0	0.0	18.2	0.0	9.7	0.7	0.7	0.0
Cycle Q Clear(g_c), s	0.0	8.3	0.0	0.5	0.0	0.0	18.2	0.0	9.7	0.7	0.7	0.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.93	1.00		0.00
Lane Grp Cap(c), veh/h	702	2171	971	568	1188	1236	420	0	326	134	77	0
V/C Ratio(X)	0.00	0.25	0.00	0.04	0.14	0.14	0.70	0.00	0.45	0.08	0.14	0.00
Avail Cap(c_a), veh/h	796	2171	971	657	1188	1236	635	0	474	207	101	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.94	0.94	0.94	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	10.6	0.0	7.7	0.0	0.0	42.3	0.0	41.9	54.0	55.4	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.2	0.2	2.1	0.0	1.0	0.3	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.1	0.0	0.2	0.1	0.1	9.1	0.0	4.4	0.4	0.4	0.0
LnGrp Delay(d),s/veh	0.0	10.8	0.0	7.7	0.2	0.2	44.4	0.0	42.9	54.3	56.3	0.0
LnGrp LOS		B		A	A	A	D		D	D	E	
Approach Vol, veh/h		535			352			440			22	
Approach Delay, s/veh		10.8			0.6			43.9			55.3	
Approach LOS		B			A			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	78.1	6.0	28.9	0.0	85.0	25.5	9.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	51.5	6.5	35.5	6.5	53.5	35.5	6.5
Max Q Clear Time (g_c+I1), s	2.5	10.3	2.7	11.7	0.0	2.0	20.2	2.7
Green Ext Time (p_c), s	0.0	5.7	0.0	0.9	0.0	5.8	0.8	0.3

Intersection Summary			
HCM 2010 Ctrl Delay			19.7
HCM 2010 LOS			B

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✥	
Traffic Volume (veh/h)	0	410	480	84	481	0	0	0	0	96	0	23
Future Volume (veh/h)	0	410	480	84	481	0	0	0	0	96	0	23
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	446	522	91	523	0				104	0	25
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1335	1194	497	2943	0				131	0	31
Arrive On Green	0.00	0.75	0.75	0.04	0.83	0.00				0.09	0.00	0.09
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1398	0	336
Grp Volume(v), veh/h	0	446	522	91	523	0				129	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1734	0	0
Q Serve(g_s), s	0.0	9.9	14.5	1.2	3.5	0.0				8.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.9	14.5	1.2	3.5	0.0				8.7	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.81		0.19
Lane Grp Cap(c), veh/h	0	1335	1194	497	2943	0				162	0	0
V/C Ratio(X)	0.00	0.33	0.44	0.18	0.18	0.00				0.80	0.00	0.00
Avail Cap(c_a), veh/h	0	1335	1194	685	2943	0				455	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	4.8	5.4	3.6	2.0	0.0				53.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	1.2	0.2	0.1	0.0				8.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.1	6.6	0.6	1.7	0.0				4.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	5.5	6.6	3.8	2.1	0.0				61.8	0.0	0.0
LnGrp LOS		A	A	A	A					E		
Approach Vol, veh/h		968			614						129	
Approach Delay, s/veh		6.1			2.4						61.8	
Approach LOS		A			A						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.3	95.0				104.3		15.7
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	17.5	57.5				79.5		31.5
Max Q Clear Time (g_c+I1), s	3.2	16.5				5.5		10.7
Green Ext Time (p_c), s	0.2	12.4				13.4		0.6

Intersection Summary			
HCM 2010 Ctrl Delay			9.0
HCM 2010 LOS			A

9: S. Woodlawn Blvd. & 95th Street

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	461	258	10	10	198	49	0	10	0	78	10	200
Future Volume (veh/h)	461	258	10	10	198	49	0	10	0	78	10	200
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	501	280	11	11	215	53	0	11	0	85	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	971	2644	104	780	1821	439	92	40	0	178	211	179
Arrive On Green	0.22	1.00	1.00	0.01	0.64	0.64	0.00	0.02	0.00	0.05	0.11	0.00
Sat Flow, veh/h	1774	3472	136	1774	2829	683	1774	1863	0	1774	1863	1583
Grp Volume(v), veh/h	501	142	149	11	133	135	0	11	0	85	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1839	1774	1770	1742	1774	1863	0	1774	1863	1583
Q Serve(g_s), s	12.1	0.0	0.0	0.3	3.5	3.6	0.0	0.7	0.0	5.5	0.6	0.0
Cycle Q Clear(g_c), s	12.1	0.0	0.0	0.3	3.5	3.6	0.0	0.7	0.0	5.5	0.6	0.0
Prop In Lane	1.00		0.07	1.00		0.39	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	971	1347	1400	780	1139	1122	92	40	0	178	211	179
V/C Ratio(X)	0.52	0.11	0.11	0.01	0.12	0.12	0.00	0.27	0.00	0.48	0.05	0.00
Avail Cap(c_a), veh/h	1515	1347	1400	854	1139	1122	186	396	0	178	396	336
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	3.7	0.0	0.0	7.1	8.2	8.3	0.0	57.8	0.0	51.9	47.5	0.0
Incr Delay (d2), s/veh	0.4	0.1	0.1	0.0	0.2	0.2	0.0	3.6	0.0	2.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	0.1	0.1	0.1	1.8	1.8	0.0	0.4	0.0	2.8	0.3	0.0
LnGrp Delay(d),s/veh	4.1	0.1	0.1	7.1	8.4	8.5	0.0	61.3	0.0	53.9	47.6	0.0
LnGrp LOS	A	A	A	A	A	A		E		D	D	
Approach Vol, veh/h		792			279			11			96	
Approach Delay, s/veh		2.6			8.4			61.3			53.2	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	95.9	11.0	7.1	20.2	81.7	0.0	18.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	63.5	6.5	25.5	52.5	17.5	6.5	25.5
Max Q Clear Time (g_c+I1), s	2.3	2.0	7.5	2.7	14.1	5.6	0.0	2.6
Green Ext Time (p_c), s	0.0	3.2	0.0	0.0	1.6	2.3	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	8.7
HCM 2010 LOS	A

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	248	114	183	20	88	40	159	608	20	41	677	240
Future Volume (veh/h)	248	114	183	20	88	40	159	608	20	41	677	240
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	270	124	199	22	96	43	173	661	22	45	736	261
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	561	1269	568	361	605	257	325	1548	693	350	1401	627
Arrive On Green	0.13	0.36	0.36	0.02	0.25	0.25	0.07	0.44	0.44	0.03	0.40	0.40
Sat Flow, veh/h	1774	3539	1583	1774	2423	1028	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	270	124	199	22	69	70	173	661	22	45	736	261
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1681	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	13.0	2.8	11.1	1.1	3.6	3.9	6.7	15.5	1.0	1.8	19.0	14.3
Cycle Q Clear(g_c), s	13.0	2.8	11.1	1.1	3.6	3.9	6.7	15.5	1.0	1.8	19.0	14.3
Prop In Lane	1.00		1.00	1.00		0.61	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	561	1269	568	361	442	420	325	1548	693	350	1401	627
V/C Ratio(X)	0.48	0.10	0.35	0.06	0.16	0.17	0.53	0.43	0.03	0.13	0.53	0.42
Avail Cap(c_a), veh/h	766	1269	568	419	442	420	437	1548	693	389	1401	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	25.6	28.2	32.2	35.1	35.2	20.2	23.3	19.3	20.6	27.6	26.2
Incr Delay (d2), s/veh	0.6	0.2	1.7	0.1	0.7	0.9	1.4	0.9	0.1	0.2	1.4	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	1.4	5.1	0.5	1.9	1.9	3.3	7.7	0.4	0.9	9.6	6.6
LnGrp Delay(d),s/veh	26.6	25.7	29.9	32.3	35.9	36.1	21.5	24.2	19.3	20.8	29.1	28.2
LnGrp LOS	C	C	C	C	D	D	C	C	B	C	C	C
Approach Vol, veh/h		593			161			856			1042	
Approach Delay, s/veh		27.5			35.5			23.5			28.5	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	47.5	8.4	57.0	20.1	34.5	13.4	52.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	36.5	6.5	52.5	29.5	13.5	16.5	42.5
Max Q Clear Time (g_c+I1), s	13.1	13.1	3.8	17.5	15.0	5.9	8.7	21.0
Green Ext Time (p_c), s	0.0	2.0	0.0	11.8	0.6	1.3	0.2	9.8

Intersection Summary		
HCM 2010 Ctrl Delay		27.1
HCM 2010 LOS		C

23: S. Broadway Street & 95th Street

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	29	26	24	73	25	202	4	251	128	277	212	24
Future Volume (veh/h)	29	26	24	73	25	202	4	251	128	277	212	24
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	32	28	26	79	27	220	4	273	139	301	230	26
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	326	532	434	509	540	483	517	746	677	557	843	95
Arrive On Green	0.03	0.29	0.29	0.05	0.30	0.30	0.01	0.40	0.40	0.12	0.51	0.51
Sat Flow, veh/h	1774	1854	1512	1774	1770	1583	1774	1863	1583	1774	1644	186
Grp Volume(v), veh/h	32	27	27	79	27	220	4	273	139	301	0	256
Grp Sat Flow(s),veh/h/ln	1774	1770	1596	1774	1770	1583	1774	1863	1583	1774	0	1830
Q Serve(g_s), s	1.5	1.3	1.5	3.7	1.3	13.5	0.2	12.4	6.6	11.4	0.0	9.5
Cycle Q Clear(g_c), s	1.5	1.3	1.5	3.7	1.3	13.5	0.2	12.4	6.6	11.4	0.0	9.5
Prop In Lane	1.00		0.95	1.00		1.00	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	326	508	458	509	540	483	517	746	677	557	0	938
V/C Ratio(X)	0.10	0.05	0.06	0.16	0.05	0.46	0.01	0.37	0.21	0.54	0.00	0.27
Avail Cap(c_a), veh/h	403	508	458	659	540	483	619	746	677	740	0	938
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.3	30.9	31.0	28.0	29.4	33.7	21.3	25.3	21.6	16.9	0.0	16.6
Incr Delay (d2), s/veh	0.1	0.2	0.2	0.1	0.2	2.9	0.0	1.4	0.7	0.8	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.7	0.7	1.8	0.7	6.3	0.1	6.7	3.0	5.6	0.0	5.0
LnGrp Delay(d),s/veh	29.4	31.1	31.3	28.1	29.6	36.5	21.3	26.7	22.2	17.7	0.0	17.3
LnGrp LOS	C	C	C	C	C	D	C	C	C	B		B
Approach Vol, veh/h		86			326			416			557	
Approach Delay, s/veh		30.5			33.9			25.1			17.5	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	39.0	18.6	52.5	7.8	41.1	5.1	66.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	17.5	26.5	42.5	8.5	24.5	7.5	61.5
Max Q Clear Time (g_c+I1), s	5.7	3.5	13.4	14.4	3.5	15.5	2.2	11.5
Green Ext Time (p_c), s	0.1	1.4	0.7	3.2	0.0	1.1	0.0	3.3

Intersection Summary	
HCM 2010 Ctrl Delay	24.5
HCM 2010 LOS	C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	25	394	22	100	299	89	6	195	185	220	265	16
Future Volume (veh/h)	25	394	22	100	299	89	6	195	185	220	265	16
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	27	428	24	109	325	97	7	212	201	239	288	17
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	1029	58	350	903	265	482	349	330	426	840	50
Arrive On Green	0.02	0.30	0.30	0.06	0.33	0.33	0.01	0.40	0.40	0.09	0.48	0.48
Sat Flow, veh/h	1774	3408	191	1774	2699	793	1774	881	835	1774	1742	103
Grp Volume(v), veh/h	27	222	230	109	211	211	7	0	413	239	0	305
Grp Sat Flow(s),veh/h/ln	1774	1770	1829	1774	1770	1723	1774	0	1715	1774	0	1845
Q Serve(g_s), s	1.2	12.0	12.1	4.9	10.8	11.1	0.3	0.0	23.0	9.2	0.0	12.3
Cycle Q Clear(g_c), s	1.2	12.0	12.1	4.9	10.8	11.1	0.3	0.0	23.0	9.2	0.0	12.3
Prop In Lane	1.00		0.10	1.00		0.46	1.00		0.49	1.00		0.06
Lane Grp Cap(c), veh/h	336	534	552	350	592	576	482	0	679	426	0	889
V/C Ratio(X)	0.08	0.41	0.42	0.31	0.36	0.37	0.01	0.00	0.61	0.56	0.00	0.34
Avail Cap(c_a), veh/h	388	534	552	448	592	576	562	0	679	472	0	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	0.98	0.98	0.98	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.8	33.4	33.5	26.2	30.2	30.3	21.4	0.0	28.8	20.3	0.0	19.3
Incr Delay (d2), s/veh	0.1	2.3	2.2	0.5	1.6	1.8	0.0	0.0	4.0	1.2	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	6.2	6.4	2.5	5.6	5.5	0.1	0.0	11.7	4.6	0.0	6.5
LnGrp Delay(d),s/veh	27.9	35.7	35.7	26.7	31.8	32.0	21.4	0.0	32.9	21.5	0.0	20.3
LnGrp LOS	C	D	D	C	C	C	C		C	C		C
Approach Vol, veh/h		479			531			420			544	
Approach Delay, s/veh		35.2			30.8			32.7			20.8	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	40.7	15.9	52.0	7.5	44.6	5.5	62.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	26.5	14.5	47.5	6.5	33.5	6.5	55.5
Max Q Clear Time (g_c+I1), s	10.9	14.1	11.2	25.0	3.2	13.1	2.3	14.3
Green Ext Time (p_c), s	0.1	3.8	0.2	3.9	0.0	4.7	0.0	4.2

Intersection Summary	
HCM 2010 Ctrl Delay	29.5
HCM 2010 LOS	C

29: S. Hillside Street & 95th Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	52	725	21	16	435	60	1	32	34	168	32	52
Future Volume (veh/h)	52	725	21	16	435	60	1	32	34	168	32	52
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	57	788	23	17	473	65	1	35	37	183	35	57
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	621	2312	67	467	2006	274	142	51	54	286	110	179
Arrive On Green	0.04	0.66	0.66	0.02	0.64	0.64	0.00	0.06	0.06	0.11	0.17	0.17
Sat Flow, veh/h	1774	3512	102	1774	3129	428	1774	830	878	1774	639	1040
Grp Volume(v), veh/h	57	397	414	17	267	271	1	0	72	183	0	92
Grp Sat Flow(s),veh/h/ln	1774	1770	1845	1774	1770	1787	1774	0	1708	1774	0	1679
Q Serve(g_s), s	1.3	11.9	11.9	0.4	7.6	7.7	0.1	0.0	5.0	11.2	0.0	5.8
Cycle Q Clear(g_c), s	1.3	11.9	11.9	0.4	7.6	7.7	0.1	0.0	5.0	11.2	0.0	5.8
Prop In Lane	1.00		0.06	1.00		0.24	1.00		0.51	1.00		0.62
Lane Grp Cap(c), veh/h	621	1165	1215	467	1134	1146	142	0	105	286	0	289
V/C Ratio(X)	0.09	0.34	0.34	0.04	0.24	0.24	0.01	0.00	0.69	0.64	0.00	0.32
Avail Cap(c_a), veh/h	713	1165	1215	561	1134	1146	265	0	221	449	0	441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.8	9.0	9.0	7.5	9.1	9.1	52.7	0.0	55.2	44.1	0.0	43.5
Incr Delay (d2), s/veh	0.1	0.7	0.6	0.0	0.5	0.5	0.0	0.0	7.8	2.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	6.0	6.2	0.2	3.9	3.9	0.0	0.0	2.6	5.6	0.0	2.7
LnGrp Delay(d),s/veh	6.8	9.7	9.7	7.5	9.6	9.6	52.8	0.0	63.0	46.5	0.0	44.1
LnGrp LOS	A	A	A	A	A	A	D		E	D		D
Approach Vol, veh/h		868			555			73			275	
Approach Delay, s/veh		9.5			9.5			62.8			45.7	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	83.5	18.0	11.9	8.8	81.4	4.7	25.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	53.5	24.5	15.5	10.5	51.5	8.5	31.5
Max Q Clear Time (g_c+I1), s	2.4	13.9	13.2	7.0	3.3	9.7	2.1	7.8
Green Ext Time (p_c), s	0.0	8.6	0.3	0.4	0.0	8.7	0.0	0.7

Intersection Summary			
HCM 2010 Ctrl Delay			17.3
HCM 2010 LOS			B

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	2	925	1	18	508	4	0	0	13	6	0	2
Future Vol, veh/h	2	925	1	18	508	4	0	0	13	6	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	75	-	-	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1005	1	20	552	4	0	0	14	7	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	557	0	0	1007	0	0	1325	1606	503	1100	1604	278
Stage 1	-	-	-	-	-	-	1010	1010	-	593	593	-
Stage 2	-	-	-	-	-	-	315	596	-	507	1011	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1010	-	-	684	-	-	114	104	514	167	104	719
Stage 1	-	-	-	-	-	-	257	316	-	459	492	-
Stage 2	-	-	-	-	-	-	671	490	-	516	315	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1010	-	-	684	-	-	111	101	514	159	101	719
Mov Cap-2 Maneuver	-	-	-	-	-	-	111	101	-	159	101	-
Stage 1	-	-	-	-	-	-	256	315	-	458	478	-
Stage 2	-	-	-	-	-	-	649	476	-	501	314	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	12.2	24
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	514	1010	-	-	684	-	-	159	719
HCM Lane V/C Ratio	-	0.027	0.002	-	-	0.029	-	-	0.041	0.003
HCM Control Delay (s)	0	12.2	8.6	-	-	10.4	-	-	28.6	10
HCM Lane LOS	A	B	A	-	-	B	-	-	D	B
HCM 95th %tile Q(veh)	-	0.1	0	-	-	0.1	-	-	0.1	0

	↰	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	0	574	23	39	349	10	249	10	145	10	11	1
Future Volume (veh/h)	0	574	23	39	349	10	249	10	145	10	11	1
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	624	0	42	379	11	271	11	158	11	12	1
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	519	1716	768	415	1946	56	571	33	480	317	328	27
Arrive On Green	0.00	0.48	0.00	0.01	0.18	0.18	0.14	0.32	0.32	0.01	0.19	0.19
Sat Flow, veh/h	1774	3539	1583	1774	3513	102	1774	104	1495	1774	1696	141
Grp Volume(v), veh/h	0	624	0	42	191	199	271	0	169	11	0	13
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1845	1774	0	1599	1774	0	1838
Q Serve(g_s), s	0.0	13.2	0.0	1.4	11.0	11.0	14.1	0.0	9.6	0.6	0.0	0.7
Cycle Q Clear(g_c), s	0.0	13.2	0.0	1.4	11.0	11.0	14.1	0.0	9.6	0.6	0.0	0.7
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.93	1.00		0.08
Lane Grp Cap(c), veh/h	519	1716	768	415	980	1022	571	0	513	317	0	355
V/C Ratio(X)	0.00	0.36	0.00	0.10	0.19	0.20	0.47	0.00	0.33	0.03	0.00	0.04
Avail Cap(c_a), veh/h	614	1716	768	514	980	1022	891	0	513	390	0	355
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.94	0.94	0.94	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.3	0.0	14.7	26.4	26.4	29.9	0.0	30.9	38.0	0.0	39.3
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.1	0.4	0.4	0.6	0.0	1.7	0.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.6	0.0	0.7	5.5	5.7	6.9	0.0	4.5	0.3	0.0	0.4
LnGrp Delay(d),s/veh	0.0	19.9	0.0	14.8	26.8	26.8	30.5	0.0	32.7	38.1	0.0	39.5
LnGrp LOS		B		B	C	C	C		C	D		D
Approach Vol, veh/h		624			432			440			24	
Approach Delay, s/veh		19.9			25.6			31.4			38.9	
Approach LOS		B			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	62.7	6.0	43.0	0.0	71.0	21.3	27.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	38.5	6.5	38.5	6.5	50.5	38.5	6.5
Max Q Clear Time (g_c+I1), s	13.4	15.2	2.6	11.6	0.0	13.0	16.1	2.7
Green Ext Time (p_c), s	0.0	6.2	0.0	1.1	0.0	6.9	0.8	0.3

Intersection Summary			
HCM 2010 Ctrl Delay			25.1
HCM 2010 LOS			C

49: 95th Street & K-15 Ramp

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✣	
Traffic Volume (veh/h)	0	434	509	81	518	0	0	0	0	163	0	12
Future Volume (veh/h)	0	434	509	81	518	0	0	0	0	163	0	12
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	472	553	88	563	0				177	0	13
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1021	914	322	2315	0				444	0	33
Arrive On Green	0.00	0.58	0.58	0.04	0.65	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1639	0	120
Grp Volume(v), veh/h	0	472	553	88	563	0				190	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1760	0	0
Q Serve(g_s), s	0.0	18.5	27.2	2.3	7.9	0.0				10.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	18.5	27.2	2.3	7.9	0.0				10.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.93		0.07
Lane Grp Cap(c), veh/h	0	1021	914	322	2315	0				477	0	0
V/C Ratio(X)	0.00	0.46	0.61	0.27	0.24	0.00				0.40	0.00	0.00
Avail Cap(c_a), veh/h	0	1021	914	525	2315	0				477	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	14.6	16.5	12.7	8.5	0.0				35.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	3.0	0.5	0.2	0.0				2.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.3	12.6	1.1	3.9	0.0				5.4	0.0	0.0
LnGrp Delay(d),s/veh	0.0	16.1	19.4	13.2	8.8	0.0				38.2	0.0	0.0
LnGrp LOS		B	B	B	A					D		
Approach Vol, veh/h		1025			651						190	
Approach Delay, s/veh		17.9			9.4						38.2	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.2	73.8				83.0		37.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	18.5	55.5				78.5		32.5
Max Q Clear Time (g_c+I1), s	14.3	29.2				9.9		12.6
Green Ext Time (p_c), s	0.1	11.6				15.0		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	17.0
HCM 2010 LOS	B

2060: 95th Street_Agg_AM
9: S. Woodlawn Blvd. & 95th Street

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	432	183	10	10	306	52	0	10	0	54	10	655
Future Volume (veh/h)	432	183	10	10	306	52	0	10	0	54	10	655
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	470	199	11	11	333	57	0	11	0	59	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	888	2641	145	867	2037	345	92	40	0	156	188	160
Arrive On Green	0.19	1.00	1.00	0.01	0.67	0.67	0.00	0.02	0.00	0.04	0.10	0.00
Sat Flow, veh/h	1774	3412	188	1774	3029	513	1774	1863	0	1774	1863	1583
Grp Volume(v), veh/h	470	103	107	11	193	197	0	11	0	59	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1830	1774	1770	1772	1774	1863	0	1774	1863	1583
Q Serve(g_s), s	10.2	0.0	0.0	0.2	4.8	4.9	0.0	0.7	0.0	3.8	0.6	0.0
Cycle Q Clear(g_c), s	10.2	0.0	0.0	0.2	4.8	4.9	0.0	0.7	0.0	3.8	0.6	0.0
Prop In Lane	1.00		0.10	1.00		0.29	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	888	1370	1416	867	1190	1192	92	40	0	156	188	160
V/C Ratio(X)	0.53	0.07	0.08	0.01	0.16	0.17	0.00	0.27	0.00	0.38	0.06	0.00
Avail Cap(c_a), veh/h	1417	1370	1416	941	1190	1192	186	396	0	178	396	336
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	3.4	0.0	0.0	6.0	7.2	7.2	0.0	57.8	0.0	52.6	48.8	0.0
Incr Delay (d2), s/veh	0.4	0.1	0.1	0.0	0.3	0.3	0.0	3.6	0.0	1.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	0.0	0.1	2.4	2.5	0.0	0.4	0.0	1.9	0.3	0.0
LnGrp Delay(d),s/veh	3.8	0.1	0.1	6.0	7.5	7.5	0.0	61.3	0.0	54.1	48.9	0.0
LnGrp LOS	A	A	A	A	A	A		E		D	D	
Approach Vol, veh/h		680			401			11			70	
Approach Delay, s/veh		2.7			7.5			61.3			53.3	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	97.4	9.5	7.1	18.2	85.2	0.0	16.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	63.5	6.5	25.5	49.5	20.5	6.5	25.5
Max Q Clear Time (g_c+I1), s	2.2	2.0	5.8	2.7	12.2	6.9	0.0	2.6
Green Ext Time (p_c), s	0.0	3.4	0.0	0.0	1.5	2.7	0.0	0.0

Intersection Summary		
HCM 2010 Ctrl Delay		7.9
HCM 2010 LOS		A

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	360	145	204	61	225	46	206	729	51	41	659	351
Future Volume (veh/h)	360	145	204	61	225	46	206	729	51	41	659	351
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	391	158	222	66	245	50	224	792	55	45	716	382
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	523	1199	588	321	551	111	337	1548	693	296	1333	597
Arrive On Green	0.19	0.34	0.34	0.04	0.19	0.19	0.09	0.44	0.44	0.03	0.38	0.38
Sat Flow, veh/h	1774	3539	1583	1774	2938	590	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	391	158	222	66	146	149	224	792	55	45	716	382
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1759	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	20.5	3.7	12.3	3.6	8.8	9.0	8.9	19.5	2.4	1.8	19.0	23.8
Cycle Q Clear(g_c), s	20.5	3.7	12.3	3.6	8.8	9.0	8.9	19.5	2.4	1.8	19.0	23.8
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	523	1199	588	321	332	330	337	1548	693	296	1333	597
V/C Ratio(X)	0.75	0.13	0.38	0.21	0.44	0.45	0.66	0.51	0.08	0.15	0.54	0.64
Avail Cap(c_a), veh/h	603	1199	588	343	332	330	416	1548	693	334	1333	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	27.5	27.6	37.1	43.2	43.3	21.4	24.5	19.7	22.2	29.2	30.7
Incr Delay (d2), s/veh	4.4	0.2	1.8	0.3	4.2	4.4	2.9	1.2	0.2	0.2	1.6	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	1.9	5.7	1.8	4.7	4.8	4.6	9.7	1.1	0.9	9.5	11.2
LnGrp Delay(d),s/veh	33.2	27.7	29.4	37.4	47.4	47.7	24.2	25.7	19.9	22.4	30.8	35.9
LnGrp LOS	C	C	C	D	D	D	C	C	B	C	C	D
Approach Vol, veh/h		771			361			1071			1143	
Approach Delay, s/veh		31.0			45.7			25.1			32.2	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	45.2	8.4	57.0	27.6	27.0	15.7	49.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	36.5	6.5	52.5	28.5	14.5	16.5	42.5
Max Q Clear Time (g_c+I1), s	5.6	14.3	3.8	21.5	22.5	11.0	10.9	25.8
Green Ext Time (p_c), s	0.0	3.2	0.0	13.5	0.6	1.1	0.3	9.7

Intersection Summary			
HCM 2010 Ctrl Delay			31.1
HCM 2010 LOS			C

23: S. Broadway Street & 95th Street

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	133	69	37	122	41	173	27	364	117	173	380	59
Future Volume (veh/h)	133	69	37	122	41	173	27	364	117	173	380	59
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	145	75	40	133	45	188	29	396	127	188	413	64
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	369	588	293	479	444	398	395	835	832	452	781	121
Arrive On Green	0.08	0.26	0.26	0.07	0.25	0.25	0.03	0.45	0.45	0.07	0.50	0.50
Sat Flow, veh/h	1774	2289	1142	1774	1770	1583	1774	1863	1583	1774	1576	244
Grp Volume(v), veh/h	145	57	58	133	45	188	29	396	127	188	0	477
Grp Sat Flow(s),veh/h/ln	1774	1770	1661	1774	1770	1583	1774	1863	1583	1774	0	1820
Q Serve(g_s), s	7.2	3.0	3.2	6.6	2.3	12.1	1.0	17.9	5.0	6.6	0.0	21.5
Cycle Q Clear(g_c), s	7.2	3.0	3.2	6.6	2.3	12.1	1.0	17.9	5.0	6.6	0.0	21.5
Prop In Lane	1.00		0.69	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	369	454	426	479	444	398	395	835	832	452	0	902
V/C Ratio(X)	0.39	0.13	0.14	0.28	0.10	0.47	0.07	0.47	0.15	0.42	0.00	0.53
Avail Cap(c_a), veh/h	461	454	426	552	444	398	460	835	832	551	0	902
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	34.3	34.4	29.8	34.5	38.2	17.9	23.2	14.7	16.4	0.0	20.7
Incr Delay (d2), s/veh	0.7	0.6	0.7	0.3	0.4	3.4	0.1	1.9	0.4	0.6	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	1.5	1.6	3.2	1.2	5.7	0.5	9.6	2.2	3.3	0.0	11.3
LnGrp Delay(d),s/veh	30.9	34.8	35.0	30.0	34.9	41.6	18.0	25.1	15.1	17.0	0.0	22.9
LnGrp LOS	C	C	D	C	C	D	B	C	B	B		C
Approach Vol, veh/h		260			366			552			665	
Approach Delay, s/veh		32.7			36.6			22.4			21.2	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.1	35.3	13.3	58.3	13.8	34.6	7.6	64.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	21.5	15.5	51.5	15.5	19.5	7.5	59.5
Max Q Clear Time (g_c+I1), s	8.6	5.2	8.6	19.9	9.2	14.1	3.0	23.5
Green Ext Time (p_c), s	0.1	1.7	0.3	5.6	0.2	0.9	0.0	5.7

Intersection Summary			
HCM 2010 Ctrl Delay			26.3
HCM 2010 LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	25	277	8	244	307	351	12	251	115	97	274	22
Future Volume (veh/h)	25	277	8	244	307	351	12	251	115	97	274	22
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	27	301	9	265	334	382	13	273	125	105	298	24
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	1086	32	531	714	639	382	449	206	335	693	56
Arrive On Green	0.02	0.31	0.31	0.12	0.40	0.40	0.01	0.37	0.37	0.05	0.41	0.41
Sat Flow, veh/h	1774	3509	105	1774	1770	1583	1774	1211	554	1774	1702	137
Grp Volume(v), veh/h	27	151	159	265	334	382	13	0	398	105	0	322
Grp Sat Flow(s),veh/h/ln	1774	1770	1844	1774	1770	1583	1774	0	1765	1774	0	1839
Q Serve(g_s), s	1.2	7.8	7.8	11.7	16.7	22.8	0.5	0.0	22.0	4.2	0.0	15.1
Cycle Q Clear(g_c), s	1.2	7.8	7.8	11.7	16.7	22.8	0.5	0.0	22.0	4.2	0.0	15.1
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.31	1.00		0.07
Lane Grp Cap(c), veh/h	260	547	571	531	714	639	382	0	654	335	0	749
V/C Ratio(X)	0.10	0.28	0.28	0.50	0.47	0.60	0.03	0.00	0.61	0.31	0.00	0.43
Avail Cap(c_a), veh/h	313	547	571	697	714	639	452	0	654	385	0	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	0.90	0.90	0.90	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.6	31.3	31.3	22.3	26.3	28.1	23.3	0.0	30.7	22.8	0.0	25.6
Incr Delay (d2), s/veh	0.2	1.2	1.2	0.7	2.0	3.7	0.0	0.0	4.2	0.5	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.0	4.2	5.8	8.6	10.6	0.3	0.0	11.5	2.1	0.0	8.1
LnGrp Delay(d),s/veh	27.8	32.5	32.5	22.9	28.3	31.9	23.3	0.0	34.8	23.4	0.0	27.4
LnGrp LOS	C	C	C	C	C	C	C		C	C		C
Approach Vol, veh/h		337			981			411			427	
Approach Delay, s/veh		32.1			28.2			34.5			26.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.8	41.6	10.6	49.0	7.5	52.9	6.3	53.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	25.5	22.5	9.5	44.5	6.5	41.5	6.5	47.5
Max Q Clear Time (g_c+I1), s	13.7	9.8	6.2	24.0	3.2	24.8	2.5	17.1
Green Ext Time (p_c), s	0.6	4.8	0.1	3.7	0.0	5.5	0.0	4.1

Intersection Summary			
HCM 2010 Ctrl Delay			29.7
HCM 2010 LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	23	464	2	47	837	97	12	48	19	123	50	52
Future Volume (veh/h)	23	464	2	47	837	97	12	48	19	123	50	52
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	25	504	2	51	910	105	13	52	21	134	54	57
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	2424	10	669	2178	251	163	76	31	238	109	115
Arrive On Green	0.02	0.67	0.67	0.03	0.68	0.68	0.01	0.06	0.06	0.09	0.13	0.13
Sat Flow, veh/h	1774	3615	14	1774	3198	369	1774	1263	510	1774	831	877
Grp Volume(v), veh/h	25	247	259	51	503	512	13	0	73	134	0	111
Grp Sat Flow(s),veh/h/ln	1774	1770	1860	1774	1770	1798	1774	0	1773	1774	0	1708
Q Serve(g_s), s	0.5	6.4	6.4	1.0	15.2	15.2	0.8	0.0	4.8	8.2	0.0	7.2
Cycle Q Clear(g_c), s	0.5	6.4	6.4	1.0	15.2	15.2	0.8	0.0	4.8	8.2	0.0	7.2
Prop In Lane	1.00		0.01	1.00		0.21	1.00		0.29	1.00		0.51
Lane Grp Cap(c), veh/h	408	1186	1247	669	1205	1224	163	0	107	238	0	224
V/C Ratio(X)	0.06	0.21	0.21	0.08	0.42	0.42	0.08	0.00	0.68	0.56	0.00	0.50
Avail Cap(c_a), veh/h	492	1186	1247	735	1205	1224	263	0	199	316	0	292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.6	7.6	7.6	5.6	8.5	8.5	51.7	0.0	55.3	45.8	0.0	48.5
Incr Delay (d2), s/veh	0.1	0.4	0.4	0.0	1.1	1.1	0.2	0.0	7.4	2.1	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.2	3.4	0.5	7.8	7.9	0.4	0.0	2.6	4.1	0.0	3.5
LnGrp Delay(d),s/veh	6.6	8.0	7.9	5.6	9.6	9.6	51.9	0.0	62.7	47.9	0.0	50.2
LnGrp LOS	A	A	A	A	A	A	D		E	D		D
Approach Vol, veh/h		531			1066			86			245	
Approach Delay, s/veh		7.9			9.4			61.1			48.9	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	85.0	14.7	11.7	7.3	86.2	6.3	20.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	64.5	15.5	13.5	8.5	64.5	8.5	20.5
Max Q Clear Time (g_c+I1), s	3.0	8.4	10.2	6.8	2.5	17.2	2.8	9.2
Green Ext Time (p_c), s	0.0	11.0	0.1	0.4	0.0	10.8	0.0	0.6

Intersection Summary			
HCM 2010 Ctrl Delay			16.3
HCM 2010 LOS			B

32: Bluff Street & 95th Street

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	9	595	1	16	961	23	3	2	24	23	1	16
Future Vol, veh/h	9	595	1	16	961	23	3	2	24	23	1	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	75	-	-	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	647	1	17	1045	25	3	2	26	25	1	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1070	0	0	648	0	0	1225	1771	324	1436	1759	535
Stage 1	-	-	-	-	-	-	667	667	-	1092	1092	-
Stage 2	-	-	-	-	-	-	558	1104	-	344	667	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	647	-	-	934	-	-	135	82	672	94	84	490
Stage 1	-	-	-	-	-	-	414	455	-	229	289	-
Stage 2	-	-	-	-	-	-	482	285	-	645	455	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	647	-	-	934	-	-	126	79	672	86	81	490
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	79	-	86	81	-
Stage 1	-	-	-	-	-	-	408	448	-	225	284	-
Stage 2	-	-	-	-	-	-	455	280	-	607	448	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	16.2	42.7
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	126	426	647	-	-	934	-	-	86	378
HCM Lane V/C Ratio	0.026	0.066	0.015	-	-	0.019	-	-	0.291	0.049
HCM Control Delay (s)	34.3	14.1	10.7	-	-	8.9	-	-	63.2	15
HCM Lane LOS	D	B	B	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	0.1	0.2	0	-	-	0.1	-	-	1.1	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	0	457	23	239	722	0	416	10	158	10	10	0
Future Volume (veh/h)	0	457	23	239	722	0	416	10	158	10	10	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	497	0	260	785	0	452	11	172	11	11	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	1342	621	493	1842	0	655	34	532	237	240	0
Arrive On Green	0.00	0.38	0.00	0.03	0.17	0.00	0.24	0.35	0.35	0.01	0.13	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	1774	96	1502	1774	1863	0
Grp Volume(v), veh/h	0	497	0	260	785	0	452	0	183	11	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	0	1598	1774	1863	0
Q Serve(g_s), s	0.0	12.2	0.0	10.0	23.8	0.0	25.3	0.0	10.0	0.6	0.6	0.0
Cycle Q Clear(g_c), s	0.0	12.2	0.0	10.0	23.8	0.0	25.3	0.0	10.0	0.6	0.6	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.94	1.00		0.00
Lane Grp Cap(c), veh/h	283	1342	621	493	1842	0	655	0	566	237	240	0
V/C Ratio(X)	0.00	0.37	0.00	0.53	0.43	0.00	0.69	0.00	0.32	0.05	0.05	0.00
Avail Cap(c_a), veh/h	377	1342	621	627	1842	0	861	0	566	310	240	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.74	0.74	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	26.9	0.0	20.2	33.7	0.0	30.6	0.0	28.3	44.5	45.8	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.6	0.5	0.0	1.5	0.0	1.5	0.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.1	0.0	5.0	11.8	0.0	12.6	0.0	4.7	0.3	0.3	0.0
LnGrp Delay(d),s/veh	0.0	27.7	0.0	20.8	34.2	0.0	32.2	0.0	29.8	44.6	46.2	0.0
LnGrp LOS		C		C	C		C		C	D	D	
Approach Vol, veh/h		497			1045			635			22	
Approach Delay, s/veh		27.7			30.9			31.5			45.4	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	50.0	6.0	47.0	0.0	67.0	33.1	19.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	21.5	31.5	6.5	42.5	6.5	46.5	42.5	6.5
Max Q Clear Time (g_c+I1), s	12.0	14.2	2.6	12.0	0.0	25.8	27.3	2.6
Green Ext Time (p_c), s	0.5	7.6	0.0	1.3	0.0	8.3	1.3	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	30.5
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✣	
Traffic Volume (veh/h)	0	333	303	154	984	0	0	0	0	147	0	16
Future Volume (veh/h)	0	333	303	154	984	0	0	0	0	147	0	16
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	362	329	167	1070	0				160	0	17
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1022	915	509	2374	0				403	0	43
Arrive On Green	0.00	0.58	0.58	0.06	0.67	0.00				0.25	0.00	0.25
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1585	0	168
Grp Volume(v), veh/h	0	362	329	167	1070	0				177	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1754	0	0
Q Serve(g_s), s	0.0	13.0	13.3	4.4	17.1	0.0				10.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	13.0	13.3	4.4	17.1	0.0				10.0	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.90		0.10
Lane Grp Cap(c), veh/h	0	1022	915	509	2374	0				446	0	0
V/C Ratio(X)	0.00	0.35	0.36	0.33	0.45	0.00				0.40	0.00	0.00
Avail Cap(c_a), veh/h	0	1022	915	728	2374	0				446	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	13.5	13.5	9.4	9.3	0.0				37.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	1.1	0.4	0.6	0.0				2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.6	6.0	2.1	8.5	0.0				5.2	0.0	0.0
LnGrp Delay(d),s/veh	0.0	14.4	14.6	9.7	9.9	0.0				39.8	0.0	0.0
LnGrp LOS		B	B	A	A					D		
Approach Vol, veh/h		691			1237						177	
Approach Delay, s/veh		14.5			9.9						39.8	
Approach LOS		B			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.2	73.8				85.0		35.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	21.5	54.5				80.5		30.5
Max Q Clear Time (g_c+I1), s	6.4	15.3				19.1		12.0
Green Ext Time (p_c), s	0.4	15.7				17.7		0.9

Intersection Summary			
HCM 2010 Ctrl Delay			13.9
HCM 2010 LOS			B

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	617	292	10	10	241	43	0	10	0	73	10	385
Future Volume (veh/h)	617	292	10	10	241	43	0	10	0	73	10	385
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	671	317	11	11	262	47	0	11	0	79	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	990	2657	92	672	1691	299	92	40	0	178	211	179
Arrive On Green	0.35	1.00	1.00	0.01	0.56	0.56	0.00	0.02	0.00	0.05	0.11	0.00
Sat Flow, veh/h	1774	3490	121	1774	3007	532	1774	1863	0	1774	1863	1583
Grp Volume(v), veh/h	671	160	168	11	153	156	0	11	0	79	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1841	1774	1770	1769	1774	1863	0	1774	1863	1583
Q Serve(g_s), s	21.1	0.0	0.0	0.3	5.0	5.1	0.0	0.7	0.0	5.1	0.6	0.0
Cycle Q Clear(g_c), s	21.1	0.0	0.0	0.3	5.0	5.1	0.0	0.7	0.0	5.1	0.6	0.0
Prop In Lane	1.00		0.07	1.00		0.30	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	990	1347	1402	672	995	995	92	40	0	178	211	179
V/C Ratio(X)	0.68	0.12	0.12	0.02	0.15	0.16	0.00	0.27	0.00	0.44	0.05	0.00
Avail Cap(c_a), veh/h	1390	1347	1402	745	995	995	186	396	0	178	396	336
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	4.3	0.0	0.0	10.9	12.6	12.6	0.0	57.8	0.0	51.7	47.5	0.0
Incr Delay (d2), s/veh	0.7	0.1	0.1	0.0	0.3	0.3	0.0	3.6	0.0	1.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	0.1	0.1	0.2	2.5	2.6	0.0	0.4	0.0	2.6	0.3	0.0
LnGrp Delay(d),s/veh	5.0	0.1	0.1	10.9	12.9	12.9	0.0	61.3	0.0	53.5	47.6	0.0
LnGrp LOS	A	A	A	B	B	B		E		D	D	
Approach Vol, veh/h		999			320			11			90	
Approach Delay, s/veh		3.4			12.9			61.3			52.8	
Approach LOS		A			B			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	95.9	11.0	7.1	29.9	72.0	0.0	18.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	63.5	6.5	25.5	52.5	17.5	6.5	25.5
Max Q Clear Time (g_c+I1), s	2.3	2.0	7.1	2.7	23.1	7.1	0.0	2.6
Green Ext Time (p_c), s	0.0	3.7	0.0	0.0	2.3	2.5	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	9.1
HCM 2010 LOS	A

2060: 95th Street_Agg_PM
13: S. Rock Road & 95th Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	368	208	210	46	156	39	192	567	51	38	633	338
Future Volume (veh/h)	368	208	210	46	156	39	192	567	51	38	633	338
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	400	226	228	50	170	42	209	616	55	41	688	367
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	562	1237	602	288	520	125	339	1548	693	359	1348	603
Arrive On Green	0.20	0.35	0.35	0.03	0.18	0.18	0.09	0.44	0.44	0.03	0.38	0.38
Sat Flow, veh/h	1774	3539	1583	1774	2830	682	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	400	226	228	50	105	107	209	616	55	41	688	367
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1742	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	21.0	5.3	12.5	2.7	6.2	6.4	8.2	14.2	2.4	1.7	17.9	22.4
Cycle Q Clear(g_c), s	21.0	5.3	12.5	2.7	6.2	6.4	8.2	14.2	2.4	1.7	17.9	22.4
Prop In Lane	1.00		1.00	1.00		0.39	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	562	1237	602	288	325	320	339	1548	693	359	1348	603
V/C Ratio(X)	0.71	0.18	0.38	0.17	0.32	0.34	0.62	0.40	0.08	0.11	0.51	0.61
Avail Cap(c_a), veh/h	648	1237	602	328	325	320	427	1548	693	400	1348	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	27.1	26.9	38.0	42.5	42.6	20.7	23.0	19.7	21.5	28.5	29.9
Incr Delay (d2), s/veh	3.1	0.3	1.8	0.3	2.6	2.8	1.8	0.8	0.2	0.1	1.4	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	2.7	5.8	1.3	3.3	3.3	4.2	7.1	1.1	0.8	9.0	10.6
LnGrp Delay(d),s/veh	31.6	27.5	28.7	38.3	45.1	45.4	22.6	23.8	19.9	21.6	29.9	34.5
LnGrp LOS	C	C	C	D	D	D	C	C	B	C	C	C
Approach Vol, veh/h		854			262			880			1096	
Approach Delay, s/veh		29.7			43.9			23.2			31.1	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	46.4	8.2	57.0	28.2	26.6	15.0	50.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	36.5	6.5	52.5	29.5	13.5	16.5	42.5
Max Q Clear Time (g_c+I1), s	4.7	14.5	3.7	16.2	23.0	8.4	10.2	24.4
Green Ext Time (p_c), s	0.0	3.1	0.0	11.8	0.7	1.5	0.3	8.9

Intersection Summary	
HCM 2010 Ctrl Delay	29.6
HCM 2010 LOS	C

2060: 95th Street_Agg_PM
23: S. Broadway Street & 95th Street

	↰	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	69	56	43	130	68	234	33	319	167	246	311	107
Future Volume (veh/h)	69	56	43	130	68	234	33	319	167	246	311	107
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	75	61	47	141	74	254	36	347	182	267	338	116
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	463	324	458	466	417	434	823	770	511	680	233
Arrive On Green	0.04	0.23	0.23	0.08	0.26	0.26	0.03	0.44	0.44	0.10	0.51	0.51
Sat Flow, veh/h	1774	1993	1393	1774	1770	1583	1774	1863	1583	1774	1327	455
Grp Volume(v), veh/h	75	53	55	141	74	254	36	347	182	267	0	454
Grp Sat Flow(s),veh/h/ln	1774	1770	1617	1774	1770	1583	1774	1863	1583	1774	0	1782
Q Serve(g_s), s	3.8	2.9	3.2	7.1	3.9	16.9	1.3	15.3	8.0	9.4	0.0	20.0
Cycle Q Clear(g_c), s	3.8	2.9	3.2	7.1	3.9	16.9	1.3	15.3	8.0	9.4	0.0	20.0
Prop In Lane	1.00		0.86	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	268	411	375	458	466	417	434	823	770	511	0	913
V/C Ratio(X)	0.28	0.13	0.15	0.31	0.16	0.61	0.08	0.42	0.24	0.52	0.00	0.50
Avail Cap(c_a), veh/h	314	411	375	552	466	417	494	823	770	725	0	913
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.89	0.89	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.5	36.5	36.6	30.3	34.0	38.8	17.7	23.0	17.9	15.6	0.0	19.1
Incr Delay (d2), s/veh	0.6	0.7	0.8	0.3	0.7	5.8	0.1	1.6	0.7	0.8	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.5	1.5	3.5	2.0	8.1	0.6	8.3	3.6	4.6	0.0	10.3
LnGrp Delay(d),s/veh	34.1	37.1	37.4	30.7	34.6	44.6	17.8	24.6	18.6	16.4	0.0	21.1
LnGrp LOS	C	D	D	C	C	D	B	C	B	B		C
Approach Vol, veh/h		183			469			565			721	
Approach Delay, s/veh		36.0			38.8			22.2			19.3	
Approach LOS		D			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	32.4	16.5	57.5	9.9	36.1	8.0	66.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	17.5	26.5	42.5	8.5	24.5	7.5	61.5
Max Q Clear Time (g_c+I1), s	9.1	5.2	11.4	17.3	5.8	18.9	3.3	22.0
Green Ext Time (p_c), s	0.2	1.9	0.6	5.1	0.0	1.2	0.0	5.5

Intersection Summary	
HCM 2010 Ctrl Delay	26.5
HCM 2010 LOS	C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	34	389	25	140	360	101	9	227	225	175	268	22
Future Volume (veh/h)	34	389	25	140	360	101	9	227	225	175	268	22
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	37	423	27	152	391	110	10	247	245	190	291	24
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	322	1016	65	379	945	263	454	340	338	338	787	65
Arrive On Green	0.03	0.30	0.30	0.07	0.35	0.35	0.01	0.40	0.40	0.08	0.46	0.46
Sat Flow, veh/h	1774	3379	215	1774	2737	761	1774	860	853	1774	1698	140
Grp Volume(v), veh/h	37	221	229	152	251	250	10	0	492	190	0	315
Grp Sat Flow(s),veh/h/ln	1774	1770	1825	1774	1770	1728	1774	0	1712	1774	0	1838
Q Serve(g_s), s	1.7	12.0	12.1	6.8	13.0	13.3	0.4	0.0	29.2	7.3	0.0	13.3
Cycle Q Clear(g_c), s	1.7	12.0	12.1	6.8	13.0	13.3	0.4	0.0	29.2	7.3	0.0	13.3
Prop In Lane	1.00		0.12	1.00		0.44	1.00		0.50	1.00		0.08
Lane Grp Cap(c), veh/h	322	532	548	379	611	597	454	0	678	338	0	851
V/C Ratio(X)	0.11	0.42	0.42	0.40	0.41	0.42	0.02	0.00	0.73	0.56	0.00	0.37
Avail Cap(c_a), veh/h	366	532	548	447	611	597	530	0	678	412	0	851
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	0.95	0.95	0.95	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.8	33.5	33.6	25.3	30.0	30.1	21.3	0.0	30.7	22.5	0.0	20.9
Incr Delay (d2), s/veh	0.2	2.3	2.2	0.6	1.9	2.0	0.0	0.0	6.7	1.5	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	6.2	6.4	3.4	6.7	6.6	0.2	0.0	15.1	3.7	0.0	7.0
LnGrp Delay(d),s/veh	27.9	35.8	35.8	25.9	31.9	32.1	21.3	0.0	37.4	24.0	0.0	22.1
LnGrp LOS	C	D	D	C	C	C	C		D	C		C
Approach Vol, veh/h		487			653			502			505	
Approach Delay, s/veh		35.2			30.6			37.1			22.8	
Approach LOS		D			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	40.6	14.0	52.0	8.0	45.9	5.9	60.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	26.5	14.5	47.5	6.5	33.5	6.5	55.5
Max Q Clear Time (g_c+I1), s	8.8	14.1	9.3	31.2	3.7	15.3	2.4	15.3
Green Ext Time (p_c), s	0.1	4.2	0.2	4.1	0.0	5.0	0.0	5.0

Intersection Summary			
HCM 2010 Ctrl Delay			31.3
HCM 2010 LOS			C

29: S. Hillside Street & 95th Street

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	74	692	24	24	527	141	2	37	40	177	41	71
Future Volume (veh/h)	74	692	24	24	527	141	2	37	40	177	41	71
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	80	752	26	26	573	153	2	40	43	192	45	77
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	512	2237	77	478	1732	461	152	56	61	294	113	193
Arrive On Green	0.04	0.64	0.64	0.02	0.63	0.63	0.00	0.07	0.07	0.12	0.18	0.18
Sat Flow, veh/h	1774	3490	121	1774	2766	736	1774	823	884	1774	618	1058
Grp Volume(v), veh/h	80	381	397	26	366	360	2	0	83	192	0	122
Grp Sat Flow(s),veh/h/ln	1774	1770	1841	1774	1770	1733	1774	0	1707	1774	0	1676
Q Serve(g_s), s	1.9	11.8	11.8	0.6	11.7	11.8	0.1	0.0	5.7	11.6	0.0	7.7
Cycle Q Clear(g_c), s	1.9	11.8	11.8	0.6	11.7	11.8	0.1	0.0	5.7	11.6	0.0	7.7
Prop In Lane	1.00		0.07	1.00		0.42	1.00		0.52	1.00		0.63
Lane Grp Cap(c), veh/h	512	1134	1180	478	1108	1085	152	0	117	294	0	305
V/C Ratio(X)	0.16	0.34	0.34	0.05	0.33	0.33	0.01	0.00	0.71	0.65	0.00	0.40
Avail Cap(c_a), veh/h	598	1134	1180	560	1108	1085	272	0	220	450	0	440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.7	9.9	9.9	7.9	10.6	10.6	51.8	0.0	54.7	43.2	0.0	43.3
Incr Delay (d2), s/veh	0.1	0.7	0.6	0.0	0.8	0.8	0.0	0.0	7.6	2.5	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	5.9	6.2	0.3	5.9	5.8	0.1	0.0	2.9	5.9	0.0	3.6
LnGrp Delay(d),s/veh	7.8	10.5	10.5	7.9	11.4	11.4	51.8	0.0	62.3	45.6	0.0	44.1
LnGrp LOS	A	B	B	A	B	B	D		E	D		D
Approach Vol, veh/h		858			752			85			314	
Approach Delay, s/veh		10.3			11.3			62.1			45.0	
Approach LOS		B			B			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	81.4	18.4	12.7	9.2	79.7	4.8	26.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	53.5	24.5	15.5	10.5	51.5	8.5	31.5
Max Q Clear Time (g_c+I1), s	2.6	13.8	13.6	7.7	3.9	13.8	2.1	9.7
Green Ext Time (p_c), s	0.0	10.2	0.3	0.5	0.1	10.1	0.0	0.9

Intersection Summary		
HCM 2010 Ctrl Delay		18.3
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	15	891	2	20	679	21	1	1	16	19	1	11
Future Vol, veh/h	15	891	2	20	679	21	1	1	16	19	1	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	75	-	-	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	968	2	22	738	23	1	1	17	21	1	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	761	0	0	971	0	0	1415	1806	485	1310	1796	380
Stage 1	-	-	-	-	-	-	1002	1002	-	793	793	-
Stage 2	-	-	-	-	-	-	413	804	-	517	1003	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	847	-	-	706	-	-	97	78	528	117	79	618
Stage 1	-	-	-	-	-	-	260	318	-	348	398	-
Stage 2	-	-	-	-	-	-	587	394	-	509	318	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	847	-	-	706	-	-	91	74	528	108	75	618
Mov Cap-2 Maneuver	-	-	-	-	-	-	91	74	-	108	75	-
Stage 1	-	-	-	-	-	-	255	312	-	341	386	-
Stage 2	-	-	-	-	-	-	556	382	-	481	312	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	16.4	33.9
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	91	388	847	-	-	706	-	-	108	385
HCM Lane V/C Ratio	0.012	0.048	0.019	-	-	0.031	-	-	0.191	0.034
HCM Control Delay (s)	45	14.7	9.3	-	-	10.3	-	-	46.1	14.7
HCM Lane LOS	E	B	A	-	-	B	-	-	E	B
HCM 95th %tile Q(veh)	0	0.1	0.1	-	-	0.1	-	-	0.7	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	0	729	24	82	544	0	318	10	180	10	10	0
Future Volume (veh/h)	0	729	24	82	544	0	318	10	180	10	10	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	792	0	89	591	0	346	11	196	11	11	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	453	1686	774	353	1960	0	588	27	485	260	282	0
Arrive On Green	0.00	0.48	0.00	0.08	1.00	0.00	0.18	0.32	0.32	0.01	0.15	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	1774	85	1511	1774	1863	0
Grp Volume(v), veh/h	0	792	0	89	591	0	346	0	207	11	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	0	1596	1774	1863	0
Q Serve(g_s), s	0.0	18.1	0.0	3.0	0.0	0.0	18.9	0.0	12.1	0.6	0.6	0.0
Cycle Q Clear(g_c), s	0.0	18.1	0.0	3.0	0.0	0.0	18.9	0.0	12.1	0.6	0.6	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.95	1.00		0.00
Lane Grp Cap(c), veh/h	453	1686	774	353	1960	0	588	0	512	260	282	0
V/C Ratio(X)	0.00	0.47	0.00	0.25	0.30	0.00	0.59	0.00	0.40	0.04	0.04	0.00
Avail Cap(c_a), veh/h	548	1686	774	437	1960	0	834	0	512	333	282	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.83	0.83	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	21.2	0.0	15.1	0.0	0.0	31.5	0.0	31.8	42.2	43.5	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.3	0.3	0.0	0.9	0.0	2.4	0.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.0	0.0	1.5	0.1	0.0	9.3	0.0	5.7	0.3	0.3	0.0
LnGrp Delay(d),s/veh	0.0	22.1	0.0	15.4	0.3	0.0	32.4	0.0	34.2	42.2	43.7	0.0
LnGrp LOS		C		B	A		C		C	D	D	
Approach Vol, veh/h		792			680			553			22	
Approach Delay, s/veh		22.1			2.3			33.1			43.0	
Approach LOS		C			A			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	61.7	6.0	43.0	0.0	71.0	26.4	22.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	46.5	6.5	38.5	6.5	50.5	38.5	6.5
Max Q Clear Time (g_c+I1), s	5.0	20.1	2.6	14.1	0.0	2.0	20.9	2.6
Green Ext Time (p_c), s	0.1	10.0	0.0	1.4	0.0	11.7	1.0	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	18.7
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✣	
Traffic Volume (veh/h)	0	521	403	155	707	0	0	0	0	233	0	13
Future Volume (veh/h)	0	521	403	155	707	0	0	0	0	233	0	13
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	566	438	168	768	0				253	0	14
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1063	823	370	2315	0				452	0	25
Arrive On Green	0.00	0.56	0.56	0.06	0.65	0.00				0.27	0.00	0.27
Sat Flow, veh/h	0	1995	1471	1774	3632	0				1670	0	92
Grp Volume(v), veh/h	0	527	477	168	768	0				267	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1603	1774	1770	0				1763	0	0
Q Serve(g_s), s	0.0	22.4	22.4	4.6	11.5	0.0				15.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	22.4	22.4	4.6	11.5	0.0				15.6	0.0	0.0
Prop In Lane	0.00		0.92	1.00		0.00				0.95		0.05
Lane Grp Cap(c), veh/h	0	990	897	370	2315	0				477	0	0
V/C Ratio(X)	0.00	0.53	0.53	0.45	0.33	0.00				0.56	0.00	0.00
Avail Cap(c_a), veh/h	0	990	897	542	2315	0				477	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	16.6	16.6	12.5	9.2	0.0				37.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.0	2.3	0.9	0.4	0.0				4.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.4	10.4	2.3	5.7	0.0				8.2	0.0	0.0
LnGrp Delay(d),s/veh	0.0	18.6	18.9	13.3	9.6	0.0				42.3	0.0	0.0
LnGrp LOS		B	B	B	A					D		
Approach Vol, veh/h		1004			936						267	
Approach Delay, s/veh		18.7			10.2						42.3	
Approach LOS		B			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.4	71.6				83.0		37.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	18.5	55.5				78.5		32.5
Max Q Clear Time (g_c+I1), s	16.6	24.4				13.5		17.6
Green Ext Time (p_c), s	0.3	14.2				17.7		1.3

Intersection Summary	
HCM 2010 Ctrl Delay	18.0
HCM 2010 LOS	B

9: S. Woodlawn Blvd. & 95th Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	213	139	10	10	303	57	0	10	10	61	10	528
Future Volume (veh/h)	213	139	10	10	303	57	0	10	10	61	10	528
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	232	151	11	11	329	62	0	11	11	66	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	834	2555	185	966	2159	402	100	24	24	163	207	176
Arrive On Green	0.02	0.25	0.25	0.01	0.72	0.72	0.00	0.03	0.03	0.05	0.11	0.00
Sat Flow, veh/h	1774	3348	242	1774	2979	555	1774	856	856	1774	1863	1583
Grp Volume(v), veh/h	232	79	83	11	194	197	0	0	22	66	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1820	1774	1770	1765	1774	0	1712	1774	1863	1583
Q Serve(g_s), s	3.5	4.1	4.1	0.2	4.1	4.2	0.0	0.0	1.5	4.2	0.6	0.0
Cycle Q Clear(g_c), s	3.5	4.1	4.1	0.2	4.1	4.2	0.0	0.0	1.5	4.2	0.6	0.0
Prop In Lane	1.00		0.13	1.00		0.31	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	834	1351	1389	966	1282	1279	100	0	48	163	207	176
V/C Ratio(X)	0.28	0.06	0.06	0.01	0.15	0.15	0.00	0.00	0.46	0.41	0.05	0.00
Avail Cap(c_a), veh/h	1474	1351	1389	1039	1282	1279	195	0	364	177	396	336
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	3.3	12.1	12.2	4.2	5.1	5.1	0.0	0.0	57.4	51.6	47.7	0.0
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.0	0.2	0.3	0.0	0.0	6.8	1.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.0	2.1	0.1	2.1	2.1	0.0	0.0	0.8	2.1	0.3	0.0
LnGrp Delay(d),s/veh	3.4	12.2	12.3	4.2	5.4	5.4	0.0	0.0	64.3	53.2	47.8	0.0
LnGrp LOS	A	B	B	A	A	A			E	D	D	
Approach Vol, veh/h		394			402			22			77	
Approach Delay, s/veh		7.1			5.3			64.3			52.4	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	96.1	10.0	7.8	10.7	91.5	0.0	17.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	63.5	6.5	25.5	49.5	20.5	6.5	25.5
Max Q Clear Time (g_c+I1), s	2.2	6.1	6.2	3.5	5.5	6.2	0.0	2.6
Green Ext Time (p_c), s	0.0	3.2	0.0	0.1	0.7	2.5	0.0	0.1

Intersection Summary	
HCM 2010 Ctrl Delay	11.6
HCM 2010 LOS	B

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	286	82	197	24	142	48	159	765	24	43	696	244
Future Volume (veh/h)	286	82	197	24	142	48	159	765	24	43	696	244
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	311	89	214	26	154	52	173	832	26	47	757	265
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	389	841	376	278	386	126	384	1787	800	372	1673	749
Arrive On Green	0.11	0.24	0.24	0.02	0.15	0.15	0.07	0.51	0.51	0.04	0.47	0.47
Sat Flow, veh/h	1774	3539	1583	1774	2625	856	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	311	89	214	26	102	104	173	832	26	47	757	265
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1712	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	10.5	1.8	11.0	1.1	4.8	5.1	4.5	14.0	0.8	1.2	13.2	9.7
Cycle Q Clear(g_c), s	10.5	1.8	11.0	1.1	4.8	5.1	4.5	14.0	0.8	1.2	13.2	9.7
Prop In Lane	1.00		1.00	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	389	841	376	278	260	252	384	1787	800	372	1673	749
V/C Ratio(X)	0.80	0.11	0.57	0.09	0.39	0.41	0.45	0.47	0.03	0.13	0.45	0.35
Avail Cap(c_a), veh/h	389	841	376	361	260	252	404	1787	800	430	1673	749
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.0	27.4	30.9	32.1	35.5	35.6	11.9	14.7	11.5	12.0	16.3	15.4
Incr Delay (d2), s/veh	11.3	0.3	6.1	0.1	4.4	4.9	0.8	0.9	0.1	0.2	0.9	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.9	5.4	0.6	2.7	2.7	2.2	7.0	0.3	0.6	6.6	4.5
LnGrp Delay(d),s/veh	42.3	27.7	37.0	32.2	39.9	40.5	12.7	15.6	11.5	12.2	17.1	16.7
LnGrp LOS	D	C	D	C	D	D	B	B	B	B	B	B
Approach Vol, veh/h		614			232			1031			1069	
Approach Delay, s/veh		38.4			39.3			15.0			16.8	
Approach LOS		D			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	26.4	8.0	51.0	15.0	18.0	11.0	48.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	15.5	6.5	45.5	10.5	10.5	7.5	43.5
Max Q Clear Time (g_c+I1), s	13.1	13.0	3.2	16.0	12.5	7.1	6.5	15.2
Green Ext Time (p_c), s	0.0	0.6	0.0	13.1	0.0	0.8	0.0	12.9

Intersection Summary	
HCM 2010 Ctrl Delay	22.4
HCM 2010 LOS	C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	18	15	5	81	8	237	13	241	48	145	331	19
Future Volume (veh/h)	18	15	5	81	8	237	13	241	48	145	331	19
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	20	16	5	88	9	258	14	262	52	158	360	21
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	780	232	542	563	504	451	833	740	552	864	50
Arrive On Green	0.02	0.29	0.29	0.05	0.32	0.32	0.02	0.45	0.45	0.06	0.50	0.50
Sat Flow, veh/h	1774	2690	801	1774	1770	1583	1774	1863	1583	1774	1743	102
Grp Volume(v), veh/h	20	10	11	88	9	258	14	262	52	158	0	381
Grp Sat Flow(s),veh/h/ln	1774	1770	1721	1774	1770	1583	1774	1863	1583	1774	0	1845
Q Serve(g_s), s	0.9	0.5	0.5	4.1	0.4	15.9	0.5	10.9	2.2	5.5	0.0	15.7
Cycle Q Clear(g_c), s	0.9	0.5	0.5	4.1	0.4	15.9	0.5	10.9	2.2	5.5	0.0	15.7
Prop In Lane	1.00		0.47	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	302	513	499	542	563	504	451	833	740	552	0	915
V/C Ratio(X)	0.07	0.02	0.02	0.16	0.02	0.51	0.03	0.31	0.07	0.29	0.00	0.42
Avail Cap(c_a), veh/h	495	513	499	655	563	504	535	833	740	668	0	915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.5	30.4	30.5	27.0	28.0	33.3	17.9	21.3	17.6	15.5	0.0	19.2
Incr Delay (d2), s/veh	0.1	0.1	0.1	0.1	0.0	2.9	0.0	1.0	0.2	0.3	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.3	0.3	2.0	0.2	7.4	0.3	5.8	1.0	2.7	0.0	8.3
LnGrp Delay(d),s/veh	29.6	30.5	30.5	27.1	28.1	36.2	17.9	22.3	17.8	15.8	0.0	20.6
LnGrp LOS	C	C	C	C	C	D	B	C	B	B		C
Approach Vol, veh/h		41			355			328			539	
Approach Delay, s/veh		30.1			33.8			21.4			19.2	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	39.3	12.2	58.1	6.9	42.7	6.4	64.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	13.5	21.5	15.5	51.5	15.5	19.5	7.5	59.5
Max Q Clear Time (g_c+I1), s	6.1	2.5	7.5	12.9	2.9	17.9	2.5	17.7
Green Ext Time (p_c), s	0.1	1.5	0.2	3.7	0.0	0.2	0.0	3.7

Intersection Summary			
HCM 2010 Ctrl Delay			24.2
HCM 2010 LOS			C

26: S. Hydraulic Street & 95th Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	18	207	5	219	320	488	7	219	85	63	193	10
Future Volume (veh/h)	18	207	5	219	320	488	7	219	85	63	193	10
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	20	225	5	238	348	530	8	238	92	68	210	11
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	1193	26	580	746	667	443	475	184	364	699	37
Arrive On Green	0.02	0.34	0.34	0.10	0.42	0.42	0.01	0.37	0.37	0.04	0.40	0.40
Sat Flow, veh/h	1774	3540	78	1774	1770	1583	1774	1280	495	1774	1755	92
Grp Volume(v), veh/h	20	112	118	238	348	530	8	0	330	68	0	221
Grp Sat Flow(s),veh/h/ln	1774	1770	1849	1774	1770	1583	1774	0	1775	1774	0	1847
Q Serve(g_s), s	0.9	5.4	5.4	10.1	17.0	34.9	0.3	0.0	17.2	2.8	0.0	9.8
Cycle Q Clear(g_c), s	0.9	5.4	5.4	10.1	17.0	34.9	0.3	0.0	17.2	2.8	0.0	9.8
Prop In Lane	1.00		0.04	1.00		1.00	1.00		0.28	1.00		0.05
Lane Grp Cap(c), veh/h	178	596	623	580	746	667	443	0	658	364	0	736
V/C Ratio(X)	0.11	0.19	0.19	0.41	0.47	0.79	0.02	0.00	0.50	0.19	0.00	0.30
Avail Cap(c_a), veh/h	238	596	623	771	746	667	522	0	658	438	0	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	0.89	0.89	0.89	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.7	28.2	28.2	20.6	25.0	30.2	23.3	0.0	29.2	22.8	0.0	24.7
Incr Delay (d2), s/veh	0.3	0.7	0.7	0.4	1.9	8.5	0.0	0.0	2.7	0.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.7	2.9	5.0	8.7	16.7	0.2	0.0	8.9	1.4	0.0	5.2
LnGrp Delay(d),s/veh	28.0	28.9	28.8	21.0	26.9	38.6	23.3	0.0	31.9	23.1	0.0	25.7
LnGrp LOS	C	C	C	C	C	D	C		C	C		C
Approach Vol, veh/h		250			1116			338			289	
Approach Delay, s/veh		28.8			31.2			31.7			25.1	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.1	44.9	9.0	49.0	6.9	55.1	5.7	52.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	25.5	22.5	9.5	44.5	6.5	41.5	6.5	47.5
Max Q Clear Time (g_c+I1), s	12.1	7.4	4.8	19.2	2.9	36.9	2.3	11.8
Green Ext Time (p_c), s	0.5	5.9	0.0	2.9	0.0	2.6	0.0	3.0

Intersection Summary			
HCM 2010 Ctrl Delay			30.1
HCM 2010 LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	2	351	1	47	983	136	8	38	13	71	40	35
Future Volume (veh/h)	2	351	1	47	983	136	8	38	13	71	40	35
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	2	382	1	51	1068	148	9	41	14	77	43	38
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	2585	7	798	2328	322	140	65	22	179	83	74
Arrive On Green	0.00	0.71	0.71	0.03	0.75	0.75	0.01	0.05	0.05	0.05	0.09	0.09
Sat Flow, veh/h	1774	3621	9	1774	3124	432	1774	1329	454	1774	913	807
Grp Volume(v), veh/h	2	187	196	51	604	612	9	0	55	77	0	81
Grp Sat Flow(s),veh/h/ln	1774	1770	1861	1774	1770	1786	1774	0	1783	1774	0	1720
Q Serve(g_s), s	0.0	4.0	4.0	0.9	15.8	15.9	0.6	0.0	3.6	4.8	0.0	5.4
Cycle Q Clear(g_c), s	0.0	4.0	4.0	0.9	15.8	15.9	0.6	0.0	3.6	4.8	0.0	5.4
Prop In Lane	1.00		0.01	1.00		0.24	1.00		0.25	1.00		0.47
Lane Grp Cap(c), veh/h	345	1263	1329	798	1319	1331	140	0	87	179	0	157
V/C Ratio(X)	0.01	0.15	0.15	0.06	0.46	0.46	0.06	0.00	0.63	0.43	0.00	0.52
Avail Cap(c_a), veh/h	466	1263	1329	863	1319	1331	246	0	201	314	0	294
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.4	5.5	5.5	3.7	5.9	5.9	53.3	0.0	56.0	48.9	0.0	52.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	1.1	1.1	0.2	0.0	7.2	1.6	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	2.2	0.4	8.0	8.2	0.3	0.0	2.0	2.4	0.0	2.7
LnGrp Delay(d),s/veh	5.4	5.7	5.7	3.8	7.1	7.1	53.5	0.0	63.2	50.5	0.0	54.6
LnGrp LOS	A	A	A	A	A	A	D		E	D		D
Approach Vol, veh/h		385			1267			64			158	
Approach Delay, s/veh		5.7			6.9			61.8			52.6	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.6	90.2	10.9	10.4	4.8	93.9	5.8	15.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	64.5	15.5	13.5	8.5	64.5	8.5	20.5
Max Q Clear Time (g_c+I1), s	2.9	6.0	6.8	5.6	2.0	17.9	2.6	7.4
Green Ext Time (p_c), s	0.0	12.5	0.1	0.3	0.0	12.2	0.0	0.4

Intersection Summary		
HCM 2010 Ctrl Delay		12.4
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	2	433	0	15	1162	7	17	1	19	3	0	2
Future Vol, veh/h	2	433	0	15	1162	7	17	1	19	3	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	75	-	-	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	471	0	16	1263	8	18	1	21	3	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1271	0	0	471	0	0	1139	1778	235	1539	1774	635
Stage 1	-	-	-	-	-	-	475	475	-	1299	1299	-
Stage 2	-	-	-	-	-	-	664	1303	-	240	475	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	542	-	-	1087	-	-	156	82	767	79	82	421
Stage 1	-	-	-	-	-	-	539	556	-	171	230	-
Stage 2	-	-	-	-	-	-	416	229	-	742	556	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	542	-	-	1087	-	-	153	80	767	75	80	421
Mov Cap-2 Maneuver	-	-	-	-	-	-	153	80	-	75	80	-
Stage 1	-	-	-	-	-	-	537	554	-	170	227	-
Stage 2	-	-	-	-	-	-	408	226	-	718	554	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	21.1	38.6
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	153	537	542	-	-	1087	-	-	75	421
HCM Lane V/C Ratio	0.121	0.04	0.004	-	-	0.015	-	-	0.043	0.005
HCM Control Delay (s)	31.7	12	11.7	-	-	8.4	-	-	55.2	13.6
HCM Lane LOS	D	B	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.4	0.1	0	-	-	0	-	-	0.1	0

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	10	244	19	204	617	10	680	10	108	10	10	0
Future Volume (veh/h)	10	244	19	204	617	10	680	10	108	10	10	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	265	0	222	671	11	739	11	117	11	11	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	341	1208	561	558	1528	25	756	55	580	151	101	0
Arrive On Green	0.01	0.34	0.00	0.20	0.86	0.86	0.35	0.40	0.40	0.01	0.05	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3564	58	1774	138	1466	1774	1863	0
Grp Volume(v), veh/h	11	265	0	222	333	349	739	0	128	11	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1852	1774	0	1604	1774	1863	0
Q Serve(g_s), s	0.5	6.4	0.0	9.6	5.2	5.2	42.5	0.0	6.3	0.7	0.7	0.0
Cycle Q Clear(g_c), s	0.5	6.4	0.0	9.6	5.2	5.2	42.5	0.0	6.3	0.7	0.7	0.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.91	1.00		0.00
Lane Grp Cap(c), veh/h	341	1208	561	558	759	794	756	0	634	151	101	0
V/C Ratio(X)	0.03	0.22	0.00	0.40	0.44	0.44	0.98	0.00	0.20	0.07	0.11	0.00
Avail Cap(c_a), veh/h	414	1208	561	697	759	794	756	0	634	224	101	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.81	0.81	0.81	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.2	28.1	0.0	18.3	5.2	5.2	34.4	0.0	23.8	52.6	54.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.4	1.5	1.4	27.1	0.0	0.7	0.2	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.2	0.0	4.7	2.7	2.8	9.3	0.0	2.9	0.4	0.4	0.0
LnGrp Delay(d),s/veh	25.2	28.6	0.0	18.7	6.7	6.7	61.5	0.0	24.5	52.8	56.2	0.0
LnGrp LOS	C	C		B	A	A	E		C	D	E	
Approach Vol, veh/h		276			904			867			22	
Approach Delay, s/veh		28.4			9.6			56.1			54.5	
Approach LOS		C			A			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.5	45.5	6.0	52.0	6.0	56.0	47.0	11.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	21.5	31.5	6.5	42.5	6.5	46.5	42.5	6.5				
Max Q Clear Time (g_c+I1), s	11.6	8.4	2.7	8.3	2.5	7.2	44.5	2.7				
Green Ext Time (p_c), s	0.4	5.6	0.0	0.9	0.0	6.1	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.1									
HCM 2010 LOS			C									

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✥	
Traffic Volume (veh/h)	0	199	252	128	1169	0	0	0	0	74	0	15
Future Volume (veh/h)	0	199	252	128	1169	0	0	0	0	74	0	15
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	216	274	139	1271	0				80	0	16
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1035	926	595	2374	0				368	0	74
Arrive On Green	0.00	0.59	0.59	0.05	0.67	0.00				0.25	0.00	0.25
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1449	0	290
Grp Volume(v), veh/h	0	216	274	139	1271	0				96	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1739	0	0
Q Serve(g_s), s	0.0	6.9	10.4	3.6	22.1	0.0				5.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.9	10.4	3.6	22.1	0.0				5.2	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.83		0.17
Lane Grp Cap(c), veh/h	0	1035	926	595	2374	0				442	0	0
V/C Ratio(X)	0.00	0.21	0.30	0.23	0.54	0.00				0.22	0.00	0.00
Avail Cap(c_a), veh/h	0	1035	926	828	2374	0				442	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	11.8	12.5	8.7	10.1	0.0				35.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.8	0.2	0.9	0.0				1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.5	4.8	1.7	11.1	0.0				2.6	0.0	0.0
LnGrp Delay(d),s/veh	0.0	12.2	13.3	8.9	11.0	0.0				36.5	0.0	0.0
LnGrp LOS		B	B	A	B					D		
Approach Vol, veh/h		490			1410						96	
Approach Delay, s/veh		12.8			10.8						36.5	
Approach LOS		B			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.3	74.7				85.0		35.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	21.5	54.5				80.5		30.5
Max Q Clear Time (g_c+I1), s	5.6	12.4				24.1		7.2
Green Ext Time (p_c), s	0.3	16.7				18.2		0.5

Intersection Summary		
HCM 2010 Ctrl Delay		12.5
HCM 2010 LOS		B

1: KTA SB Ramp & 95th Street

HCM 2010 methodology does not support clustered intersections.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	404	189	3	0	313	52	0	10	0	54	10	640
Future Volume (veh/h)	404	189	3	0	313	52	0	10	0	54	10	640
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	439	205	3	0	340	57	0	11	0	59	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	911	3086	45	923	2240	372	60	113	0	137	113	37
Arrive On Green	0.15	1.00	1.00	0.00	0.74	0.74	0.00	0.06	0.00	0.06	0.06	0.00
Sat Flow, veh/h	1774	3571	52	1774	3039	504	1398	1863	0	1398	1863	1583
Grp Volume(v), veh/h	439	101	107	0	197	200	0	11	0	59	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1854	1774	1770	1774	1398	1863	0	1398	1863	1583
Q Serve(g_s), s	7.4	0.0	0.0	0.0	3.9	4.0	0.0	0.7	0.0	5.0	0.7	4.5
Cycle Q Clear(g_c), s	7.4	0.0	0.0	0.0	3.9	4.0	0.0	0.7	0.0	5.7	0.7	4.5
Prop In Lane	1.00		0.03	1.00		0.28	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	911	1529	1602	923	1304	1307	60	113	0	137	113	37
V/C Ratio(X)	0.48	0.07	0.07	0.00	0.15	0.15	0.00	0.10	0.00	0.43	0.10	0.00
Avail Cap(c_a), veh/h	1365	1529	1602	1018	1304	1307	272	396	0	349	396	277
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	2.2	0.0	0.0	0.0	4.7	4.7	0.0	53.2	0.0	55.9	53.2	0.0
Incr Delay (d2), s/veh	0.4	0.1	0.1	0.0	0.2	0.2	0.0	0.4	0.0	2.1	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.0	0.0	2.0	2.0	0.0	0.4	0.0	2.0	0.4	0.0
LnGrp Delay(d),s/veh	2.5	0.1	0.1	0.0	4.9	4.9	0.0	53.6	0.0	58.0	53.6	0.0
LnGrp LOS	A	A	A		A	A		D		E	D	
Approach Vol, veh/h		647			397			11			70	
Approach Delay, s/veh		1.7			4.9			53.6			57.3	
Approach LOS		A			A			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	0.0	108.2		11.8	15.2	93.0		11.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.5	74.5		25.5	41.5	39.5		25.5
Max Q Clear Time (g_c+I1), s	0.0	2.0		2.7	9.4	6.0		7.7
Green Ext Time (p_c), s	0.0	3.5		0.2	1.3	3.4		0.2

Intersection Summary			
HCM 2010 Ctrl Delay			6.8
HCM 2010 LOS			A

12: KTA NB Ramp & 95th Street

HCM 2010 methodology does not support clustered intersections.

2060: 95th Street+KTA Agg_AM
13: S. Rock Road & 95th Street

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	355	152	213	63	244	45	206	721	50	41	669	339
Future Volume (veh/h)	355	152	213	63	244	45	206	721	50	41	669	339
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	386	165	232	68	265	49	224	784	54	45	727	368
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	629	1615	722	455	998	182	282	1146	513	203	870	389
Arrive On Green	0.16	0.46	0.46	0.04	0.33	0.33	0.11	0.32	0.32	0.03	0.25	0.25
Sat Flow, veh/h	1774	3539	1583	1774	2991	545	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	386	165	232	68	155	159	224	784	54	45	727	368
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1767	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	16.3	3.2	11.2	3.0	7.7	7.9	10.9	23.1	2.9	2.3	23.4	27.4
Cycle Q Clear(g_c), s	16.3	3.2	11.2	3.0	7.7	7.9	10.9	23.1	2.9	2.3	23.4	27.4
Prop In Lane	1.00		1.00	1.00		0.31	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	629	1615	722	455	591	590	282	1146	513	203	870	389
V/C Ratio(X)	0.61	0.10	0.32	0.15	0.26	0.27	0.79	0.68	0.11	0.22	0.84	0.95
Avail Cap(c_a), veh/h	780	1615	722	529	591	590	404	1224	548	286	870	389
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.0	18.6	20.8	24.7	29.2	29.3	30.8	35.3	28.4	32.9	43.0	44.5
Incr Delay (d2), s/veh	1.0	0.1	1.2	0.2	1.1	1.1	6.9	1.5	0.1	0.5	7.1	32.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	1.6	5.1	1.5	3.9	4.0	5.8	11.6	1.3	1.1	12.3	15.5
LnGrp Delay(d),s/veh	20.0	18.7	22.0	24.8	30.3	30.4	37.7	36.7	28.5	33.5	50.1	76.4
LnGrp LOS	B	B	C	C	C	C	D	D	C	C	D	E
Approach Vol, veh/h		783			382			1062			1140	
Approach Delay, s/veh		20.3			29.4			36.5			57.9	
Approach LOS		C			C			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	59.2	8.4	43.3	23.7	44.5	17.7	34.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	41.5	9.5	41.5	29.5	21.5	21.5	29.5
Max Q Clear Time (g_c+I1), s	5.0	13.2	4.3	25.1	18.3	9.9	12.9	29.4
Green Ext Time (p_c), s	0.0	3.5	0.0	9.6	0.9	2.7	0.4	0.1

Intersection Summary			
HCM 2010 Ctrl Delay			39.2
HCM 2010 LOS			D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	78	214	29	190	73	143	13	308	323	257	260	42
Future Volume (veh/h)	78	214	29	190	73	143	13	308	323	257	260	42
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	85	233	32	207	79	155	14	335	351	279	283	46
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	541	1160	157	573	736	659	335	481	409	366	586	95
Arrive On Green	0.04	0.37	0.37	0.09	0.42	0.42	0.02	0.26	0.26	0.13	0.37	0.37
Sat Flow, veh/h	1774	3132	425	1774	1770	1583	1774	1863	1583	1774	1564	254
Grp Volume(v), veh/h	85	130	135	207	79	155	14	335	351	279	0	329
Grp Sat Flow(s),veh/h/ln	1774	1770	1788	1774	1770	1583	1774	1863	1583	1774	0	1818
Q Serve(g_s), s	3.5	6.0	6.2	8.3	3.3	7.6	0.7	19.5	25.4	13.3	0.0	16.6
Cycle Q Clear(g_c), s	3.5	6.0	6.2	8.3	3.3	7.6	0.7	19.5	25.4	13.3	0.0	16.6
Prop In Lane	1.00		0.24	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	541	656	662	573	736	659	335	481	409	366	0	681
V/C Ratio(X)	0.16	0.20	0.20	0.36	0.11	0.24	0.04	0.70	0.86	0.76	0.00	0.48
Avail Cap(c_a), veh/h	618	656	662	776	736	659	418	598	508	509	0	856
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.6	25.7	25.7	18.9	21.4	22.7	31.9	40.3	42.4	28.1	0.0	28.7
Incr Delay (d2), s/veh	0.1	0.7	0.7	0.4	0.3	0.8	0.1	2.6	11.7	4.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	3.1	3.2	4.1	1.7	3.5	0.3	10.4	12.4	6.9	0.0	8.4
LnGrp Delay(d),s/veh	21.8	26.4	26.4	19.3	21.7	23.5	32.0	42.9	54.1	32.5	0.0	29.2
LnGrp LOS	C	C	C	B	C	C	C	D	D	C		C
Approach Vol, veh/h		350			441			700			608	
Approach Delay, s/veh		25.3			21.2			48.3			30.7	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.2	49.0	20.3	35.5	9.8	54.4	6.4	49.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	24.5	13.5	25.5	38.5	10.5	27.5	7.5	56.5
Max Q Clear Time (g_c+I1), s	10.3	8.2	15.3	27.4	5.5	9.6	2.7	18.6
Green Ext Time (p_c), s	0.4	1.3	0.5	3.6	0.1	2.5	0.0	5.1

Intersection Summary			
HCM 2010 Ctrl Delay			33.7
HCM 2010 LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	152	517	117	60	869	153	83	150	40	61	140	219
Future Volume (veh/h)	152	517	117	60	869	153	83	150	40	61	140	219
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	165	562	127	65	945	166	90	163	43	66	152	238
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	342	1661	374	456	1680	295	263	274	72	238	335	285
Arrive On Green	0.04	0.39	0.39	0.04	0.56	0.56	0.05	0.19	0.19	0.04	0.18	0.18
Sat Flow, veh/h	1774	2871	647	1774	3011	529	1774	1422	375	1774	1863	1583
Grp Volume(v), veh/h	165	346	343	65	555	556	90	0	206	66	152	238
Grp Sat Flow(s),veh/h/ln	1774	1770	1749	1774	1770	1769	1774	0	1797	1774	1863	1583
Q Serve(g_s), s	4.7	16.5	16.6	1.8	24.3	24.3	4.9	0.0	12.5	3.6	8.7	17.4
Cycle Q Clear(g_c), s	4.7	16.5	16.6	1.8	24.3	24.3	4.9	0.0	12.5	3.6	8.7	17.4
Prop In Lane	1.00		0.37	1.00		0.30	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	342	1024	1012	456	987	987	263	0	347	238	335	285
V/C Ratio(X)	0.48	0.34	0.34	0.14	0.56	0.56	0.34	0.00	0.59	0.28	0.45	0.84
Avail Cap(c_a), veh/h	469	1024	1012	486	987	987	277	0	502	274	520	442
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.86	0.86	0.86	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.7	20.5	20.6	11.1	17.1	17.1	37.4	0.0	44.1	38.3	43.9	47.5
Incr Delay (d2), s/veh	0.9	0.8	0.8	0.1	2.0	2.0	0.8	0.0	1.6	0.6	1.0	8.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	8.3	8.3	0.9	12.3	12.3	2.5	0.0	6.4	1.8	4.6	8.3
LnGrp Delay(d),s/veh	14.7	21.3	21.4	11.3	19.1	19.1	38.1	0.0	45.8	38.9	44.9	55.5
LnGrp LOS	B	C	C	B	B	B	D		D	D	D	E
Approach Vol, veh/h		854			1176			296			456	
Approach Delay, s/veh		20.1			18.7			43.5			49.6	
Approach LOS		C			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	73.9	9.5	27.7	11.4	71.4	11.1	26.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	54.5	7.5	33.5	15.5	45.5	7.5	33.5
Max Q Clear Time (g_c+I1), s	3.8	18.6	5.6	14.5	6.7	26.3	6.9	19.4
Green Ext Time (p_c), s	0.0	14.5	0.0	2.4	0.3	10.7	0.0	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	26.8
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	61	551	6	36	941	118	24	39	16	106	47	98
Future Volume (veh/h)	61	551	6	36	941	118	24	39	16	106	47	98
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	66	599	7	39	1023	128	26	42	17	115	51	107
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	2432	28	612	2128	266	132	84	34	238	63	132
Arrive On Green	0.04	0.68	0.68	0.03	0.67	0.67	0.02	0.07	0.07	0.07	0.12	0.12
Sat Flow, veh/h	1774	3583	42	1774	3167	396	1774	1262	511	1774	537	1127
Grp Volume(v), veh/h	66	296	310	39	571	580	26	0	59	115	0	158
Grp Sat Flow(s),veh/h/ln	1774	1770	1855	1774	1770	1793	1774	0	1773	1774	0	1664
Q Serve(g_s), s	1.3	7.7	7.7	0.8	18.8	18.8	1.6	0.0	3.9	7.0	0.0	11.1
Cycle Q Clear(g_c), s	1.3	7.7	7.7	0.8	18.8	18.8	1.6	0.0	3.9	7.0	0.0	11.1
Prop In Lane	1.00		0.02	1.00		0.22	1.00		0.29	1.00		0.68
Lane Grp Cap(c), veh/h	376	1201	1259	612	1189	1205	132	0	118	238	0	194
V/C Ratio(X)	0.18	0.25	0.25	0.06	0.48	0.48	0.20	0.00	0.50	0.48	0.00	0.81
Avail Cap(c_a), veh/h	481	1201	1259	669	1189	1205	186	0	288	350	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.0	7.4	7.4	5.6	9.5	9.5	50.5	0.0	54.1	45.7	0.0	51.7
Incr Delay (d2), s/veh	0.2	0.5	0.4	0.0	1.4	1.4	0.7	0.0	3.3	1.5	0.0	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.9	4.1	0.4	9.5	9.6	0.8	0.0	2.0	3.5	0.0	5.6
LnGrp Delay(d),s/veh	7.2	7.9	7.9	5.7	10.9	10.9	51.2	0.0	57.4	47.2	0.0	59.7
LnGrp LOS	A	A	A	A	B	B	D		E	D		E
Approach Vol, veh/h		672			1190			85			273	
Approach Delay, s/veh		7.8			10.7			55.5			54.4	
Approach LOS		A			B			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	85.9	13.4	12.5	8.9	85.1	7.4	18.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	58.5	16.5	19.5	11.5	54.5	6.5	29.5
Max Q Clear Time (g_c+I1), s	2.8	9.7	9.0	5.9	3.3	20.8	3.6	13.1
Green Ext Time (p_c), s	0.0	13.8	0.1	0.8	0.1	12.6	0.0	0.9

Intersection Summary			
HCM 2010 Ctrl Delay			16.9
HCM 2010 LOS			B

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	14	639	2	12	1072	20	4	2	21	20	1	20
Future Vol, veh/h	14	639	2	12	1072	20	4	2	21	20	1	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	75	-	-	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	15	695	2	13	1165	22	4	2	23	22	1	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1187	0	0	697	0	0	1335	1939	348	1581	1929	593
Stage 1	-	-	-	-	-	-	726	726	-	1202	1202	-
Stage 2	-	-	-	-	-	-	609	1213	-	379	727	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	584	-	-	895	-	-	112	65	648	73	66	449
Stage 1	-	-	-	-	-	-	382	428	-	196	256	-
Stage 2	-	-	-	-	-	-	449	253	-	615	427	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	584	-	-	895	-	-	102	62	648	66	63	449
Mov Cap-2 Maneuver	-	-	-	-	-	-	102	62	-	66	63	-
Stage 1	-	-	-	-	-	-	372	417	-	191	252	-
Stage 2	-	-	-	-	-	-	419	249	-	575	416	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	19.8	49.4
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	102	356	584	-	-	895	-	-	66	348
HCM Lane V/C Ratio	0.043	0.07	0.026	-	-	0.015	-	-	0.329	0.066
HCM Control Delay (s)	41.9	15.9	11.3	-	-	9.1	-	-	84.3	16.1
HCM Lane LOS	E	C	B	-	-	A	-	-	F	C
HCM 95th %tile Q(veh)	0.1	0.2	0.1	-	-	0	-	-	1.2	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	0	437	13	251	702	0	533	10	156	3	10	0
Future Volume (veh/h)	0	437	13	251	702	0	533	10	156	3	10	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	475	0	273	763	0	579	11	170	3	11	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	1286	575	512	1836	0	690	35	547	117	77	0
Arrive On Green	0.00	0.36	0.00	0.24	1.00	0.00	0.33	0.36	0.36	0.00	0.04	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	1774	97	1501	1774	1863	0
Grp Volume(v), veh/h	0	475	0	273	763	0	579	0	181	3	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	0	1598	1774	1863	0
Q Serve(g_s), s	0.0	11.8	0.0	11.6	0.0	0.0	35.7	0.0	9.7	0.2	0.7	0.0
Cycle Q Clear(g_c), s	0.0	11.8	0.0	11.6	0.0	0.0	35.7	0.0	9.7	0.2	0.7	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.94	1.00		0.00
Lane Grp Cap(c), veh/h	316	1286	575	512	1836	0	690	0	583	117	77	0
V/C Ratio(X)	0.00	0.37	0.00	0.53	0.42	0.00	0.84	0.00	0.31	0.03	0.14	0.00
Avail Cap(c_a), veh/h	411	1286	575	664	1836	0	812	0	646	206	116	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.75	0.75	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	28.1	0.0	16.5	0.0	0.0	33.7	0.0	27.3	54.7	55.4	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.7	0.5	0.0	6.8	0.0	0.3	0.1	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.0	0.0	5.7	0.1	0.0	18.7	0.0	4.3	0.1	0.4	0.0
LnGrp Delay(d),s/veh	0.0	28.9	0.0	17.2	0.5	0.0	40.5	0.0	27.6	54.8	56.3	0.0
LnGrp LOS		C		B	A		D		C	D	E	
Approach Vol, veh/h		475			1036			760			14	
Approach Delay, s/veh		28.9			4.9			37.4			56.0	
Approach LOS		C			A			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.7	48.1	5.0	48.3	0.0	66.8	43.7	9.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	24.5	22.5	6.5	48.5	6.5	40.5	47.5	7.5
Max Q Clear Time (g_c+I1), s	13.6	13.8	2.2	11.7	0.0	2.0	37.7	2.7
Green Ext Time (p_c), s	0.6	4.7	0.0	1.3	0.0	9.6	1.5	0.4

Intersection Summary			
HCM 2010 Ctrl Delay			21.0
HCM 2010 LOS			C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✣	
Traffic Volume (veh/h)	0	323	351	144	1091	0	0	0	0	127	0	13
Future Volume (veh/h)	0	323	351	144	1091	0	0	0	0	127	0	13
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	351	382	157	1186	0				138	0	14
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1309	1171	607	2897	0				170	0	17
Arrive On Green	0.00	0.74	0.74	0.04	0.82	0.00				0.11	0.00	0.11
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1593	0	162
Grp Volume(v), veh/h	0	351	382	157	1186	0				152	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1755	0	0
Q Serve(g_s), s	0.0	7.7	9.9	2.4	11.0	0.0				10.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	7.7	9.9	2.4	11.0	0.0				10.2	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.91		0.09
Lane Grp Cap(c), veh/h	0	1309	1171	607	2897	0				187	0	0
V/C Ratio(X)	0.00	0.27	0.33	0.26	0.41	0.00				0.81	0.00	0.00
Avail Cap(c_a), veh/h	0	1309	1171	836	2897	0				417	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	5.1	5.4	3.5	3.0	0.0				52.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.7	0.2	0.4	0.0				8.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.9	4.5	1.2	5.4	0.0				5.4	0.0	0.0
LnGrp Delay(d),s/veh	0.0	5.6	6.1	3.7	3.4	0.0				60.7	0.0	0.0
LnGrp LOS		A	A	A	A					E		
Approach Vol, veh/h		733			1343						152	
Approach Delay, s/veh		5.9			3.4						60.7	
Approach LOS		A			A						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.5	93.2				102.7		17.3
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	20.5	57.5				82.5		28.5
Max Q Clear Time (g_c+I1), s	14.4	11.9				13.0		12.2
Green Ext Time (p_c), s	0.3	19.1				21.4		0.7

Intersection Summary			
HCM 2010 Ctrl Delay			8.1
HCM 2010 LOS			A

1: KTA SB Ramp & 95th Street

HCM 2010 methodology does not support clustered intersections.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	510	434	5	0	207	43	0	10	0	43	10	379
Future Volume (veh/h)	510	434	5	0	207	43	0	10	0	43	10	379
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	554	472	5	0	225	47	0	11	0	47	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1036	3136	33	717	2100	431	60	95	0	123	95	81
Arrive On Green	0.20	1.00	1.00	0.00	0.72	0.72	0.00	0.05	0.00	0.05	0.05	0.00
Sat Flow, veh/h	1774	3588	38	1774	2926	600	1398	1863	0	1398	1863	1583
Grp Volume(v), veh/h	554	233	244	0	134	138	0	11	0	47	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1856	1774	1770	1757	1398	1863	0	1398	1863	1583
Q Serve(g_s), s	10.5	0.0	0.0	0.0	2.8	2.9	0.0	0.7	0.0	4.0	0.7	0.0
Cycle Q Clear(g_c), s	10.5	0.0	0.0	0.0	2.8	2.9	0.0	0.7	0.0	4.7	0.7	0.0
Prop In Lane	1.00		0.02	1.00		0.34	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1036	1547	1622	717	1270	1261	60	95	0	123	95	81
V/C Ratio(X)	0.53	0.15	0.15	0.00	0.11	0.11	0.00	0.12	0.00	0.38	0.12	0.00
Avail Cap(c_a), veh/h	1557	1547	1622	812	1270	1261	286	396	0	349	396	336
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.93	0.93	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	2.0	0.0	0.0	0.0	5.2	5.2	0.0	54.4	0.0	56.6	54.4	0.0
Incr Delay (d2), s/veh	0.4	0.2	0.2	0.0	0.2	0.2	0.0	0.5	0.0	1.9	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.1	0.1	0.0	1.4	1.4	0.0	0.4	0.0	1.6	0.4	0.0
LnGrp Delay(d),s/veh	2.4	0.2	0.2	0.0	5.3	5.4	0.0	54.9	0.0	58.5	54.9	0.0
LnGrp LOS	A	A	A		A	A		D		E	D	
Approach Vol, veh/h		1031			272			11			58	
Approach Delay, s/veh		1.4			5.4			54.9			57.8	
Approach LOS		A			A			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	0.0	109.4		10.6	18.8	90.6		10.6
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.5	74.5		25.5	49.5	31.5		25.5
Max Q Clear Time (g_c+I1), s	0.0	2.0		2.7	12.5	4.9		6.7
Green Ext Time (p_c), s	0.0	4.4		0.2	1.8	4.2		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	5.0
HCM 2010 LOS	A

12: KTA NB Ramp & 95th Street

HCM 2010 methodology does not support clustered intersections.

13: S. Rock Road & 95th Street

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	484	233	180	45	160	39	153	568	51	38	628	337
Future Volume (veh/h)	484	233	180	45	160	39	153	568	51	38	628	337
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	526	253	196	49	174	42	166	617	55	41	683	366
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	707	1594	713	354	713	168	265	1185	530	263	1009	451
Arrive On Green	0.23	0.45	0.45	0.03	0.25	0.25	0.08	0.33	0.33	0.03	0.29	0.29
Sat Flow, veh/h	1774	3539	1583	1774	2844	670	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	526	253	196	49	107	109	166	617	55	41	683	366
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1744	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	25.3	5.1	9.3	2.4	5.8	6.0	7.6	16.9	2.9	1.9	20.5	25.8
Cycle Q Clear(g_c), s	25.3	5.1	9.3	2.4	5.8	6.0	7.6	16.9	2.9	1.9	20.5	25.8
Prop In Lane	1.00		1.00	1.00		0.38	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	707	1594	713	354	444	437	265	1185	530	263	1009	451
V/C Ratio(X)	0.74	0.16	0.27	0.14	0.24	0.25	0.63	0.52	0.10	0.16	0.68	0.81
Avail Cap(c_a), veh/h	758	1594	713	391	444	437	306	1312	587	304	1135	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	19.5	20.7	31.6	35.8	35.9	28.3	32.1	27.5	29.2	38.0	39.9
Incr Delay (d2), s/veh	3.7	0.2	1.0	0.2	1.3	1.4	3.2	0.4	0.1	0.3	1.4	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.9	2.5	4.3	1.2	3.0	3.1	3.9	8.3	1.3	1.0	10.3	12.4
LnGrp Delay(d),s/veh	25.5	19.7	21.6	31.8	37.1	37.3	31.5	32.5	27.6	29.5	39.4	48.6
LnGrp LOS	C	B	C	C	D	D	C	C	C	C	D	D
Approach Vol, veh/h		975			265			838			1090	
Approach Delay, s/veh		23.2			36.2			32.0			42.1	
Approach LOS		C			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	58.6	8.2	44.7	32.5	34.6	14.2	38.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	44.5	6.5	44.5	31.5	19.5	12.5	38.5
Max Q Clear Time (g_c+I1), s	4.4	11.3	3.9	18.9	27.3	8.0	9.6	27.8
Green Ext Time (p_c), s	0.0	3.4	0.0	10.5	0.8	2.5	0.1	6.4

Intersection Summary			
HCM 2010 Ctrl Delay			33.1
HCM 2010 LOS			C

2060: 95th Street+KTA Agg_PM
23: S. Broadway Street & 95th Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	59	94	31	251	160	200	22	247	182	333	210	67
Future Volume (veh/h)	59	94	31	251	160	200	22	247	182	333	210	67
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	64	102	34	273	174	217	24	268	198	362	228	73
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	486	995	319	697	800	716	294	335	285	420	457	146
Arrive On Green	0.04	0.38	0.38	0.11	0.45	0.45	0.02	0.18	0.18	0.18	0.34	0.34
Sat Flow, veh/h	1774	2639	845	1774	1770	1583	1774	1863	1583	1774	1353	433
Grp Volume(v), veh/h	64	67	69	273	174	217	24	268	198	362	0	301
Grp Sat Flow(s),veh/h/ln	1774	1770	1714	1774	1770	1583	1774	1863	1583	1774	0	1786
Q Serve(g_s), s	2.6	2.9	3.1	10.8	7.2	10.4	1.3	16.5	14.1	19.1	0.0	16.1
Cycle Q Clear(g_c), s	2.6	2.9	3.1	10.8	7.2	10.4	1.3	16.5	14.1	19.1	0.0	16.1
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	486	667	646	697	800	716	294	335	285	420	0	604
V/C Ratio(X)	0.13	0.10	0.11	0.39	0.22	0.30	0.08	0.80	0.69	0.86	0.00	0.50
Avail Cap(c_a), veh/h	517	667	646	890	800	716	349	504	429	505	0	796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.4	24.2	24.3	17.5	20.0	20.9	38.6	47.1	46.1	31.2	0.0	31.6
Incr Delay (d2), s/veh	0.1	0.3	0.3	0.3	0.6	1.0	0.1	5.4	3.0	12.4	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.5	1.5	5.3	3.6	4.8	0.6	9.0	6.4	10.8	0.0	8.1
LnGrp Delay(d),s/veh	21.5	24.5	24.6	17.8	20.6	21.9	38.8	52.5	49.2	43.6	0.0	32.3
LnGrp LOS	C	C	C	B	C	C	D	D	D	D		C
Approach Vol, veh/h		200			664			490			663	
Approach Delay, s/veh		23.6			19.9			50.5			38.4	
Approach LOS		C			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.9	49.8	26.2	26.1	8.9	58.8	7.3	45.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	26.5	15.5	27.5	32.5	6.5	35.5	6.5	53.5
Max Q Clear Time (g_c+I1), s	12.8	5.1	21.1	18.5	4.6	12.4	3.3	18.1
Green Ext Time (p_c), s	0.6	2.1	0.6	3.1	0.0	2.9	0.0	3.8

Intersection Summary			
HCM 2010 Ctrl Delay			33.8
HCM 2010 LOS			C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	242	773	124	38	579	34	60	110	55	81	214	148
Future Volume (veh/h)	242	773	124	38	579	34	60	110	55	81	214	148
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	263	840	135	41	629	37	65	120	60	88	233	161
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	561	1891	304	332	1948	114	172	171	86	214	294	250
Arrive On Green	0.03	0.20	0.20	0.03	0.57	0.57	0.04	0.15	0.15	0.05	0.16	0.16
Sat Flow, veh/h	1774	3055	491	1774	3397	200	1774	1173	586	1774	1863	1583
Grp Volume(v), veh/h	263	487	488	41	327	339	65	0	180	88	233	161
Grp Sat Flow(s),veh/h/ln	1774	1770	1776	1774	1770	1828	1774	0	1759	1774	1863	1583
Q Serve(g_s), s	6.6	28.9	28.9	1.1	11.6	11.6	3.7	0.0	11.7	5.0	14.4	11.4
Cycle Q Clear(g_c), s	6.6	28.9	28.9	1.1	11.6	11.6	3.7	0.0	11.7	5.0	14.4	11.4
Prop In Lane	1.00		0.28	1.00		0.11	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	561	1095	1099	332	1014	1048	172	0	257	214	294	250
V/C Ratio(X)	0.47	0.44	0.44	0.12	0.32	0.32	0.38	0.00	0.70	0.41	0.79	0.64
Avail Cap(c_a), veh/h	773	1095	1099	359	1014	1048	193	0	564	214	598	508
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	0.97	0.97	0.97	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.5	29.7	29.7	12.1	13.4	13.4	41.8	0.0	48.8	41.0	48.6	47.4
Incr Delay (d2), s/veh	0.5	1.0	1.0	0.2	0.8	0.8	1.4	0.0	3.5	1.3	4.8	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	14.5	14.5	0.6	5.9	6.1	1.9	0.0	5.9	2.5	7.8	5.2
LnGrp Delay(d),s/veh	10.0	30.7	30.7	12.2	14.2	14.2	43.2	0.0	52.2	42.3	53.4	50.1
LnGrp LOS	A	C	C	B	B	B	D		D	D	D	D
Approach Vol, veh/h		1238			707			245			482	
Approach Delay, s/veh		26.3			14.1			49.8			50.3	
Approach LOS		C			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	78.8	11.0	22.0	13.7	73.3	9.6	23.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	51.5	6.5	38.5	23.5	33.5	6.5	38.5
Max Q Clear Time (g_c+I1), s	3.1	30.9	7.0	13.7	8.6	13.6	5.7	16.4
Green Ext Time (p_c), s	0.0	9.9	0.0	2.6	0.6	9.7	0.0	2.5

Intersection Summary			
HCM 2010 Ctrl Delay			29.6
HCM 2010 LOS			C

29: S. Hillside Street & 95th Street

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	40	859	9	21	552	74	9	31	33	154	39	74
Future Volume (veh/h)	40	859	9	21	552	74	9	31	33	154	39	74
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	43	934	10	23	600	80	10	34	36	167	42	80
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	557	2376	25	421	2268	302	139	52	55	272	117	222
Arrive On Green	0.66	0.66	0.66	0.02	0.72	0.72	0.06	0.06	0.06	0.10	0.20	0.20
Sat Flow, veh/h	757	3587	38	1774	3141	418	1264	829	878	1774	575	1095
Grp Volume(v), veh/h	43	461	483	23	338	342	10	0	70	167	0	122
Grp Sat Flow(s),veh/h/ln	757	1770	1856	1774	1770	1789	1264	0	1708	1774	0	1670
Q Serve(g_s), s	2.5	14.3	14.3	0.5	7.9	7.9	0.9	0.0	4.8	10.2	0.0	7.5
Cycle Q Clear(g_c), s	3.2	14.3	14.3	0.5	7.9	7.9	0.9	0.0	4.8	10.2	0.0	7.5
Prop In Lane	1.00		0.02	1.00		0.23	1.00		0.51	1.00		0.66
Lane Grp Cap(c), veh/h	557	1172	1229	421	1278	1292	139	0	107	272	0	339
V/C Ratio(X)	0.08	0.39	0.39	0.05	0.26	0.27	0.07	0.00	0.65	0.61	0.00	0.36
Avail Cap(c_a), veh/h	557	1172	1229	478	1278	1292	276	0	292	334	0	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.5	9.2	9.2	6.6	5.7	5.7	53.1	0.0	55.0	44.5	0.0	41.1
Incr Delay (d2), s/veh	0.2	0.9	0.8	0.1	0.5	0.5	0.2	0.0	6.6	2.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.2	7.5	0.2	4.0	4.1	0.3	0.0	2.5	5.1	0.0	3.6
LnGrp Delay(d),s/veh	7.7	10.1	10.1	6.6	6.2	6.2	53.3	0.0	61.5	46.8	0.0	41.8
LnGrp LOS	A	B	B	A	A	A	D		E	D		D
Approach Vol, veh/h		987			703			80			289	
Approach Delay, s/veh		10.0			6.2			60.5			44.7	
Approach LOS		A			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6		8
Phs Duration (G+Y+Rc), s	7.2	84.0	16.8	12.0		91.2		28.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	6.5	58.5	16.5	20.5		69.5		41.5
Max Q Clear Time (g_c+I1), s	2.5	16.3	12.2	6.8		9.9		9.5
Green Ext Time (p_c), s	0.0	12.1	0.1	0.7		12.7		1.0

Intersection Summary			
HCM 2010 Ctrl Delay			15.5
HCM 2010 LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	0	767	15	60	526	0	277	10	177	5	10	0
Future Volume (veh/h)	0	767	15	60	526	0	277	10	177	5	10	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	834	0	65	572	0	301	11	192	5	11	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	557	2097	938	432	2360	0	428	19	323	120	78	0
Arrive On Green	0.00	0.59	0.00	0.07	1.00	0.00	0.18	0.21	0.21	0.01	0.04	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	1774	86	1510	1774	1863	0
Grp Volume(v), veh/h	0	834	0	65	572	0	301	0	203	5	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	0	1596	1774	1863	0
Q Serve(g_s), s	0.0	15.1	0.0	1.6	0.0	0.0	18.7	0.0	13.7	0.3	0.7	0.0
Cycle Q Clear(g_c), s	0.0	15.1	0.0	1.6	0.0	0.0	18.7	0.0	13.7	0.3	0.7	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.95	1.00		0.00
Lane Grp Cap(c), veh/h	557	2097	938	432	2360	0	428	0	342	120	78	0
V/C Ratio(X)	0.00	0.40	0.00	0.15	0.24	0.00	0.70	0.00	0.59	0.04	0.14	0.00
Avail Cap(c_a), veh/h	652	2097	938	492	2360	0	635	0	472	205	101	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.84	0.84	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	13.0	0.0	8.8	0.0	0.0	42.1	0.0	42.4	54.5	55.4	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.1	0.2	0.0	2.1	0.0	1.6	0.1	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.5	0.0	0.8	0.1	0.0	9.4	0.0	6.2	0.2	0.4	0.0
LnGrp Delay(d),s/veh	0.0	13.6	0.0	8.9	0.2	0.0	44.2	0.0	44.1	54.7	56.3	0.0
LnGrp LOS		B		A	A		D		D	D	E	
Approach Vol, veh/h		834			637			504			16	
Approach Delay, s/veh		13.6			1.1			44.2			55.8	
Approach LOS		B			A			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	75.6	5.3	30.2	0.0	84.5	26.0	9.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	51.5	6.5	35.5	6.5	53.5	35.5	6.5
Max Q Clear Time (g_c+I1), s	3.6	17.1	2.3	15.7	0.0	2.0	20.7	2.7
Green Ext Time (p_c), s	0.0	11.2	0.0	1.2	0.0	12.1	0.8	0.4

Intersection Summary			
HCM 2010 Ctrl Delay			17.7
HCM 2010 LOS			B

49: 95th Street & K-15 Ramp

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✥	
Traffic Volume (veh/h)	0	555	476	153	651	0	0	0	0	228	0	21
Future Volume (veh/h)	0	555	476	153	651	0	0	0	0	228	0	21
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	603	517	166	708	0				248	0	23
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1202	1027	392	2648	0				284	0	26
Arrive On Green	0.00	0.66	0.66	0.05	0.75	0.00				0.18	0.00	0.18
Sat Flow, veh/h	0	1904	1548	1774	3632	0				1607	0	149
Grp Volume(v), veh/h	0	589	531	166	708	0				271	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1590	1774	1770	0				1756	0	0
Q Serve(g_s), s	0.0	20.1	20.3	3.4	7.6	0.0				18.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	20.1	20.3	3.4	7.6	0.0				18.0	0.0	0.0
Prop In Lane	0.00		0.97	1.00		0.00				0.92		0.08
Lane Grp Cap(c), veh/h	0	1174	1055	392	2648	0				310	0	0
V/C Ratio(X)	0.00	0.50	0.50	0.42	0.27	0.00				0.87	0.00	0.00
Avail Cap(c_a), veh/h	0	1174	1055	567	2648	0				461	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.2	10.2	8.0	4.8	0.0				48.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	1.7	0.7	0.2	0.0				11.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.3	9.4	1.7	3.7	0.0				9.7	0.0	0.0
LnGrp Delay(d),s/veh	0.0	11.7	11.9	8.7	5.0	0.0				59.8	0.0	0.0
LnGrp LOS		B	B	A	A					E		
Approach Vol, veh/h		1120			874						271	
Approach Delay, s/veh		11.8			5.7						59.8	
Approach LOS		B			A						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.2	84.1				94.3		25.7
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	17.5	57.5				79.5		31.5
Max Q Clear Time (g_c+I1), s	5.4	22.3				9.6		20.0
Green Ext Time (p_c), s	0.3	15.8				19.2		1.2

Intersection Summary		
HCM 2010 Ctrl Delay		15.2
HCM 2010 LOS		B

2060: 95th Street+KTA Agg_PM
32: Bluff Street & 95th Street

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	26	1002	3	14	639	19	2	1	14	17	1	6
Future Vol, veh/h	26	1002	3	14	639	19	2	1	14	17	1	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	75	-	-	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	1089	3	15	695	21	2	1	15	18	1	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	715	0	0	1092	0	0	1525	1893	546	1337	1884	358
Stage 1	-	-	-	-	-	-	1147	1147	-	735	735	-
Stage 2	-	-	-	-	-	-	378	746	-	602	1149	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	881	-	-	635	-	-	81	69	482	111	70	638
Stage 1	-	-	-	-	-	-	212	272	-	377	424	-
Stage 2	-	-	-	-	-	-	616	419	-	453	271	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	881	-	-	635	-	-	76	65	482	102	66	638
Mov Cap-2 Maneuver	-	-	-	-	-	-	76	65	-	102	66	-
Stage 1	-	-	-	-	-	-	205	263	-	365	414	-
Stage 2	-	-	-	-	-	-	594	409	-	423	262	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	20.6	39.2
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	76	338	881	-	-	635	-	-	102	285
HCM Lane V/C Ratio	0.029	0.048	0.032	-	-	0.024	-	-	0.181	0.027
HCM Control Delay (s)	53.8	16.2	9.2	-	-	10.8	-	-	47.9	18
HCM Lane LOS	F	C	A	-	-	B	-	-	E	C
HCM 95th %tile Q(veh)	0.1	0.2	0.1	-	-	0.1	-	-	0.6	0.1

HCM 2010 methodology does not support clustered intersections.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱		↰	↱			↰	↱
Traffic Volume (veh/h)	246	149	10	10	279	56	0	10	0	60	10	522
Future Volume (veh/h)	246	149	10	10	279	56	0	10	0	60	10	522
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	267	162	11	11	303	61	0	11	0	65	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	901	2702	182	1000	2239	445	60	134	0	138	14	134
Arrive On Green	0.09	1.00	1.00	0.01	0.76	0.76	0.00	0.07	0.00	0.07	0.07	0.00
Sat Flow, veh/h	1774	3366	227	1774	2944	585	1398	1863	0	1145	194	1583
Grp Volume(v), veh/h	267	85	88	11	181	183	0	11	0	76	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1823	1774	1770	1760	1398	1863	0	1339	0	1583
Q Serve(g_s), s	3.9	0.0	0.0	0.2	3.3	3.3	0.0	0.7	0.0	6.2	0.0	0.0
Cycle Q Clear(g_c), s	3.9	0.0	0.0	0.2	3.3	3.3	0.0	0.7	0.0	6.9	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.33	1.00		0.00	0.86		1.00
Lane Grp Cap(c), veh/h	901	1421	1463	1000	1346	1338	60	134	0	152	0	134
V/C Ratio(X)	0.30	0.06	0.06	0.01	0.13	0.14	0.00	0.08	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	1416	1421	1463	1074	1346	1338	257	396	0	356	0	357
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.1	0.0	0.0	3.1	3.8	3.8	0.0	52.0	0.0	55.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.0	0.2	0.2	0.0	0.3	0.0	2.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	0.1	1.6	1.7	0.0	0.4	0.0	2.6	0.0	0.0
LnGrp Delay(d),s/veh	2.3	0.1	0.1	3.1	4.0	4.1	0.0	52.3	0.0	57.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A		D		E		
Approach Vol, veh/h		440			375			11			76	
Approach Delay, s/veh		1.4			4.0			52.3			57.7	
Approach LOS		A			A			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.0	100.8		13.1	11.1	95.7		13.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.5	74.5		25.5	41.5	39.5		25.5
Max Q Clear Time (g_c+I1), s	2.2	2.0		2.7	5.9	5.3		8.9
Green Ext Time (p_c), s	0.0	3.1		0.3	0.8	3.0		0.3

Intersection Summary			
HCM 2010 Ctrl Delay			7.9
HCM 2010 LOS			A

HCM 2010 methodology does not support clustered intersections.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	288	86	195	24	156	48	160	758	23	43	698	206
Future Volume (veh/h)	288	86	195	24	156	48	160	758	23	43	698	206
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	313	93	212	26	170	52	174	824	25	47	759	224
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	685	1745	781	525	1061	315	240	1061	475	175	861	385
Arrive On Green	0.12	0.49	0.49	0.02	0.39	0.39	0.09	0.30	0.30	0.03	0.24	0.24
Sat Flow, veh/h	1774	3539	1583	1774	2692	799	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	313	93	212	26	110	112	174	824	25	47	759	224
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1722	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	12.0	1.6	9.4	1.0	4.8	5.1	8.5	25.5	1.3	2.4	24.8	15.0
Cycle Q Clear(g_c), s	12.0	1.6	9.4	1.0	4.8	5.1	8.5	25.5	1.3	2.4	24.8	15.0
Prop In Lane	1.00		1.00	1.00		0.46	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	685	1745	781	525	697	679	240	1061	475	175	861	385
V/C Ratio(X)	0.46	0.05	0.27	0.05	0.16	0.17	0.73	0.78	0.05	0.27	0.88	0.58
Avail Cap(c_a), veh/h	902	1745	781	622	697	679	399	1224	548	257	870	389
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	15.8	17.8	20.6	23.5	23.6	31.9	38.3	29.9	33.9	43.8	40.0
Incr Delay (d2), s/veh	0.5	0.1	0.9	0.0	0.5	0.5	4.1	2.8	0.0	0.8	10.5	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.8	4.3	0.5	2.4	2.5	4.4	12.9	0.6	1.2	13.4	6.8
LnGrp Delay(d),s/veh	16.6	15.9	18.7	20.6	24.0	24.1	36.1	41.1	29.9	34.7	54.2	42.2
LnGrp LOS	B	B	B	C	C	C	D	D	C	C	D	D
Approach Vol, veh/h		618			248			1023			1030	
Approach Delay, s/veh		17.2			23.7			40.0			50.7	
Approach LOS		B			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	63.7	8.5	40.5	19.3	51.8	15.3	33.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	41.5	9.5	41.5	29.5	21.5	21.5	29.5
Max Q Clear Time (g_c+I1), s	13.0	11.4	4.4	27.5	14.0	7.1	10.5	26.8
Green Ext Time (p_c), s	0.0	2.4	0.0	8.5	0.8	2.1	0.3	2.2

Intersection Summary	
HCM 2010 Ctrl Delay	37.6
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	14	20	7	135	14	235	2	244	229	210	248	14
Future Volume (veh/h)	14	20	7	135	14	235	2	244	229	210	248	14
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	15	22	8	147	15	255	2	265	249	228	270	15
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	561	1233	424	813	919	822	267	364	309	326	545	30
Arrive On Green	0.02	0.48	0.48	0.06	0.52	0.52	0.00	0.20	0.20	0.12	0.31	0.31
Sat Flow, veh/h	1774	2586	889	1774	1770	1583	1774	1863	1583	1774	1748	97
Grp Volume(v), veh/h	15	15	15	147	15	255	2	265	249	228	0	285
Grp Sat Flow(s),veh/h/ln	1774	1770	1706	1774	1770	1583	1774	1863	1583	1774	0	1846
Q Serve(g_s), s	0.5	0.5	0.6	4.9	0.5	11.1	0.1	16.0	18.0	11.8	0.0	15.1
Cycle Q Clear(g_c), s	0.5	0.5	0.6	4.9	0.5	11.1	0.1	16.0	18.0	11.8	0.0	15.1
Prop In Lane	1.00		0.52	1.00		1.00	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	561	844	813	813	919	822	267	364	309	326	0	575
V/C Ratio(X)	0.03	0.02	0.02	0.18	0.02	0.31	0.01	0.73	0.81	0.70	0.00	0.50
Avail Cap(c_a), veh/h	687	844	813	1012	919	822	373	598	508	491	0	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.7	16.6	16.6	13.1	14.0	16.5	38.7	45.3	46.1	32.6	0.0	33.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.0	0.0	2.8	4.9	2.7	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.3	0.3	2.4	0.2	5.0	0.1	8.5	8.3	6.0	0.0	7.8
LnGrp Delay(d),s/veh	15.7	16.6	16.6	13.2	14.0	17.5	38.7	48.1	51.0	35.4	0.0	34.3
LnGrp LOS	B	B	B	B	B	B	D	D	D	D		C
Approach Vol, veh/h		45			417			516			513	
Approach Delay, s/veh		16.3			15.9			49.5			34.8	
Approach LOS		B			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	61.7	18.8	27.9	6.5	66.8	4.8	41.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	20.5	17.5	25.5	38.5	10.5	27.5	7.5	56.5
Max Q Clear Time (g_c+I1), s	16.9	2.6	13.8	20.0	2.5	13.1	2.1	17.1
Green Ext Time (p_c), s	0.3	1.4	0.4	3.4	0.0	1.4	0.0	3.8

Intersection Summary			
HCM 2010 Ctrl Delay			34.0
HCM 2010 LOS			C

	↰	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	149	395	119	26	950	91	65	150	25	48	102	251
Future Volume (veh/h)	149	395	119	26	950	91	65	150	25	48	102	251
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	162	429	129	28	1033	99	71	163	27	52	111	273
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	331	1565	466	559	1795	172	285	325	54	259	371	315
Arrive On Green	0.08	0.77	0.77	0.03	0.55	0.55	0.04	0.21	0.21	0.03	0.20	0.20
Sat Flow, veh/h	1774	2690	801	1774	3264	313	1774	1559	258	1774	1863	1583
Grp Volume(v), veh/h	162	281	277	28	560	572	71	0	190	52	111	273
Grp Sat Flow(s),veh/h/ln	1774	1770	1721	1774	1770	1808	1774	0	1817	1774	1863	1583
Q Serve(g_s), s	4.7	5.5	5.6	0.8	25.0	25.0	3.8	0.0	11.1	2.8	6.1	20.0
Cycle Q Clear(g_c), s	4.7	5.5	5.6	0.8	25.0	25.0	3.8	0.0	11.1	2.8	6.1	20.0
Prop In Lane	1.00		0.47	1.00		0.17	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	331	1030	1002	559	973	994	285	0	379	259	371	315
V/C Ratio(X)	0.49	0.27	0.28	0.05	0.58	0.58	0.25	0.00	0.50	0.20	0.30	0.87
Avail Cap(c_a), veh/h	458	1030	1002	610	973	994	318	0	507	309	520	442
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	0.88	0.88	0.88	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.6	6.3	6.3	11.0	17.8	17.8	36.0	0.0	42.0	36.8	40.9	46.5
Incr Delay (d2), s/veh	1.0	0.6	0.6	0.0	2.2	2.1	0.5	0.0	1.0	0.4	0.4	12.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	2.8	2.8	0.4	12.7	13.0	1.9	0.0	5.6	1.4	3.2	9.8
LnGrp Delay(d),s/veh	14.6	6.9	6.9	11.1	20.0	19.9	36.4	0.0	43.0	37.1	41.4	58.8
LnGrp LOS	B	A	A	B	B	B	D		D	D	D	E
Approach Vol, veh/h		720			1160			261			436	
Approach Delay, s/veh		8.7			19.7			41.2			51.8	
Approach LOS		A			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	74.3	8.6	29.5	11.4	70.5	9.8	28.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	54.5	7.5	33.5	15.5	45.5	7.5	33.5
Max Q Clear Time (g_c+I1), s	2.8	7.6	4.8	13.1	6.7	27.0	5.8	22.0
Green Ext Time (p_c), s	0.0	14.3	0.0	2.3	0.2	9.8	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	24.2
HCM 2010 LOS	C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	24	438	5	30	995	116	17	30	10	30	42	52
Future Volume (veh/h)	24	438	5	30	995	116	17	30	10	30	42	52
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	26	476	5	33	1082	126	18	33	11	33	46	57
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	2593	27	728	2320	270	121	96	32	175	61	76
Arrive On Green	0.02	0.72	0.72	0.03	0.73	0.73	0.02	0.07	0.07	0.03	0.08	0.08
Sat Flow, veh/h	1774	3588	38	1774	3195	372	1774	1338	446	1774	758	939
Grp Volume(v), veh/h	26	235	246	33	599	609	18	0	44	33	0	103
Grp Sat Flow(s),veh/h/ln	1774	1770	1856	1774	1770	1797	1774	0	1784	1774	0	1697
Q Serve(g_s), s	0.5	5.1	5.1	0.6	16.8	16.9	1.1	0.0	2.8	2.0	0.0	7.1
Cycle Q Clear(g_c), s	0.5	5.1	5.1	0.6	16.8	16.9	1.1	0.0	2.8	2.0	0.0	7.1
Prop In Lane	1.00		0.02	1.00		0.21	1.00		0.25	1.00		0.55
Lane Grp Cap(c), veh/h	373	1279	1341	728	1285	1305	121	0	128	175	0	137
V/C Ratio(X)	0.07	0.18	0.18	0.05	0.47	0.47	0.15	0.00	0.34	0.19	0.00	0.75
Avail Cap(c_a), veh/h	500	1279	1341	790	1285	1305	184	0	290	370	0	417
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.1	5.3	5.3	3.9	6.8	6.8	50.3	0.0	53.0	49.6	0.0	54.0
Incr Delay (d2), s/veh	0.1	0.3	0.3	0.0	1.2	1.2	0.6	0.0	1.6	0.5	0.0	8.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.6	2.7	0.3	8.6	8.7	0.6	0.0	1.4	1.0	0.0	3.7
LnGrp Delay(d),s/veh	5.2	5.6	5.6	3.9	8.0	8.0	50.8	0.0	54.6	50.1	0.0	61.9
LnGrp LOS	A	A	A	A	A	A	D		D	D		E
Approach Vol, veh/h		507			1241			62			136	
Approach Delay, s/veh		5.6			7.9			53.5			59.1	
Approach LOS		A			A			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	91.2	7.8	13.1	7.4	91.6	6.8	14.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	58.5	16.5	19.5	11.5	54.5	6.5	29.5
Max Q Clear Time (g_c+I1), s	2.6	7.1	4.0	4.8	2.5	18.9	3.1	9.1
Green Ext Time (p_c), s	0.0	13.3	0.0	0.5	0.0	12.3	0.0	0.6

Intersection Summary			
HCM 2010 Ctrl Delay			12.3
HCM 2010 LOS			B

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	4	472	1	11	1137	5	1	1	14	3	0	4
Future Vol, veh/h	4	472	1	11	1137	5	1	1	14	3	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	75	-	-	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	513	1	12	1236	5	1	1	15	3	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1241	0	0	514	0	0	1164	1787	257	1528	1785	621
Stage 1	-	-	-	-	-	-	522	522	-	1262	1262	-
Stage 2	-	-	-	-	-	-	642	1265	-	266	523	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	557	-	-	1048	-	-	150	80	742	80	81	430
Stage 1	-	-	-	-	-	-	506	529	-	180	239	-
Stage 2	-	-	-	-	-	-	429	239	-	716	529	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	557	-	-	1048	-	-	146	79	742	76	79	430
Mov Cap-2 Maneuver	-	-	-	-	-	-	146	79	-	76	79	-
Stage 1	-	-	-	-	-	-	502	525	-	179	236	-
Stage 2	-	-	-	-	-	-	420	236	-	695	525	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	13.9	31.1
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	146	476	557	-	-	1048	-	-	76	430
HCM Lane V/C Ratio	0.007	0.034	0.008	-	-	0.011	-	-	0.043	0.01
HCM Control Delay (s)	29.8	12.8	11.5	-	-	8.5	-	-	54.5	13.5
HCM Lane LOS	D	B	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0	-	-	0.1	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	0	297	0	209	592	0	677	10	107	1	9	1
Future Volume (veh/h)	0	297	0	209	592	0	677	10	107	1	9	1
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	323	0	227	643	0	736	11	116	1	10	1
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	1103	494	498	1601	0	809	60	635	112	65	7
Arrive On Green	0.00	0.31	0.00	0.07	0.30	0.00	0.40	0.43	0.43	0.00	0.04	0.04
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	1774	139	1465	1774	1667	167
Grp Volume(v), veh/h	0	323	0	227	643	0	736	0	127	1	0	11
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	0	1604	1774	0	1833
Q Serve(g_s), s	0.0	8.3	0.0	9.9	17.3	0.0	46.6	0.0	5.8	0.1	0.0	0.7
Cycle Q Clear(g_c), s	0.0	8.3	0.0	9.9	17.3	0.0	46.6	0.0	5.8	0.1	0.0	0.7
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.91	1.00		0.09
Lane Grp Cap(c), veh/h	303	1103	494	498	1601	0	809	0	696	112	0	72
V/C Ratio(X)	0.00	0.29	0.00	0.46	0.40	0.00	0.91	0.00	0.18	0.01	0.00	0.15
Avail Cap(c_a), veh/h	398	1103	494	678	1601	0	809	0	696	205	0	115
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.80	0.80	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	31.3	0.0	23.6	28.9	0.0	30.9	0.0	20.9	55.3	0.0	55.7
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.5	0.6	0.0	14.3	0.0	0.1	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.1	0.0	4.9	8.6	0.0	25.9	0.0	2.6	0.0	0.0	0.4
LnGrp Delay(d),s/veh	0.0	31.9	0.0	24.2	29.5	0.0	45.2	0.0	21.0	55.3	0.0	56.7
LnGrp LOS		C		C	C		D		C	E		E
Approach Vol, veh/h		323			870			863			12	
Approach Delay, s/veh		31.9			28.1			41.6			56.6	
Approach LOS		C			C			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.9	41.9	4.7	56.5	0.0	58.8	52.0	9.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	24.5	22.5	6.5	48.5	6.5	40.5	47.5	7.5
Max Q Clear Time (g_c+I1), s	11.9	10.3	2.1	7.8	0.0	19.3	48.6	2.7
Green Ext Time (p_c), s	0.5	4.7	0.0	0.9	0.0	6.0	0.0	0.0

Intersection Summary			
HCM 2010 Ctrl Delay			34.5
HCM 2010 LOS			C

49: 95th Street & K-15 Ramp

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✣	
Traffic Volume (veh/h)	0	232	255	127	1143	0	0	0	0	65	0	11
Future Volume (veh/h)	0	232	255	127	1143	0	0	0	0	65	0	11
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	252	277	138	1242	0				71	0	12
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1387	1241	776	3053	0				93	0	16
Arrive On Green	0.00	0.78	0.78	0.04	0.86	0.00				0.06	0.00	0.06
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1492	0	252
Grp Volume(v), veh/h	0	252	277	138	1242	0				83	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1744	0	0
Q Serve(g_s), s	0.0	4.3	5.5	1.6	8.9	0.0				5.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	4.3	5.5	1.6	8.9	0.0				5.6	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.86		0.14
Lane Grp Cap(c), veh/h	0	1387	1241	776	3053	0				109	0	0
V/C Ratio(X)	0.00	0.18	0.22	0.18	0.41	0.00				0.76	0.00	0.00
Avail Cap(c_a), veh/h	0	1387	1241	1006	3053	0				414	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	3.3	3.4	1.9	1.7	0.0				55.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.4	0.1	0.4	0.0				10.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.2	2.5	0.8	4.3	0.0				3.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	3.6	3.8	2.0	2.1	0.0				65.9	0.0	0.0
LnGrp LOS		A	A	A	A					E		
Approach Vol, veh/h		529			1380						83	
Approach Delay, s/veh		3.7			2.1						65.9	
Approach LOS		A			A						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.4	98.6				108.0		12.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	20.5	57.5				82.5		28.5
Max Q Clear Time (g_c+I1), s	3.6	7.5				10.9		7.6
Green Ext Time (p_c), s	0.3	17.6				19.0		0.4

Intersection Summary			
HCM 2010 Ctrl Delay			5.2
HCM 2010 LOS			A

HCM 2010 methodology does not support clustered intersections.

9: S. Woodlawn Blvd. & 95th Street

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱			↰	↱
Traffic Volume (veh/h)	481	280	0	0	171	49	0	10	0	48	10	201
Future Volume (veh/h)	481	280	0	0	171	49	0	10	0	48	10	201
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	523	304	0	0	186	53	0	11	0	52	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1047	3058	0	825	1952	541	60	114	0	122	14	96
Arrive On Green	0.19	1.00	0.00	0.00	0.71	0.71	0.00	0.06	0.00	0.06	0.06	0.00
Sat Flow, veh/h	1774	3632	0	1774	2739	760	1398	1863	0	1096	232	1583
Grp Volume(v), veh/h	523	304	0	0	118	121	0	11	0	63	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	0	1774	1770	1729	1398	1863	0	1328	0	1583
Q Serve(g_s), s	10.0	0.0	0.0	0.0	2.5	2.6	0.0	0.7	0.0	5.1	0.0	0.0
Cycle Q Clear(g_c), s	10.0	0.0	0.0	0.0	2.5	2.6	0.0	0.7	0.0	5.8	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.44	1.00		0.00	0.83		1.00
Lane Grp Cap(c), veh/h	1047	3058	0	825	1261	1232	60	114	0	136	0	96
V/C Ratio(X)	0.50	0.10	0.00	0.00	0.09	0.10	0.00	0.10	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	1577	3058	0	919	1261	1232	272	396	0	357	0	336
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.2	0.0	0.0	0.0	5.3	5.3	0.0	53.2	0.0	56.0	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.1	0.0	0.0	0.1	0.2	0.0	0.4	0.0	2.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.0	0.0	1.2	1.3	0.0	0.4	0.0	2.2	0.0	0.0
LnGrp Delay(d),s/veh	2.6	0.1	0.0	0.0	5.5	5.5	0.0	53.6	0.0	58.4	0.0	0.0
LnGrp LOS	A	A			A	A		D		E		
Approach Vol, veh/h		827			239			11			63	
Approach Delay, s/veh		1.6			5.5			53.6			58.4	
Approach LOS		A			A			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	0.0	108.2		11.8	18.2	90.0		11.8
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.5	74.5		25.5	49.5	31.5		25.5
Max Q Clear Time (g_c+I1), s	10.0	2.0		2.7	12.0	4.6		7.8
Green Ext Time (p_c), s	0.0	3.3		0.2	1.7	3.1		0.2

Intersection Summary			
HCM 2010 Ctrl Delay			6.1
HCM 2010 LOS			A

HCM 2010 methodology does not support clustered intersections.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	255	124	157	20	92	40	118	606	20	41	670	245
Future Volume (veh/h)	255	124	157	20	92	40	118	606	20	41	670	245
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	277	135	171	22	100	43	128	659	22	45	728	266
Adj No. of Lanes	1	2	1	1	2	0	1	2	1	1	2	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	722	1741	779	530	991	405	224	1076	481	227	953	426
Arrive On Green	0.11	0.49	0.49	0.02	0.40	0.40	0.07	0.30	0.30	0.03	0.27	0.27
Sat Flow, veh/h	1774	3539	1583	1774	2453	1002	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	277	135	171	22	71	72	128	659	22	45	728	266
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1686	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	10.4	2.4	7.4	0.9	3.0	3.2	6.1	19.1	1.2	2.2	22.7	17.7
Cycle Q Clear(g_c), s	10.4	2.4	7.4	0.9	3.0	3.2	6.1	19.1	1.2	2.2	22.7	17.7
Prop In Lane	1.00		1.00	1.00		0.59	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	722	1741	779	530	715	681	224	1076	481	227	953	426
V/C Ratio(X)	0.38	0.08	0.22	0.04	0.10	0.11	0.57	0.61	0.05	0.20	0.76	0.62
Avail Cap(c_a), veh/h	994	1741	779	588	715	681	290	1312	587	266	1135	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.8	16.1	17.4	20.0	22.2	22.3	30.5	35.7	29.5	31.0	40.3	38.5
Incr Delay (d2), s/veh	0.3	0.1	0.6	0.0	0.3	0.3	2.3	0.6	0.0	0.4	2.6	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	1.2	3.4	0.4	1.5	1.5	3.1	9.4	0.5	1.1	11.5	7.9
LnGrp Delay(d),s/veh	16.2	16.2	18.0	20.1	22.5	22.6	32.8	36.3	29.5	31.4	42.9	40.3
LnGrp LOS	B	B	B	C	C	C	C	D	C	C	D	D
Approach Vol, veh/h		583			165			809			1039	
Approach Delay, s/veh		16.7			22.2			35.6			41.8	
Approach LOS		B			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	63.5	8.4	41.0	17.6	53.0	12.6	36.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	44.5	6.5	44.5	31.5	19.5	12.5	38.5
Max Q Clear Time (g_c+I1), s	2.9	9.4	4.2	21.1	12.4	5.2	8.1	24.7
Green Ext Time (p_c), s	0.0	2.1	0.0	10.1	0.7	1.7	0.1	7.6

Intersection Summary	
HCM 2010 Ctrl Delay	33.0
HCM 2010 LOS	C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	29	29	23	149	30	173	3	183	120	295	138	23
Future Volume (veh/h)	29	29	23	149	30	173	3	183	120	295	138	23
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	32	32	25	162	33	188	3	199	130	321	150	25
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	629	954	668	803	912	816	231	254	216	398	472	79
Arrive On Green	0.03	0.48	0.48	0.06	0.52	0.52	0.00	0.14	0.14	0.17	0.30	0.30
Sat Flow, veh/h	1774	1992	1394	1774	1770	1583	1774	1863	1583	1774	1557	260
Grp Volume(v), veh/h	32	28	29	162	33	188	3	199	130	321	0	175
Grp Sat Flow(s),veh/h/ln	1774	1770	1617	1774	1770	1583	1774	1863	1583	1774	0	1817
Q Serve(g_s), s	1.1	1.0	1.1	5.3	1.1	7.8	0.2	12.4	9.3	17.9	0.0	8.9
Cycle Q Clear(g_c), s	1.1	1.0	1.1	5.3	1.1	7.8	0.2	12.4	9.3	17.9	0.0	8.9
Prop In Lane	1.00		0.86	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	629	848	774	803	912	816	231	254	216	398	0	551
V/C Ratio(X)	0.05	0.03	0.04	0.20	0.04	0.23	0.01	0.78	0.60	0.81	0.00	0.32
Avail Cap(c_a), veh/h	676	848	774	1081	912	816	320	473	402	501	0	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.9	16.5	16.6	12.9	14.4	16.0	44.4	50.1	48.7	34.7	0.0	32.2
Incr Delay (d2), s/veh	0.0	0.1	0.1	0.1	0.1	0.6	0.0	5.2	2.7	7.6	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.5	0.5	2.6	0.6	3.5	0.1	6.7	4.2	9.6	0.0	4.5
LnGrp Delay(d),s/veh	15.0	16.6	16.7	13.0	14.4	16.6	44.4	55.3	51.4	42.3	0.0	32.6
LnGrp LOS	B	B	B	B	B	B	D	E	D	D		C
Approach Vol, veh/h		89			383			332			496	
Approach Delay, s/veh		16.0			14.9			53.7			38.9	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	62.0	25.0	20.9	7.8	66.4	5.0	40.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	26.5	17.5	27.5	30.5	6.5	37.5	6.5	51.5
Max Q Clear Time (g_c+I1), s	7.3	3.1	19.9	14.4	3.1	9.8	2.2	10.9
Green Ext Time (p_c), s	0.4	1.2	0.6	2.0	0.0	1.6	0.0	2.3

Intersection Summary		
HCM 2010 Ctrl Delay		34.0
HCM 2010 LOS		C

26: S. Hydraulic Street & 95th Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	238	690	149	23	473	33	56	88	28	113	178	144
Future Volume (veh/h)	238	690	149	23	473	33	56	88	28	113	178	144
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	259	750	162	25	514	36	61	96	30	123	193	157
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	648	1890	408	465	2002	140	166	163	51	223	249	211
Arrive On Green	0.16	1.00	1.00	0.02	0.60	0.60	0.04	0.12	0.12	0.05	0.13	0.13
Sat Flow, veh/h	1774	2896	626	1774	3356	235	1774	1362	426	1774	1863	1583
Grp Volume(v), veh/h	259	458	454	25	270	280	61	0	126	123	193	157
Grp Sat Flow(s),veh/h/ln	1774	1770	1752	1774	1770	1821	1774	0	1788	1774	1863	1583
Q Serve(g_s), s	6.9	0.0	0.0	0.7	8.7	8.8	3.6	0.0	8.0	6.5	12.0	11.4
Cycle Q Clear(g_c), s	6.9	0.0	0.0	0.7	8.7	8.8	3.6	0.0	8.0	6.5	12.0	11.4
Prop In Lane	1.00		0.36	1.00		0.13	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	648	1154	1143	465	1055	1086	166	0	214	223	249	211
V/C Ratio(X)	0.40	0.40	0.40	0.05	0.26	0.26	0.37	0.00	0.59	0.55	0.78	0.74
Avail Cap(c_a), veh/h	854	1154	1143	505	1055	1086	190	0	574	223	598	508
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	0.99	0.99	0.99	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.8	0.0	0.0	8.8	11.5	11.5	44.3	0.0	50.0	45.2	50.3	50.0
Incr Delay (d2), s/veh	0.3	0.8	0.9	0.0	0.6	0.6	1.4	0.0	2.6	2.9	5.1	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.3	0.3	0.3	4.5	4.6	1.8	0.0	4.1	0.9	6.5	5.3
LnGrp Delay(d),s/veh	7.1	0.8	0.9	8.8	12.1	12.1	45.6	0.0	52.6	48.1	55.4	55.1
LnGrp LOS	A	A	A	A	B	B	D		D	D	E	E
Approach Vol, veh/h		1171			575			187			473	
Approach Delay, s/veh		2.2			12.0			50.3			53.4	
Approach LOS		A			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	82.8	11.0	18.9	14.0	76.1	9.4	20.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	51.5	6.5	38.5	23.5	33.5	6.5	38.5
Max Q Clear Time (g_c+I1), s	2.7	2.0	8.5	10.0	8.9	10.8	5.6	14.0
Green Ext Time (p_c), s	0.0	11.2	0.0	2.1	0.6	9.1	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	18.4
HCM 2010 LOS	B

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	5	820	7	14	467	42	8	26	29	92	27	52
Future Volume (veh/h)	5	820	7	14	467	42	8	26	29	92	27	52
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	5	891	8	15	508	46	9	28	32	100	29	57
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	666	2558	23	470	2514	227	132	44	50	206	90	176
Arrive On Green	0.71	0.71	0.71	0.02	0.77	0.77	0.06	0.06	0.06	0.07	0.16	0.16
Sat Flow, veh/h	851	3594	32	1774	3284	296	1306	795	908	1774	562	1105
Grp Volume(v), veh/h	5	439	460	15	273	281	9	0	60	100	0	86
Grp Sat Flow(s),veh/h/ln	851	1770	1857	1774	1770	1810	1306	0	1703	1774	0	1668
Q Serve(g_s), s	0.2	11.4	11.4	0.3	5.1	5.2	0.8	0.0	4.1	6.2	0.0	5.5
Cycle Q Clear(g_c), s	0.2	11.4	11.4	0.3	5.1	5.2	0.8	0.0	4.1	6.2	0.0	5.5
Prop In Lane	1.00		0.02	1.00		0.16	1.00		0.53	1.00		0.66
Lane Grp Cap(c), veh/h	666	1259	1322	470	1355	1386	132	0	94	206	0	266
V/C Ratio(X)	0.01	0.35	0.35	0.03	0.20	0.20	0.07	0.00	0.64	0.49	0.00	0.32
Avail Cap(c_a), veh/h	666	1259	1322	537	1355	1386	283	0	291	332	0	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.0	6.6	6.6	4.7	3.9	3.9	53.9	0.0	55.5	47.3	0.0	44.7
Incr Delay (d2), s/veh	0.0	0.7	0.7	0.0	0.3	0.3	0.2	0.0	7.0	1.8	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.7	6.0	0.1	2.6	2.7	0.3	0.0	2.1	3.1	0.0	2.6
LnGrp Delay(d),s/veh	5.0	7.3	7.3	4.7	4.2	4.2	54.1	0.0	62.5	49.1	0.0	45.4
LnGrp LOS	A	A	A	A	A	A	D		E	D		D
Approach Vol, veh/h		904			569			69			186	
Approach Delay, s/veh		7.3			4.2			61.4			47.4	
Approach LOS		A			A			E			D	

Timer	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Assigned Phs	1	2	3	4		6		8
Phs Duration (G+Y+Rc), s	6.5	89.9	12.5	11.1		96.4		23.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	6.5	58.5	16.5	20.5		69.5		41.5
Max Q Clear Time (g_c+I1), s	2.3	13.4	8.2	6.1		7.2		7.5
Green Ext Time (p_c), s	0.0	9.8	0.1	0.5		10.1		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	12.8
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	935	1	14	519	3	1	0	11	5	0	3
Future Vol, veh/h	3	935	1	14	519	3	1	0	11	5	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	75	-	-	40	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1016	1	15	564	3	1	0	12	5	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	567	0	0	1017	0	0	1335	1621	509	1111	1620	284
Stage 1	-	-	-	-	-	-	1023	1023	-	596	596	-
Stage 2	-	-	-	-	-	-	312	598	-	515	1024	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1001	-	-	678	-	-	112	102	509	164	102	713
Stage 1	-	-	-	-	-	-	252	311	-	457	490	-
Stage 2	-	-	-	-	-	-	673	489	-	511	311	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1001	-	-	678	-	-	109	99	509	157	99	713
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	99	-	157	99	-
Stage 1	-	-	-	-	-	-	251	310	-	456	479	-
Stage 2	-	-	-	-	-	-	655	478	-	498	310	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	14.4	21.8
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	109	509	1001	-	-	678	-	-	157	713
HCM Lane V/C Ratio	0.01	0.023	0.003	-	-	0.022	-	-	0.035	0.005
HCM Control Delay (s)	38.4	12.2	8.6	-	-	10.4	-	-	28.8	10.1
HCM Lane LOS	E	B	A	-	-	B	-	-	D	B
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0.1	-	-	0.1	0

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	0	618	14	46	326	0	267	10	143	0	0	0
Future Volume (veh/h)	0	618	14	46	326	0	267	10	143	0	0	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	672	0	50	354	0	290	11	155	0	0	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	748	2376	1063	573	2628	0	384	19	272	61	2	0
Arrive On Green	0.00	0.67	0.00	0.07	1.00	0.00	0.18	0.18	0.18	0.00	0.00	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3632	0	1774	106	1493	1774	1863	0
Grp Volume(v), veh/h	0	672	0	50	354	0	290	0	166	0	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	0	1774	0	1599	1774	1863	0
Q Serve(g_s), s	0.0	9.2	0.0	1.0	0.0	0.0	19.2	0.0	11.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.2	0.0	1.0	0.0	0.0	19.2	0.0	11.4	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.93	1.00		0.00
Lane Grp Cap(c), veh/h	748	2376	1063	573	2628	0	384	0	292	61	2	0
V/C Ratio(X)	0.00	0.28	0.00	0.09	0.13	0.00	0.76	0.00	0.57	0.00	0.00	0.00
Avail Cap(c_a), veh/h	843	2376	1063	639	2628	0	585	0	473	156	101	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.94	0.94	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.0	0.0	5.2	0.0	0.0	47.8	0.0	44.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.1	0.0	3.1	0.0	1.7	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.6	0.0	0.5	0.0	0.0	9.7	0.0	5.2	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	8.3	0.0	5.2	0.1	0.0	50.9	0.0	46.5	0.0	0.0	0.0
LnGrp LOS		A		A	A		D		D			
Approach Vol, veh/h		672			404			456			0	
Approach Delay, s/veh		8.3			0.7			49.3			0.0	
Approach LOS		A			A			D				
Timer	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	85.1	0.0	26.4	0.0	93.6	26.4	0.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	51.5	6.5	35.5	6.5	53.5	35.5	6.5				
Max Q Clear Time (g_c+I1), s	3.0	11.2	0.0	13.4	0.0	2.0	21.2	0.0				
Green Ext Time (p_c), s	0.0	7.5	0.0	1.0	0.0	7.7	0.7	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			18.5									
HCM 2010 LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✣	
Traffic Volume (veh/h)	0	468	483	80	513	0	0	0	0	165	0	23
Future Volume (veh/h)	0	468	483	80	513	0	0	0	0	165	0	23
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	509	525	87	558	0				179	0	25
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1256	1123	437	2783	0				213	0	30
Arrive On Green	0.00	0.71	0.71	0.04	0.79	0.00				0.14	0.00	0.14
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1534	0	214
Grp Volume(v), veh/h	0	509	525	87	558	0				204	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1748	0	0
Q Serve(g_s), s	0.0	14.1	17.3	1.5	4.8	0.0				13.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	14.1	17.3	1.5	4.8	0.0				13.7	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.88		0.12
Lane Grp Cap(c), veh/h	0	1256	1123	437	2783	0				242	0	0
V/C Ratio(X)	0.00	0.41	0.47	0.20	0.20	0.00				0.84	0.00	0.00
Avail Cap(c_a), veh/h	0	1256	1123	626	2783	0				459	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	7.1	7.6	5.3	3.2	0.0				50.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	1.4	0.2	0.2	0.0				7.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.1	7.9	0.7	2.4	0.0				7.1	0.0	0.0
LnGrp Delay(d),s/veh	0.0	8.1	9.0	5.5	3.4	0.0				58.1	0.0	0.0
LnGrp LOS		A	A	A	A					E		
Approach Vol, veh/h		1034			645						204	
Approach Delay, s/veh		8.5			3.7						58.1	
Approach LOS		A			A						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.2	89.6				98.9		21.1
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	17.5	57.5				79.5		31.5
Max Q Clear Time (g_c+I1), s	3.5	19.3				6.8		15.7
Green Ext Time (p_c), s	0.1	13.4				15.0		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	12.2
HCM 2010 LOS	B

HCM 2010 methodology does not support clustered intersections.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱			↰	↱
Traffic Volume (veh/h)	201	125	10	10	232	47	0	10	0	51	10	402
Future Volume (veh/h)	201	125	10	10	232	47	0	10	0	51	10	402
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	218	136	11	11	252	51	0	11	0	55	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	0	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	941	2613	209	1020	2201	438	72	120	0	138	14	102
Arrive On Green	0.09	1.00	1.00	0.01	0.75	0.75	0.00	0.06	0.00	0.06	0.06	0.00
Sat Flow, veh/h	1774	3320	266	1774	2943	586	1398	1863	0	1111	222	1583
Grp Volume(v), veh/h	218	72	75	11	150	153	0	11	0	66	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1816	1774	1770	1759	1398	1863	0	1333	0	1583
Q Serve(g_s), s	2.8	0.0	0.0	0.1	2.3	2.4	0.0	0.6	0.0	4.5	0.0	0.0
Cycle Q Clear(g_c), s	2.8	0.0	0.0	0.1	2.3	2.4	0.0	0.6	0.0	5.0	0.0	0.0
Prop In Lane	1.00		0.15	1.00		0.33	1.00		0.00	0.83		1.00
Lane Grp Cap(c), veh/h	941	1393	1429	1020	1324	1316	72	120	0	152	0	102
V/C Ratio(X)	0.23	0.05	0.05	0.01	0.11	0.12	0.00	0.09	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	1194	1393	1429	1112	1324	1316	562	773	0	663	0	657
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	2.0	0.0	0.0	2.9	3.5	3.5	0.0	44.0	0.0	46.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	0.1	0.0	0.2	0.2	0.0	0.3	0.0	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	0.1	1.2	1.2	0.0	0.3	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	2.1	0.1	0.1	2.9	3.6	3.7	0.0	44.3	0.0	48.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A		D		D		
Approach Vol, veh/h		365			314			11			66	
Approach Delay, s/veh		1.3			3.6			44.3			48.3	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.8	83.2		11.0	9.7	79.3		11.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.5	38.5		41.5	19.5	25.5		41.5
Max Q Clear Time (g_c+I1), s	2.1	2.0		2.6	4.8	4.4		7.0
Green Ext Time (p_c), s	0.0	2.5		0.3	0.5	2.3		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	7.0
HCM 2010 LOS	A

HCM 2010 methodology does not support clustered intersections.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			↰↑↱			↰↑↱	
Traffic Volume (veh/h)	194	52	111	9	128	48	82	689	7	41	676	160
Future Volume (veh/h)	194	52	111	9	128	48	82	689	7	41	676	160
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	211	57	121	10	139	52	89	749	8	45	735	174
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	137	38	54	55	581	209	112	1090	13	75	1067	272
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	179	84	118	37	1270	456	150	2410	29	79	2357	601
Grp Volume(v), veh/h	389	0	0	201	0	0	378	0	468	494	0	460
Grp Sat Flow(s),veh/h/ln	380	0	0	1762	0	0	898	0	1690	1448	0	1589
Q Serve(g_s), s	21.7	0.0	0.0	0.0	0.0	0.0	19.6	0.0	21.0	9.9	0.0	22.3
Cycle Q Clear(g_c), s	21.7	0.0	0.0	6.9	0.0	0.0	42.0	0.0	21.0	30.9	0.0	22.3
Prop In Lane	0.54		0.31	0.05		0.26	0.24		0.02	0.09		0.38
Lane Grp Cap(c), veh/h	0	0	0	844	0	0	451	0	765	694	0	719
V/C Ratio(X)	0.00	0.00	0.00	0.24	0.00	0.00	0.84	0.00	0.61	0.71	0.00	0.64
Avail Cap(c_a), veh/h	0	0	0	844	0	0	454	0	769	699	0	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	16.6	0.0	0.0	28.2	0.0	20.7	22.4	0.0	21.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	12.9	0.0	1.4	3.4	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	3.6	0.0	0.0	11.7	0.0	10.1	12.3	0.0	10.1
LnGrp Delay(d),s/veh	0.0	0.0	0.0	17.2	0.0	0.0	41.1	0.0	22.2	25.8	0.0	23.0
LnGrp LOS				B			D		C	C		C
Approach Vol, veh/h		389			201			846			954	
Approach Delay, s/veh		0.0			17.2			30.6			24.4	
Approach LOS		A			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		50.3		49.7		50.3		49.7
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		45.5		45.5		34.5		45.5
Max Q Clear Time (g_c+I1), s		23.7		44.0		8.9		32.9
Green Ext Time (p_c), s		3.6		1.3		3.7		8.1

Intersection Summary	
HCM 2010 Ctrl Delay	22.0
HCM 2010 LOS	C

23: S. Broadway Street & 95th Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↑	↱	↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	14	14	5	118	10	232	2	218	181	203	225	14
Future Volume (veh/h)	14	14	5	118	10	232	2	218	181	203	225	14
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	15	15	5	128	11	252	2	237	197	221	245	15
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	630	635	212	820	956	817	265	314	294	332	499	31
Arrive On Green	0.02	0.47	0.47	0.06	0.51	0.51	0.00	0.17	0.17	0.12	0.29	0.29
Sat Flow, veh/h	1774	1338	446	1774	1863	1583	1774	1863	1583	1774	1738	106
Grp Volume(v), veh/h	15	0	20	128	11	252	2	237	197	221	0	260
Grp Sat Flow(s),veh/h/ln	1774	0	1784	1774	1863	1583	1774	1863	1583	1774	0	1844
Q Serve(g_s), s	0.4	0.0	0.6	3.6	0.3	9.2	0.1	12.1	11.6	9.8	0.0	11.7
Cycle Q Clear(g_c), s	0.4	0.0	0.6	3.6	0.3	9.2	0.1	12.1	11.6	9.8	0.0	11.7
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	630	0	847	820	956	817	265	314	294	332	0	530
V/C Ratio(X)	0.02	0.00	0.02	0.16	0.01	0.31	0.01	0.75	0.67	0.67	0.00	0.49
Avail Cap(c_a), veh/h	715	0	847	944	956	817	376	550	494	446	0	765
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.0	0.0	14.0	11.3	11.9	13.9	34.4	39.6	37.8	28.5	0.0	29.6
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.1	0.0	1.0	0.0	3.7	2.6	2.3	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	1.7	0.2	4.2	0.0	6.6	5.3	5.0	0.0	6.0
LnGrp Delay(d),s/veh	13.0	0.0	14.0	11.3	11.9	14.9	34.4	43.2	40.5	30.8	0.0	30.3
LnGrp LOS	B		B	B	B	B	C	D	D	C		C
Approach Vol, veh/h		35			391			436			481	
Approach Delay, s/veh		13.6			13.7			42.0			30.5	
Approach LOS		B			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	52.0	16.6	21.4	6.2	55.8	4.8	33.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	21.5	18.5	29.5	6.5	27.5	6.5	41.5
Max Q Clear Time (g_c+I1), s	5.6	2.6	11.8	14.1	2.4	11.2	2.1	13.7
Green Ext Time (p_c), s	0.2	0.9	0.3	2.8	0.0	0.8	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	28.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	146	354	120	23	938	89	62	142	21	42	98	238
Future Volume (veh/h)	146	354	120	23	938	89	62	142	21	42	98	238
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	159	385	130	25	1020	97	67	154	23	46	107	259
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1505	502	560	1773	169	274	288	43	249	326	317
Arrive On Green	0.06	0.58	0.58	0.03	0.54	0.54	0.04	0.18	0.18	0.04	0.17	0.17
Sat Flow, veh/h	1774	2609	870	1774	3267	311	1774	1584	237	1774	1863	1583
Grp Volume(v), veh/h	159	260	255	25	552	565	67	0	177	46	107	259
Grp Sat Flow(s),veh/h/ln	1774	1770	1709	1774	1770	1808	1774	0	1821	1774	1863	1583
Q Serve(g_s), s	3.8	7.3	7.4	0.6	20.8	20.8	3.1	0.0	8.8	2.1	5.0	15.6
Cycle Q Clear(g_c), s	3.8	7.3	7.4	0.6	20.8	20.8	3.1	0.0	8.8	2.1	5.0	15.6
Prop In Lane	1.00		0.51	1.00		0.17	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	346	1021	986	560	960	981	274	0	331	249	326	317
V/C Ratio(X)	0.46	0.25	0.26	0.04	0.58	0.58	0.24	0.00	0.53	0.18	0.33	0.82
Avail Cap(c_a), veh/h	462	1021	986	631	960	981	314	0	331	300	326	317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.7	10.5	10.5	9.6	15.2	15.2	31.9	0.0	37.1	32.3	36.1	38.3
Incr Delay (d2), s/veh	0.9	0.6	0.6	0.0	2.5	2.5	0.5	0.0	1.7	0.4	0.6	15.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	3.7	3.6	0.3	10.8	11.0	1.5	0.0	4.6	1.0	2.6	8.2
LnGrp Delay(d),s/veh	12.6	11.0	11.1	9.6	17.7	17.7	32.4	0.0	38.7	32.6	36.7	53.6
LnGrp LOS	B	B	B	A	B	B	C		D	C	D	D
Approach Vol, veh/h		674			1142			244			412	
Approach Delay, s/veh		11.4			17.5			37.0			46.9	
Approach LOS		B			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.0	62.2	8.1	22.7	10.5	58.8	8.8	22.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	51.5	6.5	17.5	12.5	45.5	6.5	17.5
Max Q Clear Time (g_c+I1), s	2.6	9.4	4.1	10.8	5.8	22.8	5.1	17.6
Green Ext Time (p_c), s	0.0	13.2	0.0	1.3	0.2	10.6	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	22.7
HCM 2010 LOS	C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	2	411	4	33	982	96	14	28	9	45	36	52
Future Volume (veh/h)	2	411	4	33	982	96	14	28	9	45	36	52
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	2	447	4	36	1067	104	15	30	10	49	39	57
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	1398	13	765	1316	128	97	100	33	145	51	75
Arrive On Green	0.00	0.76	0.76	0.03	0.79	0.79	0.08	0.08	0.08	0.08	0.08	0.08
Sat Flow, veh/h	1774	1843	16	1774	1671	163	1294	1338	446	1362	685	1001
Grp Volume(v), veh/h	2	0	451	36	0	1171	15	0	40	49	0	96
Grp Sat Flow(s),veh/h/ln	1774	0	1860	1774	0	1834	1294	0	1784	1362	0	1686
Q Serve(g_s), s	0.0	0.0	7.7	0.4	0.0	37.6	1.2	0.0	2.1	3.5	0.0	5.6
Cycle Q Clear(g_c), s	0.0	0.0	7.7	0.4	0.0	37.6	6.7	0.0	2.1	5.7	0.0	5.6
Prop In Lane	1.00		0.01	1.00		0.09	1.00		0.25	1.00		0.59
Lane Grp Cap(c), veh/h	273	0	1410	765	0	1444	97	0	134	145	0	126
V/C Ratio(X)	0.01	0.00	0.32	0.05	0.00	0.81	0.15	0.00	0.30	0.34	0.00	0.76
Avail Cap(c_a), veh/h	384	0	1410	825	0	1444	97	0	134	145	0	126
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.9	0.0	3.9	2.5	0.0	6.3	48.7	0.0	43.8	46.4	0.0	45.4
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.0	0.0	5.0	0.7	0.0	1.2	1.4	0.0	23.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	4.1	0.2	0.0	20.6	0.4	0.0	1.1	1.4	0.0	3.4
LnGrp Delay(d),s/veh	8.9	0.0	4.5	2.5	0.0	11.3	49.4	0.0	45.0	47.8	0.0	68.4
LnGrp LOS	A		A	A		B	D		D	D		E
Approach Vol, veh/h		453			1207			55			145	
Approach Delay, s/veh		4.5			11.0			46.2			61.4	
Approach LOS		A			B			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.7	80.3		12.0	4.8	83.2		12.0
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	6.5	72.5		7.5	6.5	72.5		7.5
Max Q Clear Time (g_c+I1), s	2.4	9.7		8.7	2.0	39.6		7.7
Green Ext Time (p_c), s	0.0	18.8		0.0	0.0	15.2		0.0

Intersection Summary			
HCM 2010 Ctrl Delay			14.4
HCM 2010 LOS			B

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	4	459	1	11	1107	5	1	1	13	3	0	3
Future Vol, veh/h	4	459	1	11	1107	5	1	1	13	3	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	499	1	12	1203	5	1	1	14	3	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1209	0	0	500	0	0	1740	1741	499	1746	1739	1206
Stage 1	-	-	-	-	-	-	508	508	-	1230	1230	-
Stage 2	-	-	-	-	-	-	1232	1233	-	516	509	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	577	-	-	1064	-	-	68	87	572	68	87	224
Stage 1	-	-	-	-	-	-	547	539	-	217	250	-
Stage 2	-	-	-	-	-	-	217	249	-	542	538	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	577	-	-	1064	-	-	65	83	572	63	83	224
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	83	-	63	83	-
Stage 1	-	-	-	-	-	-	542	534	-	215	242	-
Stage 2	-	-	-	-	-	-	207	241	-	522	533	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	17.7	44.3
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	299	577	-	-	1064	-	-	98
HCM Lane V/C Ratio	0.055	0.008	-	-	0.011	-	-	0.067
HCM Control Delay (s)	17.7	11.3	0	-	8.4	0	-	44.3
HCM Lane LOS	C	B	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

HCM 2010 Research does not support Non-NEMA phasing.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	0	229	10	101	523	10	718	10	97	10	10	0
Future Volume (veh/h)	0	229	10	101	523	10	718	10	97	10	10	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	249	0	110	568	11	780	11	105	11	11	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	996	445	433	1370	27	896	71	678	158	91	0
Arrive On Green	0.00	0.28	0.00	0.12	0.77	0.77	0.43	0.47	0.47	0.01	0.05	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3551	69	1774	152	1454	1774	1863	0
Grp Volume(v), veh/h	0	249	0	110	283	296	780	0	116	11	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1851	1774	0	1606	1774	1863	0
Q Serve(g_s), s	0.0	5.4	0.0	4.2	5.4	5.4	39.3	0.0	4.2	0.6	0.6	0.0
Cycle Q Clear(g_c), s	0.0	5.4	0.0	4.2	5.4	5.4	39.3	0.0	4.2	0.6	0.6	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.91	1.00		0.00
Lane Grp Cap(c), veh/h	308	996	445	433	683	714	896	0	749	158	91	0
V/C Ratio(X)	0.00	0.25	0.00	0.25	0.41	0.41	0.87	0.00	0.15	0.07	0.12	0.00
Avail Cap(c_a), veh/h	421	996	445	443	683	714	975	0	763	249	121	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.85	0.85	0.85	0.67	0.00	0.67	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	27.8	0.0	20.7	7.6	7.6	22.5	0.0	15.4	44.3	45.5	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.3	1.6	1.5	5.7	0.0	0.1	0.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	0.0	2.1	2.8	2.9	20.5	0.0	1.8	0.3	0.3	0.0
LnGrp Delay(d),s/veh	0.0	28.4	0.0	21.0	9.2	9.1	28.1	0.0	15.4	44.4	46.1	0.0
LnGrp LOS		C		C	A	A	C		B	D	D	
Approach Vol, veh/h		249			689			896			22	
Approach Delay, s/veh		28.4			11.1			26.5			45.3	
Approach LOS		C			B			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	32.6	5.8	51.1	0.0	43.1	47.5	9.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	21.5	6.5	47.5	6.5	21.5	47.5	6.5
Max Q Clear Time (g_c+I1), s	6.2	7.4	2.6	6.2	0.0	7.4	41.3	2.6
Green Ext Time (p_c), s	0.0	4.0	0.0	0.8	0.0	4.0	1.7	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	21.2
HCM 2010 LOS	C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✥	
Traffic Volume (veh/h)	0	202	272	132	1110	0	0	0	0	37	0	14
Future Volume (veh/h)	0	202	272	132	1110	0	0	0	0	37	0	14
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	220	296	143	1207	0				40	0	15
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1370	1226	796	3073	0				52	0	20
Arrive On Green	0.00	0.77	0.77	0.05	0.87	0.00				0.04	0.00	0.04
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1249	0	468
Grp Volume(v), veh/h	0	220	296	143	1207	0				55	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1718	0	0
Q Serve(g_s), s	0.0	3.2	5.2	1.4	6.8	0.0				3.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	3.2	5.2	1.4	6.8	0.0				3.2	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.73		0.27
Lane Grp Cap(c), veh/h	0	1370	1226	796	3073	0				72	0	0
V/C Ratio(X)	0.00	0.16	0.24	0.18	0.39	0.00				0.77	0.00	0.00
Avail Cap(c_a), veh/h	0	1370	1226	984	3073	0				352	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	2.9	3.1	1.6	1.3	0.0				47.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.5	0.1	0.4	0.0				15.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.6	2.4	0.7	3.3	0.0				1.8	0.0	0.0
LnGrp Delay(d),s/veh	0.0	3.2	3.6	1.8	1.7	0.0				62.9	0.0	0.0
LnGrp LOS		A	A	A	A					E		
Approach Vol, veh/h		516			1350						55	
Approach Delay, s/veh		3.4			1.7						62.9	
Approach LOS		A			A						E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.4	81.9				91.3		8.7
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	50.5				70.5		20.5
Max Q Clear Time (g_c+I1), s	3.4	7.2				8.8		5.2
Green Ext Time (p_c), s	0.3	16.2				17.6		0.2

Intersection Summary			
HCM 2010 Ctrl Delay			3.9
HCM 2010 LOS			A

	↑	↱	↳	↓	↙	↰
Movement	NBT	NBR	SBL	SBT	SWL	SWR
Lane Configurations	↑↑	↱		↑↑↑		
Traffic Volume (veh/h)	768	825	0	778	0	0
Future Volume (veh/h)	768	825	0	778	0	0
Number	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	0	1863		
Adj Flow Rate, veh/h	835	897	0	846		
Adj No. of Lanes	2	1	0	3		
Peak Hour Factor	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	0	2		
Cap, veh/h	5631	2519	0	8090		
Arrive On Green	1.00	1.00	0.00	1.00		
Sat Flow, veh/h	3632	1583	0	5421		
Grp Volume(v), veh/h	835	897	0	846		
Grp Sat Flow(s),veh/h/ln	1770	1583	0	1695		
Q Serve(g_s), s	0.0	0.0	0.0	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0		
Prop In Lane		1.00	0.00			
Lane Grp Cap(c), veh/h	5631	2519	0	8090		
V/C Ratio(X)	0.15	0.36	0.00	0.10		
Avail Cap(c_a), veh/h	5631	2519	0	8090		
HCM Platoon Ratio	1.00	1.00	1.00	2.00		
Upstream Filter(I)	1.00	1.00	0.00	0.99		
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0		
Incr Delay (d2), s/veh	0.1	0.4	0.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.0	0.0		
LnGrp Delay(d),s/veh	0.1	0.4	0.0	0.0		
LnGrp LOS	A	A		A		
Approach Vol, veh/h	1732			846		
Approach Delay, s/veh	0.2			0.0		
Approach LOS	A			A		

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		
Phs Duration (G+Y+Rc), s		40.0				40.0		
Change Period (Y+Rc), s		4.5				4.5		
Max Green Setting (Gmax), s		18.0				18.0		
Max Q Clear Time (g_c+I1), s		2.0				2.0		
Green Ext Time (p_c), s		12.0				12.0		

Intersection Summary			
HCM 2010 Ctrl Delay			0.2
HCM 2010 LOS			A

HCM 2010 Research does not support Non-NEMA phasing.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								↑↑↑			↑↑	
Traffic Volume (veh/h)	0	0	0	0	0	0	0	889	0	0	374	0
Future Volume (veh/h)	0	0	0	0	0	0	0	889	0	0	374	0
Number							5	2	12	1	6	16
Initial Q (Qb), veh							0	0	0	0	0	0
Ped-Bike Adj(A_pbT)							1.00		1.00	1.00		1.00
Parking Bus, Adj							1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln							0	1863	0	0	1863	0
Adj Flow Rate, veh/h							0	966	0	0	407	0
Adj No. of Lanes							0	3	0	0	2	0
Peak Hour Factor							0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %							0	2	0	0	2	0
Cap, veh/h							0	8090	0	0	5631	0
Arrive On Green							0.00	1.00	0.00	0.00	1.00	0.00
Sat Flow, veh/h							0	5421	0	0	3725	0
Grp Volume(v), veh/h							0	966	0	0	407	0
Grp Sat Flow(s),veh/h/ln							0	1695	0	0	1770	0
Q Serve(g_s), s							0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s							0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane							0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h							0	8090	0	0	5631	0
V/C Ratio(X)							0.00	0.12	0.00	0.00	0.07	0.00
Avail Cap(c_a), veh/h							0	8090	0	0	5631	0
HCM Platoon Ratio							1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)							0.00	0.95	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh							0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh							0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh							0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln							0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh							0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS								A			A	
Approach Vol, veh/h								966			407	
Approach Delay, s/veh								0.0			0.0	
Approach LOS								A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		
Phs Duration (G+Y+Rc), s		40.0				40.0		
Change Period (Y+Rc), s		4.5				4.5		
Max Green Setting (Gmax), s		18.0				18.0		
Max Q Clear Time (g_c+I1), s		2.0				2.0		
Green Ext Time (p_c), s		7.4				7.4		

Intersection Summary			
HCM 2010 Ctrl Delay			0.0
HCM 2010 LOS			A

HCM 2010 Research does not support Non-NEMA phasing.

Interim-KTA Build_PM
1: KTA SB Ramp & 95th Street

HCM 2010 methodology does not support clustered intersections.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	374	243	10	10	146	44	0	10	0	39	10	177
Future Volume (veh/h)	374	243	10	10	146	44	0	10	0	39	10	177
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	407	264	11	11	159	48	0	11	0	42	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1055	2787	116	913	2008	588	72	88	0	130	88	75
Arrive On Green	0.02	0.27	0.27	0.01	0.74	0.74	0.00	0.05	0.00	0.05	0.05	0.00
Sat Flow, veh/h	1774	3463	144	1774	2702	791	1398	1863	0	1398	1863	1583
Grp Volume(v), veh/h	407	134	141	11	102	105	0	11	0	42	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1837	1774	1770	1723	1398	1863	0	1398	1863	1583
Q Serve(g_s), s	4.2	5.7	5.8	0.2	1.6	1.7	0.0	0.6	0.0	3.0	0.6	0.0
Cycle Q Clear(g_c), s	4.2	5.7	5.8	0.2	1.6	1.7	0.0	0.6	0.0	3.5	0.6	0.0
Prop In Lane	1.00		0.08	1.00		0.46	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	1055	1424	1479	913	1315	1281	72	88	0	130	88	75
V/C Ratio(X)	0.39	0.09	0.10	0.01	0.08	0.08	0.00	0.13	0.00	0.32	0.13	0.00
Avail Cap(c_a), veh/h	1658	1424	1479	1040	1315	1281	363	475	0	421	475	404
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	1.9	9.3	9.3	3.0	3.5	3.5	0.0	45.7	0.0	47.4	45.7	0.0
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.6	0.0	1.4	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	2.9	3.0	0.1	0.8	0.8	0.0	0.3	0.0	1.2	0.3	0.0
LnGrp Delay(d),s/veh	2.1	9.4	9.4	3.0	3.6	3.6	0.0	46.3	0.0	48.8	46.3	0.0
LnGrp LOS	A	A	A	A	A	A		D		D	D	
Approach Vol, veh/h		682			218			11			53	
Approach Delay, s/veh		5.0			3.6			46.3			48.3	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.8	85.0		9.2	12.0	78.8		9.2
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5
Max Green Setting (Gmax), s	8.5	52.5		25.5	41.5	19.5		25.5
Max Q Clear Time (g_c+I1), s	2.2	7.8		2.6	6.2	3.7		5.5
Green Ext Time (p_c), s	0.0	2.7		0.1	1.2	2.2		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	7.6
HCM 2010 LOS	A

HCM 2010 methodology does not support clustered intersections.

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			✣			✣	
Traffic Volume (veh/h)	210	94	82	6	65	39	67	582	7	41	620	175
Future Volume (veh/h)	210	94	82	6	65	39	67	582	7	41	620	175
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	228	102	89	7	71	42	73	633	8	45	674	190
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	193	151	69	524	293	107	1007	14	86	958	278
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	761	400	313	42	1084	606	126	2507	35	87	2384	692
Grp Volume(v), veh/h	419	0	0	120	0	0	330	0	384	477	0	432
Grp Sat Flow(s),veh/h/ln	1474	0	0	1732	0	0	980	0	1689	1590	0	1573
Q Serve(g_s), s	12.5	0.0	0.0	0.0	0.0	0.0	8.6	0.0	13.7	6.8	0.0	17.7
Cycle Q Clear(g_c), s	15.4	0.0	0.0	3.0	0.0	0.0	26.2	0.0	13.7	20.6	0.0	17.7
Prop In Lane	0.54		0.21	0.06		0.35	0.22		0.02	0.09		0.44
Lane Grp Cap(c), veh/h	783	0	0	885	0	0	450	0	679	690	0	632
V/C Ratio(X)	0.54	0.00	0.00	0.14	0.00	0.00	0.73	0.00	0.57	0.69	0.00	0.68
Avail Cap(c_a), veh/h	783	0	0	885	0	0	470	0	704	714	0	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.2	0.0	0.0	11.2	0.0	0.0	20.8	0.0	18.1	19.6	0.0	19.2
Incr Delay (d2), s/veh	2.6	0.0	0.0	0.3	0.0	0.0	5.6	0.0	1.0	2.8	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.0	0.0	1.5	0.0	0.0	7.3	0.0	6.6	9.3	0.0	8.2
LnGrp Delay(d),s/veh	16.8	0.0	0.0	11.5	0.0	0.0	26.4	0.0	19.1	22.3	0.0	22.1
LnGrp LOS	B			B			C		B	C		C
Approach Vol, veh/h		419			120			714			909	
Approach Delay, s/veh		16.8			11.5			22.5			22.2	
Approach LOS		B			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		42.2		35.8		42.2		35.8
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		36.5		32.5		36.5		32.5
Max Q Clear Time (g_c+I1), s		17.4		28.2		5.0		22.6
Green Ext Time (p_c), s		3.0		3.1		3.4		6.2

Intersection Summary	
HCM 2010 Ctrl Delay	20.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↑	↱	↰	↑	↱	↰	↱	
Traffic Volume (veh/h)	28	25	22	121	23	172	2	166	98	280	125	23
Future Volume (veh/h)	28	25	22	121	23	172	2	166	98	280	125	23
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	30	27	24	132	25	187	2	180	107	304	136	25
Adj No. of Lanes	1	1	0	1	1	1	1	1	1	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	663	423	376	779	921	787	235	242	250	410	452	83
Arrive On Green	0.03	0.46	0.46	0.06	0.49	0.49	0.00	0.13	0.13	0.17	0.29	0.29
Sat Flow, veh/h	1774	911	809	1774	1863	1583	1774	1863	1583	1774	1532	282
Grp Volume(v), veh/h	30	0	51	132	25	187	2	180	107	304	0	161
Grp Sat Flow(s),veh/h/ln	1774	0	1720	1774	1863	1583	1774	1863	1583	1774	0	1813
Q Serve(g_s), s	0.9	0.0	1.6	3.8	0.7	6.7	0.1	9.3	6.1	14.1	0.0	6.9
Cycle Q Clear(g_c), s	0.9	0.0	1.6	3.8	0.7	6.7	0.1	9.3	6.1	14.1	0.0	6.9
Prop In Lane	1.00		0.47	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	663	0	798	779	921	787	235	242	250	410	0	535
V/C Ratio(X)	0.05	0.00	0.06	0.17	0.03	0.24	0.01	0.74	0.43	0.74	0.00	0.30
Avail Cap(c_a), veh/h	728	0	798	950	921	787	381	475	449	618	0	825
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	14.8	12.1	13.0	14.4	37.7	41.9	38.0	29.0	0.0	27.3
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.1	0.1	0.7	0.0	4.5	1.2	2.7	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.8	1.8	0.4	3.1	0.0	5.1	2.8	7.1	0.0	3.5
LnGrp Delay(d),s/veh	13.1	0.0	15.0	12.2	13.0	15.1	37.7	46.4	39.2	31.7	0.0	27.6
LnGrp LOS	B		B	B	B	B	D	D	D	C		C
Approach Vol, veh/h		81			344			289			465	
Approach Delay, s/veh		14.3			13.8			43.7			30.3	
Approach LOS		B			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	50.9	21.3	17.5	7.3	53.9	4.8	34.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	15.5	12.5	28.5	25.5	6.5	21.5	8.5	45.5
Max Q Clear Time (g_c+I1), s	5.8	3.6	16.1	11.3	2.9	8.7	2.1	8.9
Green Ext Time (p_c), s	0.2	0.6	0.7	1.7	0.0	0.7	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	27.6
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	237	640	156	19	455	31	54	83	26	99	156	145
Future Volume (veh/h)	237	640	156	19	455	31	54	83	26	99	156	145
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	258	696	170	21	495	34	59	90	28	108	170	158
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	648	1776	433	434	1914	131	186	134	42	241	239	238
Arrive On Green	0.08	0.63	0.63	0.02	0.57	0.57	0.04	0.10	0.10	0.07	0.13	0.13
Sat Flow, veh/h	1774	2822	689	1774	3361	230	1774	1364	424	1774	1863	1583
Grp Volume(v), veh/h	258	436	430	21	260	269	59	0	118	108	170	158
Grp Sat Flow(s),veh/h/ln	1774	1770	1741	1774	1770	1822	1774	0	1788	1774	1863	1583
Q Serve(g_s), s	5.6	12.1	12.1	0.5	7.4	7.5	3.0	0.0	6.4	5.4	8.8	9.4
Cycle Q Clear(g_c), s	5.6	12.1	12.1	0.5	7.4	7.5	3.0	0.0	6.4	5.4	8.8	9.4
Prop In Lane	1.00		0.40	1.00		0.13	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	648	1113	1096	434	1008	1038	186	0	176	241	239	238
V/C Ratio(X)	0.40	0.39	0.39	0.05	0.26	0.26	0.32	0.00	0.67	0.45	0.71	0.66
Avail Cap(c_a), veh/h	884	1113	1096	510	1008	1038	266	0	367	267	382	360
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.0	9.1	9.1	8.6	10.9	10.9	38.5	0.0	43.5	36.6	41.8	40.1
Incr Delay (d2), s/veh	0.3	0.9	0.9	0.0	0.6	0.6	1.0	0.0	4.3	1.3	3.9	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	6.1	6.0	0.2	3.8	3.9	1.5	0.0	3.4	2.7	4.7	4.3
LnGrp Delay(d),s/veh	7.3	10.0	10.0	8.7	11.5	11.5	39.5	0.0	47.8	37.9	45.7	43.2
LnGrp LOS	A	A	B	A	B	B	D		D	D	D	D
Approach Vol, veh/h		1124			550			177			436	
Approach Delay, s/veh		9.4			11.4			45.1			42.9	
Approach LOS		A			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	67.4	11.5	14.4	12.7	61.5	8.5	17.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	46.5	8.5	20.5	21.5	31.5	8.5	20.5
Max Q Clear Time (g_c+I1), s	2.5	14.1	7.4	8.4	7.6	9.5	5.0	11.4
Green Ext Time (p_c), s	0.0	9.7	0.0	1.5	0.6	8.5	0.0	1.3

Intersection Summary	
HCM 2010 Ctrl Delay	19.0
HCM 2010 LOS	B

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	4	756	6	12	446	34	7	25	27	98	24	51
Future Volume (veh/h)	4	756	6	12	446	34	7	25	27	98	24	51
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	4	822	7	13	485	37	8	27	29	107	26	55
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	610	1302	11	408	1224	93	90	42	45	156	47	100
Arrive On Green	0.01	0.71	0.71	0.02	0.72	0.72	0.01	0.05	0.05	0.05	0.09	0.09
Sat Flow, veh/h	1774	1844	16	1774	1709	130	1774	823	884	1774	534	1129
Grp Volume(v), veh/h	4	0	829	13	0	522	8	0	56	107	0	81
Grp Sat Flow(s),veh/h/ln	1774	0	1860	1774	0	1840	1774	0	1707	1774	0	1663
Q Serve(g_s), s	0.1	0.0	23.6	0.2	0.0	11.3	0.4	0.0	3.2	1.8	0.0	4.7
Cycle Q Clear(g_c), s	0.1	0.0	23.6	0.2	0.0	11.3	0.4	0.0	3.2	1.8	0.0	4.7
Prop In Lane	1.00		0.01	1.00		0.07	1.00		0.52	1.00		0.68
Lane Grp Cap(c), veh/h	610	0	1313	408	0	1317	90	0	88	156	0	148
V/C Ratio(X)	0.01	0.00	0.63	0.03	0.00	0.40	0.09	0.00	0.64	0.69	0.00	0.55
Avail Cap(c_a), veh/h	716	0	1313	497	0	1317	187	0	111	258	0	175
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	4.7	0.0	7.8	6.8	0.0	5.6	47.6	0.0	46.5	45.6	0.0	43.6
Incr Delay (d2), s/veh	0.0	0.0	2.3	0.0	0.0	0.9	0.4	0.0	7.7	5.2	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	12.8	0.1	0.0	6.0	0.2	0.0	1.7	3.1	0.0	2.3
LnGrp Delay(d),s/veh	4.7	0.0	10.1	6.8	0.0	6.5	48.0	0.0	54.2	50.8	0.0	46.8
LnGrp LOS	A		B	A		A	D		D	D		D
Approach Vol, veh/h		833			535			64			188	
Approach Delay, s/veh		10.1			6.5			53.5			49.1	
Approach LOS		B			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	75.1	9.2	9.6	5.0	76.1	5.5	13.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	58.5	10.5	6.5	6.5	58.5	6.5	10.5
Max Q Clear Time (g_c+I1), s	2.2	25.6	3.8	5.2	2.1	13.3	2.4	6.7
Green Ext Time (p_c), s	0.0	9.9	0.3	0.0	0.0	10.6	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.2
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	3	875	1	13	488	3	1	0	10	5	0	3
Future Vol, veh/h	3	875	1	13	488	3	1	0	10	5	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	951	1	14	530	3	1	0	11	5	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	534	0	0	952	0	0	1520	1520	952	1524	1519	532
Stage 1	-	-	-	-	-	-	958	958	-	560	560	-
Stage 2	-	-	-	-	-	-	562	562	-	964	959	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1034	-	-	722	-	-	97	119	315	97	119	547
Stage 1	-	-	-	-	-	-	309	336	-	513	511	-
Stage 2	-	-	-	-	-	-	512	510	-	307	335	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1034	-	-	722	-	-	94	115	315	91	115	547
Mov Cap-2 Maneuver	-	-	-	-	-	-	94	115	-	91	115	-
Stage 1	-	-	-	-	-	-	307	334	-	510	497	-
Stage 2	-	-	-	-	-	-	495	496	-	295	333	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	19.5	34.2
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	260	1034	-	-	722	-	-	132
HCM Lane V/C Ratio	0.046	0.003	-	-	0.02	-	-	0.066
HCM Control Delay (s)	19.5	8.5	0	-	10.1	0	-	34.2
HCM Lane LOS	C	A	A	-	B	A	-	D
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	0	492	14	18	295	10	270	10	125	10	10	0
Future Volume (veh/h)	0	492	14	18	295	10	270	10	125	10	10	0
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	0	535	0	20	321	11	293	11	136	11	11	0
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	672	2027	928	540	2232	76	446	25	315	157	92	0
Arrive On Green	0.00	0.57	0.00	0.04	1.00	1.00	0.18	0.21	0.21	0.01	0.05	0.00
Sat Flow, veh/h	1774	3539	1583	1774	3492	119	1774	120	1481	1774	1863	0
Grp Volume(v), veh/h	0	535	0	20	162	170	293	0	147	11	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1842	1774	0	1601	1774	1863	0
Q Serve(g_s), s	0.0	7.6	0.0	0.4	0.0	0.0	14.9	0.0	8.0	0.6	0.6	0.0
Cycle Q Clear(g_c), s	0.0	7.6	0.0	0.4	0.0	0.0	14.9	0.0	8.0	0.6	0.6	0.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.93	1.00		0.00
Lane Grp Cap(c), veh/h	672	2027	928	540	1131	1177	446	0	341	157	92	0
V/C Ratio(X)	0.00	0.26	0.00	0.04	0.14	0.14	0.66	0.00	0.43	0.07	0.12	0.00
Avail Cap(c_a), veh/h	785	2027	928	653	1131	1177	674	0	488	284	158	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.95	0.95	0.95	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	10.8	0.0	7.8	0.0	0.0	34.1	0.0	34.1	44.2	45.4	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.3	0.2	1.6	0.0	0.9	0.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.8	0.0	0.2	0.1	0.1	7.4	0.0	3.6	0.3	0.3	0.0
LnGrp Delay(d),s/veh	0.0	11.1	0.0	7.9	0.3	0.2	35.7	0.0	35.0	44.4	46.0	0.0
LnGrp LOS		B		A	A	A	D		C	D	D	
Approach Vol, veh/h		535			352			440			22	
Approach Delay, s/veh		11.1			0.7			35.5			45.2	
Approach LOS		B			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	61.8	5.8	25.8	0.0	68.4	22.1	9.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	34.5	8.5	30.5	6.5	36.5	30.5	8.5
Max Q Clear Time (g_c+I1), s	2.4	9.6	2.6	10.0	0.0	2.0	16.9	2.6
Green Ext Time (p_c), s	0.0	5.3	0.0	0.9	0.0	5.6	0.7	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.9
HCM 2010 LOS	B

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✣	
Traffic Volume (veh/h)	0	410	480	84	481	0	0	0	0	96	0	23
Future Volume (veh/h)	0	410	480	84	481	0	0	0	0	96	0	23
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	446	522	91	523	0				104	0	25
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1282	1147	494	2886	0				132	0	32
Arrive On Green	0.00	0.72	0.72	0.05	0.82	0.00				0.09	0.00	0.09
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1398	0	336
Grp Volume(v), veh/h	0	446	522	91	523	0				129	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1734	0	0
Q Serve(g_s), s	0.0	9.3	13.6	1.1	3.2	0.0				7.3	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.3	13.6	1.1	3.2	0.0				7.3	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.81		0.19
Lane Grp Cap(c), veh/h	0	1282	1147	494	2886	0				164	0	0
V/C Ratio(X)	0.00	0.35	0.46	0.18	0.18	0.00				0.79	0.00	0.00
Avail Cap(c_a), veh/h	0	1282	1147	599	2886	0				355	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	5.1	5.7	3.7	2.0	0.0				44.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	1.3	0.2	0.1	0.0				8.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.7	6.2	0.6	1.6	0.0				3.8	0.0	0.0
LnGrp Delay(d),s/veh	0.0	5.8	7.0	3.9	2.1	0.0				52.4	0.0	0.0
LnGrp LOS		A	A	A	A					D		
Approach Vol, veh/h		968			614						129	
Approach Delay, s/veh		6.4			2.4						52.4	
Approach LOS		A			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.1	76.9				86.0		14.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	10.5	55.5				70.5		20.5
Max Q Clear Time (g_c+I1), s	3.1	15.6				5.2		9.3
Green Ext Time (p_c), s	0.1	12.3				13.3		0.4

Intersection Summary		
HCM 2010 Ctrl Delay		8.5
HCM 2010 LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	194	115	10	10	269	47	10	10	10	82	10	399
Future Volume (veh/h)	194	115	10	10	269	47	10	10	10	82	10	399
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	211	125	11	11	292	51	11	11	11	89	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	827	2339	204	921	1996	344	145	30	30	213	156	153
Arrive On Green	0.10	1.00	1.00	0.01	0.66	0.66	0.01	0.04	0.04	0.06	0.08	0.00
Sat Flow, veh/h	1774	3295	287	1774	3019	521	1774	856	856	1774	1863	1583
Grp Volume(v), veh/h	211	67	69	11	170	173	11	0	22	89	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1812	1774	1770	1771	1774	0	1712	1774	1863	1583
Q Serve(g_s), s	3.6	0.0	0.0	0.2	3.6	3.7	0.6	0.0	1.3	4.7	0.5	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.0	0.2	3.6	3.7	0.6	0.0	1.3	4.7	0.5	0.0
Prop In Lane	1.00		0.16	1.00		0.29	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	827	1256	1287	921	1170	1171	145	0	60	213	156	153
V/C Ratio(X)	0.26	0.05	0.05	0.01	0.14	0.15	0.08	0.00	0.36	0.42	0.07	0.00
Avail Cap(c_a), veh/h	1347	1256	1287	1048	1170	1171	272	0	145	307	214	203
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	3.8	0.0	0.0	5.3	6.3	6.4	45.6	0.0	47.1	41.1	42.2	0.0
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.0	0.3	0.3	0.2	0.0	3.6	1.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	0.1	1.8	1.9	0.3	0.0	0.7	2.4	0.3	0.0
LnGrp Delay(d),s/veh	3.9	0.1	0.1	5.3	6.6	6.6	45.8	0.0	50.8	42.4	42.4	0.0
LnGrp LOS	A	A	A	A	A	A	D		D	D	D	
Approach Vol, veh/h		347			354			33			100	
Approach Delay, s/veh		2.4			6.6			49.1			42.4	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	75.5	10.7	8.0	10.7	70.6	5.8	12.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	53.5	11.5	8.5	35.5	26.5	8.5	11.5
Max Q Clear Time (g_c+I1), s	2.2	2.0	6.7	3.3	5.6	5.7	2.6	2.5
Green Ext Time (p_c), s	0.0	2.7	0.1	0.0	0.6	2.4	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	10.8
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		✣			✣			↰↑↱			↰↑↱	
Traffic Volume (veh/h)	189	50	142	9	118	100	82	696	7	40	675	211
Future Volume (veh/h)	189	50	142	9	118	100	82	696	7	40	675	211
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	205	54	154	10	128	109	89	757	8	43	734	229
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	90	221	49	415	337	111	1107	13	73	1044	347
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	635	202	497	25	933	757	142	2380	28	73	2244	747
Grp Volume(v), veh/h	413	0	0	247	0	0	377	0	477	527	0	479
Grp Sat Flow(s),veh/h/ln	1334	0	0	1714	0	0	860	0	1690	1501	0	1563
Q Serve(g_s), s	15.9	0.0	0.0	0.0	0.0	0.0	20.1	0.0	21.1	10.1	0.0	23.6
Cycle Q Clear(g_c), s	25.2	0.0	0.0	9.3	0.0	0.0	43.7	0.0	21.1	31.1	0.0	23.6
Prop In Lane	0.50		0.37	0.04		0.44	0.24		0.02	0.08		0.48
Lane Grp Cap(c), veh/h	647	0	0	800	0	0	445	0	786	737	0	727
V/C Ratio(X)	0.64	0.00	0.00	0.31	0.00	0.00	0.85	0.00	0.61	0.71	0.00	0.66
Avail Cap(c_a), veh/h	647	0	0	800	0	0	445	0	786	737	0	727
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.4	0.0	0.0	18.0	0.0	0.0	27.8	0.0	19.9	21.7	0.0	20.6
Incr Delay (d2), s/veh	4.8	0.0	0.0	1.0	0.0	0.0	17.9	0.0	3.5	5.9	0.0	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	0.0	0.0	4.6	0.0	0.0	12.3	0.0	10.6	13.5	0.0	11.1
LnGrp Delay(d),s/veh	27.2	0.0	0.0	19.0	0.0	0.0	45.6	0.0	23.4	27.5	0.0	25.3
LnGrp LOS	C			B			D		C	C		C
Approach Vol, veh/h		413			247			854			1006	
Approach Delay, s/veh		27.2			19.0			33.2			26.4	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		49.0		51.0		49.0		51.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		44.5		46.5		33.5		46.5
Max Q Clear Time (g_c+I1), s		27.2		45.7		11.3		33.1
Green Ext Time (p_c), s		3.8		0.6		4.2		8.8

Intersection Summary	
HCM 2010 Ctrl Delay	28.1
HCM 2010 LOS	C

23: S. Broadway Street & 95th Street

	↰	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	14	8	6	78	6	305	2	210	71	159	283	14
Future Volume (veh/h)	14	8	6	78	6	305	2	210	71	159	283	14
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	15	9	7	85	7	332	2	228	77	173	308	15
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	377	383	298	692	14	656	336	393	133	385	667	32
Arrive On Green	0.02	0.39	0.39	0.05	0.42	0.42	0.00	0.29	0.29	0.09	0.38	0.38
Sat Flow, veh/h	1774	973	757	1774	33	1555	1774	1333	450	1774	1762	86
Grp Volume(v), veh/h	15	0	16	85	0	339	2	0	305	173	0	323
Grp Sat Flow(s),veh/h/ln	1774	0	1729	1774	0	1588	1774	0	1783	1774	0	1848
Q Serve(g_s), s	0.5	0.0	0.6	2.8	0.0	15.7	0.1	0.0	14.5	6.5	0.0	13.2
Cycle Q Clear(g_c), s	0.5	0.0	0.6	2.8	0.0	15.7	0.1	0.0	14.5	6.5	0.0	13.2
Prop In Lane	1.00		0.44	1.00		0.98	1.00		0.25	1.00		0.05
Lane Grp Cap(c), veh/h	377	0	681	692	0	670	336	0	526	385	0	699
V/C Ratio(X)	0.04	0.00	0.02	0.12	0.00	0.51	0.01	0.00	0.58	0.45	0.00	0.46
Avail Cap(c_a), veh/h	462	0	681	727	0	670	447	0	526	489	0	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.87	0.00	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	0.0	18.6	16.3	0.0	21.2	24.8	0.0	30.0	21.5	0.0	23.4
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.1	0.0	2.4	0.0	0.0	4.6	0.8	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	1.4	0.0	7.3	0.0	0.0	7.8	3.2	0.0	7.2
LnGrp Delay(d),s/veh	18.4	0.0	18.6	16.4	0.0	23.6	24.8	0.0	34.6	22.3	0.0	25.6
LnGrp LOS	B		B	B		C	C		C	C		C
Approach Vol, veh/h		31			424			307			496	
Approach Delay, s/veh		18.5			22.2			34.5			24.5	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	43.9	13.1	34.0	6.2	46.7	4.8	42.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	31.5	14.5	29.5	6.5	31.5	6.5	37.5
Max Q Clear Time (g_c+I1), s	4.8	2.6	8.5	16.5	2.5	17.7	2.1	15.2
Green Ext Time (p_c), s	0.0	2.2	0.2	2.7	0.0	1.7	0.0	3.2

Intersection Summary	
HCM 2010 Ctrl Delay	26.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↑	↱	↰	↱		↰	↱	
Traffic Volume (veh/h)	10	236	5	189	386	379	5	207	78	152	214	7
Future Volume (veh/h)	10	236	5	189	386	379	5	207	78	152	214	7
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	257	5	205	420	412	5	225	85	165	233	8
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	299	714	14	551	868	738	350	329	124	328	599	21
Arrive On Green	0.01	0.39	0.39	0.09	0.47	0.47	0.01	0.25	0.25	0.09	0.33	0.33
Sat Flow, veh/h	1774	1821	35	1774	1863	1583	1774	1290	487	1774	1790	61
Grp Volume(v), veh/h	11	0	262	205	420	412	5	0	310	165	0	241
Grp Sat Flow(s),veh/h/ln	1774	0	1856	1774	1863	1583	1774	0	1777	1774	0	1852
Q Serve(g_s), s	0.4	0.0	10.0	6.5	15.6	18.8	0.2	0.0	15.7	6.6	0.0	10.0
Cycle Q Clear(g_c), s	0.4	0.0	10.0	6.5	15.6	18.8	0.2	0.0	15.7	6.6	0.0	10.0
Prop In Lane	1.00		0.02	1.00		1.00	1.00		0.27	1.00		0.03
Lane Grp Cap(c), veh/h	299	0	728	551	868	738	350	0	453	328	0	619
V/C Ratio(X)	0.04	0.00	0.36	0.37	0.48	0.56	0.01	0.00	0.68	0.50	0.00	0.39
Avail Cap(c_a), veh/h	391	0	728	619	868	738	454	0	453	398	0	619
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.95	0.65	0.65	0.65	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	21.5	15.1	18.4	19.3	27.4	0.0	33.6	24.4	0.0	25.5
Incr Delay (d2), s/veh	0.0	0.0	1.3	0.3	1.3	2.0	0.0	0.0	8.1	1.2	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	5.4	3.2	8.2	8.6	0.1	0.0	8.8	3.3	0.0	5.4
LnGrp Delay(d),s/veh	18.2	0.0	22.8	15.3	19.7	21.3	27.4	0.0	41.8	25.6	0.0	27.3
LnGrp LOS	B		C	B	B	C	C		D	C		C
Approach Vol, veh/h		273			1037			315			406	
Approach Delay, s/veh		22.7			19.4			41.5			26.6	
Approach LOS		C			B			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	43.7	13.1	30.0	5.8	51.1	5.1	38.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	12.5	31.5	12.5	25.5	6.5	37.5	6.5	31.5
Max Q Clear Time (g_c+I1), s	8.5	12.0	8.6	17.7	2.4	20.8	2.2	12.0
Green Ext Time (p_c), s	0.2	5.2	0.1	1.7	0.0	4.9	0.0	2.7

Intersection Summary	
HCM 2010 Ctrl Delay	24.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	1	464	0	44	918	13	22	30	10	94	38	15
Future Volume (veh/h)	1	464	0	44	918	13	22	30	10	94	38	15
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	1	504	0	48	998	14	24	33	11	102	41	16
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	266	1241	0	621	1286	18	180	65	22	227	118	46
Arrive On Green	0.00	0.67	0.00	0.04	0.70	0.70	0.02	0.05	0.05	0.07	0.09	0.09
Sat Flow, veh/h	1774	1863	0	1774	1833	26	1774	1338	446	1774	1277	498
Grp Volume(v), veh/h	1	504	0	48	0	1012	24	0	44	102	0	57
Grp Sat Flow(s),veh/h/ln	1774	1863	0	1774	0	1858	1774	0	1784	1774	0	1775
Q Serve(g_s), s	0.0	12.4	0.0	0.8	0.0	35.7	1.3	0.0	2.4	5.3	0.0	3.0
Cycle Q Clear(g_c), s	0.0	12.4	0.0	0.8	0.0	35.7	1.3	0.0	2.4	5.3	0.0	3.0
Prop In Lane	1.00		0.00	1.00		0.01	1.00		0.25	1.00		0.28
Lane Grp Cap(c), veh/h	266	1241	0	621	0	1304	180	0	86	227	0	165
V/C Ratio(X)	0.00	0.41	0.00	0.08	0.00	0.78	0.13	0.00	0.51	0.45	0.00	0.35
Avail Cap(c_a), veh/h	379	1241	0	671	0	1304	252	0	277	256	0	311
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.7	7.6	0.0	5.2	0.0	9.8	43.6	0.0	46.4	39.7	0.0	42.5
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.1	0.0	4.6	0.3	0.0	4.6	1.4	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.6	0.0	0.4	0.0	19.7	0.6	0.0	1.3	2.7	0.0	1.5
LnGrp Delay(d),s/veh	10.7	8.5	0.0	5.2	0.0	14.4	43.9	0.0	51.0	41.1	0.0	43.8
LnGrp LOS	B	A		A		B	D		D	D		D
Approach Vol, veh/h		505			1060			68			159	
Approach Delay, s/veh		8.5			13.9			48.5			42.0	
Approach LOS		A			B			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	71.1	11.4	9.3	4.6	74.7	6.9	13.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	51.5	8.5	15.5	6.5	51.5	6.5	17.5
Max Q Clear Time (g_c+I1), s	2.8	14.4	7.3	4.4	2.0	37.7	3.3	5.0
Green Ext Time (p_c), s	0.0	13.0	0.0	0.3	0.0	8.0	0.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	16.2
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	2	556	0	13	971	36	1	1	19	3	30	2
Future Vol, veh/h	2	556	0	13	971	36	1	1	19	3	30	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	604	0	14	1055	39	1	1	21	3	33	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1095	0	0	604	0	0	1730	1732	604	1723	1712	1075
Stage 1	-	-	-	-	-	-	609	609	-	1103	1103	-
Stage 2	-	-	-	-	-	-	1121	1123	-	620	609	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	637	-	-	974	-	-	69	88	498	70	90	267
Stage 1	-	-	-	-	-	-	482	485	-	256	287	-
Stage 2	-	-	-	-	-	-	250	281	-	476	485	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	637	-	-	974	-	-	47	84	498	64	86	267
Mov Cap-2 Maneuver	-	-	-	-	-	-	47	84	-	64	86	-
Stage 1	-	-	-	-	-	-	480	483	-	255	276	-
Stage 2	-	-	-	-	-	-	211	271	-	453	483	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.1	18.3	75.2
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	294	637	-	-	974	-	-	87
HCM Lane V/C Ratio	0.078	0.003	-	-	0.015	-	-	0.437
HCM Control Delay (s)	18.3	10.7	0	-	8.8	0	-	75.2
HCM Lane LOS	C	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	10	210	43	108	560	10	548	10	99	10	10	10
Future Volume (veh/h)	10	210	43	108	560	10	548	10	99	10	10	10
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	228	0	117	609	11	596	11	108	11	11	11
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	989	443	447	1169	21	829	69	677	343	167	167
Arrive On Green	0.01	0.28	0.00	0.02	0.11	0.11	0.28	0.46	0.46	0.01	0.20	0.20
Sat Flow, veh/h	1774	3539	1583	1774	3557	64	1774	148	1457	1774	856	856
Grp Volume(v), veh/h	11	228	0	117	303	317	596	0	119	11	0	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1851	1774	0	1606	1774	0	1712
Q Serve(g_s), s	0.4	5.0	0.0	4.5	16.2	16.2	25.4	0.0	4.3	0.5	0.0	1.0
Cycle Q Clear(g_c), s	0.4	5.0	0.0	4.5	16.2	16.2	25.4	0.0	4.3	0.5	0.0	1.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.91	1.00		0.50
Lane Grp Cap(c), veh/h	229	989	443	447	582	609	829	0	746	343	0	334
V/C Ratio(X)	0.05	0.23	0.00	0.26	0.52	0.52	0.72	0.00	0.16	0.03	0.00	0.07
Avail Cap(c_a), veh/h	321	989	443	451	582	609	886	0	746	434	0	334
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.92	0.92	0.92	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.8	27.7	0.0	23.0	37.1	37.1	19.1	0.0	15.5	31.5	0.0	32.8
Incr Delay (d2), s/veh	0.1	0.5	0.0	0.3	3.0	2.9	2.6	0.0	0.5	0.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	2.5	0.0	2.2	8.4	8.8	12.9	0.0	2.0	0.2	0.0	0.5
LnGrp Delay(d),s/veh	25.9	28.3	0.0	23.3	40.2	40.0	21.7	0.0	15.9	31.6	0.0	33.2
LnGrp LOS	C	C		C	D	D	C		B	C		C
Approach Vol, veh/h		239			737			715			33	
Approach Delay, s/veh		28.2			37.4			20.7			32.7	
Approach LOS		C			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	32.5	5.8	51.0	5.8	37.4	32.8	24.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	24.5	6.5	44.5	6.5	24.5	31.5	19.5
Max Q Clear Time (g_c+I1), s	6.5	7.0	2.5	6.3	2.4	18.2	27.4	3.0
Green Ext Time (p_c), s	0.0	4.5	0.0	0.9	0.0	2.5	0.9	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	29.1
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✥	
Traffic Volume (veh/h)	0	220	357	132	986	0	0	0	0	43	0	15
Future Volume (veh/h)	0	220	357	132	986	0	0	0	0	43	0	15
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	239	388	143	1072	0				47	0	16
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1042	932	525	2424	0				289	0	98
Arrive On Green	0.00	0.59	0.59	0.05	0.69	0.00				0.22	0.00	0.22
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1284	0	437
Grp Volume(v), veh/h	0	239	388	143	1072	0				63	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1721	0	0
Q Serve(g_s), s	0.0	6.4	13.4	3.0	13.7	0.0				2.9	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.4	13.4	3.0	13.7	0.0				2.9	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.75		0.25
Lane Grp Cap(c), veh/h	0	1042	932	525	2424	0				387	0	0
V/C Ratio(X)	0.00	0.23	0.42	0.27	0.44	0.00				0.16	0.00	0.00
Avail Cap(c_a), veh/h	0	1042	932	744	2424	0				387	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	9.8	11.2	7.7	7.1	0.0				31.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.4	0.3	0.6	0.0				0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.3	6.2	1.5	6.7	0.0				1.5	0.0	0.0
LnGrp Delay(d),s/veh	0.0	10.3	12.6	8.0	7.7	0.0				32.1	0.0	0.0
LnGrp LOS		B	B	A	A					C		
Approach Vol, veh/h		627			1215						63	
Approach Delay, s/veh		11.7			7.7						32.1	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.6	63.4				73.0		27.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	17.5	46.5				68.5		22.5
Max Q Clear Time (g_c+I1), s	5.0	15.4				15.7		4.9
Green Ext Time (p_c), s	0.3	13.8				16.4		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	9.9
HCM 2010 LOS	A

Interim-No KTA PM
9: S. Woodlawn Blvd. & 95th Street

4/18/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱		↰	↑	↱
Traffic Volume (veh/h)	340	227	10	10	172	44	0	10	10	70	10	179
Future Volume (veh/h)	340	227	10	10	172	44	0	10	10	70	10	179
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	370	247	11	11	187	48	0	11	11	76	11	0
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	947	2498	111	804	1779	446	116	26	26	191	239	224
Arrive On Green	0.17	1.00	1.00	0.01	0.63	0.63	0.00	0.03	0.03	0.05	0.13	0.00
Sat Flow, veh/h	1774	3452	153	1774	2806	703	1774	856	856	1774	1863	1583
Grp Volume(v), veh/h	370	126	132	11	116	119	0	0	22	76	11	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1836	1774	1770	1739	1774	0	1712	1774	1863	1583
Q Serve(g_s), s	7.2	0.0	0.0	0.2	2.6	2.7	0.0	0.0	1.3	4.0	0.5	0.0
Cycle Q Clear(g_c), s	7.2	0.0	0.0	0.2	2.6	2.7	0.0	0.0	1.3	4.0	0.5	0.0
Prop In Lane	1.00		0.08	1.00		0.40	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	947	1280	1328	804	1122	1102	116	0	51	191	239	224
V/C Ratio(X)	0.39	0.10	0.10	0.01	0.10	0.11	0.00	0.00	0.43	0.40	0.05	0.00
Avail Cap(c_a), veh/h	1430	1280	1328	931	1122	1102	229	0	231	282	326	298
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	3.7	0.0	0.0	6.3	7.2	7.2	0.0	0.0	47.7	42.1	38.2	0.0
Incr Delay (d2), s/veh	0.3	0.1	0.1	0.0	0.2	0.2	0.0	0.0	5.6	1.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.1	0.1	0.1	1.3	1.3	0.0	0.0	0.7	2.0	0.3	0.0
LnGrp Delay(d),s/veh	3.9	0.1	0.1	6.3	7.4	7.4	0.0	0.0	53.2	43.4	38.3	0.0
LnGrp LOS	A	A	A	A	A	A			D	D	D	
Approach Vol, veh/h		628			246			22			87	
Approach Delay, s/veh		2.4			7.3			53.2			42.8	
Approach LOS		A			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	76.9	9.8	7.5	14.8	67.9	0.0	17.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	49.5	10.5	13.5	37.5	20.5	6.5	17.5
Max Q Clear Time (g_c+I1), s	2.2	2.0	6.0	3.3	9.2	4.7	0.0	2.5
Green Ext Time (p_c), s	0.0	2.7	0.0	0.0	1.1	2.3	0.0	0.1

Intersection Summary			
HCM 2010 Ctrl Delay			8.3
HCM 2010 LOS			A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑↱			↰↑↱			↰↑↑↱			↰↑↑↱	
Traffic Volume (veh/h)	201	89	112	6	64	39	108	583	7	41	622	164
Future Volume (veh/h)	201	89	112	6	64	39	108	583	7	41	622	164
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	218	97	122	7	70	42	117	634	8	45	676	178
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	157	185	59	476	271	157	1015	14	83	1108	304
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	721	352	416	47	1071	609	232	2183	30	93	2382	653
Grp Volume(v), veh/h	437	0	0	119	0	0	313	0	446	469	0	430
Grp Sat Flow(s),veh/h/ln	1488	0	0	1727	0	0	755	0	1690	1549	0	1580
Q Serve(g_s), s	18.4	0.0	0.0	0.0	0.0	0.0	21.6	0.0	19.2	6.0	0.0	20.0
Cycle Q Clear(g_c), s	22.4	0.0	0.0	4.0	0.0	0.0	41.6	0.0	19.2	25.1	0.0	20.0
Prop In Lane	0.50		0.28	0.06		0.35	0.37		0.02	0.10		0.41
Lane Grp Cap(c), veh/h	716	0	0	807	0	0	401	0	786	760	0	735
V/C Ratio(X)	0.61	0.00	0.00	0.15	0.00	0.00	0.78	0.00	0.57	0.62	0.00	0.59
Avail Cap(c_a), veh/h	716	0	0	807	0	0	401	0	786	760	0	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.3	0.0	0.0	16.5	0.0	0.0	29.2	0.0	19.4	20.0	0.0	19.7
Incr Delay (d2), s/veh	3.8	0.0	0.0	0.4	0.0	0.0	14.1	0.0	3.0	3.7	0.0	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	0.0	0.0	2.0	0.0	0.0	9.7	0.0	9.6	10.9	0.0	9.4
LnGrp Delay(d),s/veh	25.2	0.0	0.0	16.9	0.0	0.0	43.2	0.0	22.4	23.7	0.0	23.1
LnGrp LOS	C			B			D		C	C		C
Approach Vol, veh/h		437			119			759			899	
Approach Delay, s/veh		25.2			16.9			31.0			23.4	
Approach LOS		C			B			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		49.0		51.0		49.0		51.0
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5
Max Green Setting (Gmax), s		44.5		46.5		44.5		46.5
Max Q Clear Time (g_c+I1), s		24.4		43.6		6.0		27.1
Green Ext Time (p_c), s		3.2		2.2		3.6		10.0

Intersection Summary	
HCM 2010 Ctrl Delay	26.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	28	25	2	64	23	162	3	229	116	194	183	23
Future Volume (veh/h)	28	25	2	64	23	162	3	229	116	194	183	23
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	30	27	2	70	25	176	3	249	126	211	199	25
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	494	37	529	61	428	540	467	236	468	787	99
Arrive On Green	0.03	0.29	0.29	0.04	0.30	0.30	0.00	0.40	0.40	0.09	0.49	0.49
Sat Flow, veh/h	1774	1713	127	1774	201	1413	1774	1168	591	1774	1623	204
Grp Volume(v), veh/h	30	0	29	70	0	201	3	0	375	211	0	224
Grp Sat Flow(s),veh/h/ln	1774	0	1840	1774	0	1613	1774	0	1758	1774	0	1827
Q Serve(g_s), s	1.2	0.0	1.1	2.7	0.0	9.9	0.1	0.0	16.3	6.6	0.0	7.2
Cycle Q Clear(g_c), s	1.2	0.0	1.1	2.7	0.0	9.9	0.1	0.0	16.3	6.6	0.0	7.2
Prop In Lane	1.00		0.07	1.00		0.88	1.00		0.34	1.00		0.11
Lane Grp Cap(c), veh/h	362	0	530	529	0	488	540	0	703	468	0	886
V/C Ratio(X)	0.08	0.00	0.05	0.13	0.00	0.41	0.01	0.00	0.53	0.45	0.00	0.25
Avail Cap(c_a), veh/h	427	0	530	603	0	488	648	0	703	603	0	886
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.96	0.00	0.96	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.1	0.0	25.7	23.3	0.0	27.8	17.8	0.0	22.9	15.8	0.0	15.1
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.1	0.0	2.4	0.0	0.0	2.9	0.7	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.6	1.4	0.0	4.7	0.0	0.0	8.5	3.3	0.0	3.8
LnGrp Delay(d),s/veh	24.2	0.0	25.9	23.4	0.0	30.2	17.8	0.0	25.8	16.5	0.0	15.8
LnGrp LOS	C		C	C		C	B		C	B		B
Approach Vol, veh/h		59			271			378			435	
Approach Delay, s/veh		25.1			28.5			25.7			16.1	
Approach LOS		C			C			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	33.3	13.4	44.5	7.3	34.8	4.9	53.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	8.5	18.5	16.5	38.5	6.5	20.5	6.5	48.5
Max Q Clear Time (g_c+I1), s	4.7	3.1	8.6	18.3	3.2	11.9	2.1	9.2
Green Ext Time (p_c), s	0.0	1.0	0.3	3.0	0.0	0.7	0.0	3.4

Intersection Summary		
HCM 2010 Ctrl Delay		22.7
HCM 2010 LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	21	301	21	91	250	41	5	188	175	213	252	9
Future Volume (veh/h)	21	301	21	91	250	41	5	188	175	213	252	9
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	23	327	23	99	272	45	5	204	190	232	274	10
Adj No. of Lanes	1	1	0	1	1	1	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	505	754	53	471	860	731	308	191	178	284	586	21
Arrive On Green	0.02	0.44	0.44	0.05	0.46	0.46	0.01	0.22	0.22	0.12	0.33	0.33
Sat Flow, veh/h	1774	1720	121	1774	1863	1583	1774	889	828	1774	1786	65
Grp Volume(v), veh/h	23	0	350	99	272	45	5	0	394	232	0	284
Grp Sat Flow(s),veh/h/ln	1774	0	1841	1774	1863	1583	1774	0	1717	1774	0	1851
Q Serve(g_s), s	0.7	0.0	13.2	3.0	9.2	1.6	0.2	0.0	21.5	9.7	0.0	12.2
Cycle Q Clear(g_c), s	0.7	0.0	13.2	3.0	9.2	1.6	0.2	0.0	21.5	9.7	0.0	12.2
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.48	1.00		0.04
Lane Grp Cap(c), veh/h	505	0	807	471	860	731	308	0	369	284	0	607
V/C Ratio(X)	0.05	0.00	0.43	0.21	0.32	0.06	0.02	0.00	1.07	0.82	0.00	0.47
Avail Cap(c_a), veh/h	579	0	807	502	860	731	412	0	369	365	0	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.95	0.93	0.93	0.93	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.9	0.0	19.5	15.0	17.0	14.9	30.4	0.0	39.3	26.7	0.0	26.7
Incr Delay (d2), s/veh	0.0	0.0	1.6	0.2	0.9	0.2	0.0	0.0	65.9	10.7	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	7.1	1.5	4.9	0.7	0.1	0.0	16.9	5.6	0.0	6.7
LnGrp Delay(d),s/veh	15.0	0.0	21.1	15.2	17.9	15.1	30.4	0.0	105.2	37.5	0.0	29.2
LnGrp LOS	B		C	B	B	B	C		F	D		C
Approach Vol, veh/h		373			416			399			516	
Approach Delay, s/veh		20.7			16.9			104.2			32.9	
Approach LOS		C			B			F			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	48.3	16.5	26.0	6.9	50.7	5.1	37.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	37.5	16.5	21.5	6.5	37.5	6.5	31.5
Max Q Clear Time (g_c+I1), s	5.0	15.2	11.7	23.5	2.7	11.2	2.2	14.2
Green Ext Time (p_c), s	0.0	3.5	0.3	0.0	0.0	3.7	0.0	3.4

Intersection Summary			
HCM 2010 Ctrl Delay			43.0
HCM 2010 LOS			D

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	51	617	20	14	331	68	0	30	32	117	29	51
Future Volume (veh/h)	51	617	20	14	331	68	0	30	32	117	29	51
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	55	671	22	15	360	74	0	33	35	127	32	55
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	641	1187	39	446	959	197	151	49	52	245	115	197
Arrive On Green	0.04	0.66	0.66	0.02	0.64	0.64	0.00	0.06	0.06	0.08	0.19	0.19
Sat Flow, veh/h	1774	1794	59	1774	1500	308	1774	829	879	1774	616	1059
Grp Volume(v), veh/h	55	0	693	15	0	434	0	0	68	127	0	87
Grp Sat Flow(s),veh/h/ln	1774	0	1852	1774	0	1808	1774	0	1708	1774	0	1676
Q Serve(g_s), s	1.0	0.0	20.2	0.3	0.0	11.4	0.0	0.0	3.9	6.5	0.0	4.5
Cycle Q Clear(g_c), s	1.0	0.0	20.2	0.3	0.0	11.4	0.0	0.0	3.9	6.5	0.0	4.5
Prop In Lane	1.00		0.03	1.00		0.17	1.00		0.51	1.00		0.63
Lane Grp Cap(c), veh/h	641	0	1226	446	0	1157	151	0	101	245	0	312
V/C Ratio(X)	0.09	0.00	0.57	0.03	0.00	0.38	0.00	0.00	0.68	0.52	0.00	0.28
Avail Cap(c_a), veh/h	687	0	1226	531	0	1157	264	0	145	267	0	312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.81	0.00	0.81	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.0	0.0	9.1	7.6	0.0	8.5	0.0	0.0	46.1	38.1	0.0	34.9
Incr Delay (d2), s/veh	0.0	0.0	1.5	0.0	0.0	0.9	0.0	0.0	7.7	1.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	10.7	0.1	0.0	6.0	0.0	0.0	2.1	3.3	0.0	2.1
LnGrp Delay(d),s/veh	6.1	0.0	10.7	7.6	0.0	9.5	0.0	0.0	53.8	39.8	0.0	35.4
LnGrp LOS	A		B	A		A			D	D		D
Approach Vol, veh/h		748			449			68			214	
Approach Delay, s/veh		10.3			9.4			53.8			38.0	
Approach LOS		B			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	70.7	12.7	10.4	8.4	68.5	0.0	23.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	6.5	57.5	9.5	8.5	6.5	57.5	6.5	11.5
Max Q Clear Time (g_c+I1), s	2.3	22.2	8.5	5.9	3.0	13.4	0.0	6.5
Green Ext Time (p_c), s	0.0	7.6	0.0	0.1	0.0	7.8	0.0	0.3

Intersection Summary		
HCM 2010 Ctrl Delay		16.1
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	2	765	1	22	412	8	0	0	17	12	0	2
Future Vol, veh/h	2	765	1	22	412	8	0	0	17	12	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	832	1	24	448	9	0	0	18	13	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	457	0	0	833	0	0	1337	1340	832	1346	1337	452
Stage 1	-	-	-	-	-	-	836	836	-	500	500	-
Stage 2	-	-	-	-	-	-	501	504	-	846	837	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1104	-	-	800	-	-	130	153	369	128	153	608
Stage 1	-	-	-	-	-	-	362	382	-	553	543	-
Stage 2	-	-	-	-	-	-	552	541	-	357	382	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1104	-	-	800	-	-	125	146	369	118	146	608
Mov Cap-2 Maneuver	-	-	-	-	-	-	125	146	-	118	146	-
Stage 1	-	-	-	-	-	-	361	381	-	551	521	-
Stage 2	-	-	-	-	-	-	528	519	-	338	381	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.5	15.3	35.5
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	369	1104	-	-	800	-	-	133
HCM Lane V/C Ratio	0.05	0.002	-	-	0.03	-	-	0.114
HCM Control Delay (s)	15.3	8.3	0	-	9.6	0	-	35.5
HCM Lane LOS	C	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	↱		↰	↱	
Traffic Volume (veh/h)	10	440	23	20	321	10	184	10	127	10	10	10
Future Volume (veh/h)	10	440	23	20	321	10	184	10	127	10	10	10
Number	5	2	12	1	6	16	7	4	14	3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	11	478	0	22	349	11	200	11	138	11	11	11
Adj No. of Lanes	1	2	1	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	483	1624	727	454	1642	52	567	38	482	383	200	200
Arrive On Green	0.01	0.46	0.00	0.01	0.15	0.15	0.11	0.32	0.32	0.01	0.23	0.23
Sat Flow, veh/h	1774	3539	1583	1774	3503	110	1774	118	1483	1774	856	856
Grp Volume(v), veh/h	11	478	0	22	176	184	200	0	149	11	0	22
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1770	1843	1774	0	1601	1774	0	1712
Q Serve(g_s), s	0.3	8.4	0.0	0.7	8.7	8.7	8.2	0.0	6.9	0.5	0.0	1.0
Cycle Q Clear(g_c), s	0.3	8.4	0.0	0.7	8.7	8.7	8.2	0.0	6.9	0.5	0.0	1.0
Prop In Lane	1.00		1.00	1.00		0.06	1.00		0.93	1.00		0.50
Lane Grp Cap(c), veh/h	483	1624	727	454	829	864	567	0	520	383	0	399
V/C Ratio(X)	0.02	0.29	0.00	0.05	0.21	0.21	0.35	0.00	0.29	0.03	0.00	0.06
Avail Cap(c_a), veh/h	593	1624	727	547	829	864	745	0	520	493	0	399
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.99	0.99	0.99	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.3	16.9	0.0	14.2	26.1	26.1	23.3	0.0	25.1	28.6	0.0	29.8
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.6	0.6	0.4	0.0	1.4	0.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.2	0.0	0.3	4.4	4.6	4.0	0.0	3.3	0.2	0.0	0.5
LnGrp Delay(d),s/veh	14.3	17.4	0.0	14.2	26.7	26.7	23.6	0.0	26.5	28.6	0.0	30.1
LnGrp LOS	B	B		B	C	C	C		C	C		C
Approach Vol, veh/h		489			382			349			33	
Approach Delay, s/veh		17.3			26.0			24.9			29.6	
Approach LOS		B			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	50.4	5.8	37.0	5.8	51.4	15.0	27.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	34.5	7.5	32.5	7.5	34.5	20.5	19.5
Max Q Clear Time (g_c+I1), s	2.7	10.4	2.5	8.9	2.3	10.7	10.2	3.0
Green Ext Time (p_c), s	0.0	5.0	0.0	1.0	0.0	5.0	0.4	0.8

Intersection Summary			
HCM 2010 Ctrl Delay			22.4
HCM 2010 LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↱		↰	↑↑						✣	
Traffic Volume (veh/h)	0	377	416	85	430	0	0	0	0	96	0	12
Future Volume (veh/h)	0	377	416	85	430	0	0	0	0	96	0	12
Number	5	2	12	1	6	16				3	8	18
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1900	1863	1863	0				1900	1863	1900
Adj Flow Rate, veh/h	0	410	452	92	467	0				104	0	13
Adj No. of Lanes	0	2	0	1	2	0				0	1	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				0	2	0
Cap, veh/h	0	1016	909	412	2354	0				381	0	48
Arrive On Green	0.00	0.57	0.57	0.05	0.67	0.00				0.25	0.00	0.25
Sat Flow, veh/h	0	1863	1583	1774	3632	0				1556	0	195
Grp Volume(v), veh/h	0	410	452	92	467	0				117	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	1583	1774	1770	0				1751	0	0
Q Serve(g_s), s	0.0	12.8	17.0	2.0	5.1	0.0				5.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.8	17.0	2.0	5.1	0.0				5.4	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.89		0.11
Lane Grp Cap(c), veh/h	0	1016	909	412	2354	0				429	0	0
V/C Ratio(X)	0.00	0.40	0.50	0.22	0.20	0.00				0.27	0.00	0.00
Avail Cap(c_a), veh/h	0	1016	909	534	2354	0				429	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	11.8	12.7	8.9	6.5	0.0				30.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	1.9	0.3	0.2	0.0				1.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.6	7.9	1.0	2.5	0.0				2.8	0.0	0.0
LnGrp Delay(d),s/veh	0.0	13.0	14.7	9.2	6.7	0.0				32.1	0.0	0.0
LnGrp LOS		B	B	A	A					C		
Approach Vol, veh/h		862			559						117	
Approach Delay, s/veh		13.9			7.1						32.1	
Approach LOS		B			A						C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.1	61.9				71.0		29.0
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	11.5	50.5				66.5		24.5
Max Q Clear Time (g_c+I1), s	4.0	19.0				7.1		7.4
Green Ext Time (p_c), s	0.1	9.8				10.9		0.5

Intersection Summary			
HCM 2010 Ctrl Delay			12.8
HCM 2010 LOS			B

Appendix F: Hydrologic and Hydraulic Studies

APPENDIX 1: H&H/BRIDGE ANALYSES MEMO

MEMO

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

TO: TranSystems Corp.
245 N. Waco, Suite 222
Wichita, KS 67202
ATTENTION: Brett Letkowski
FROM: Scott A. Dunakey
REFERENCE: Technical Memo - H & H/Bridge Analyses

DATE: 10/17/2016
PROJECT NO.: 15800-000
PROJECT: 95th St. South/Arkansas River Corridor Study
COPIES TO: Joe Surmeier, Dave Hubbard, Slade Engstrom, Michael Bailey, Phil Frazier, Seth Niebaum

Please advise immediately of any misconceptions or omissions you believe to be contained herein.

This memo summarizes the preliminary hydraulic analyses to recommend bridge types, sizes and locations for the referenced project. The analyzed locations along 95th St. South are existing and proposed crossings of the Arkansas River, Spring Creek and Cowskin Creek.

ARKANSAS RIVER/SPRING CREEK

Existing Conditions

1. 95th Street South is proposed to cross the Arkansas River and Spring Creek about 2.75 miles (along the river) downstream of the Wichita Valley Center Floodway Confluence.

2. No roadway currently crosses the Arkansas River or Spring Creek at this location. 95th Street terminates at Bluff Street west of the Arkansas River and at K-15 east of the river.

3. The most current FEMA Flood Insurance Study (FIS) for Sedgwick County was reviewed. The following items are of interest for this project:
    a. The project location is found on Panels 0518 and 0519 (Exhibit A).
    b. The floodplain is very wide and fairly shallow near 95th Street.
    c. Spring Creek flood elevations are controlled by the Arkansas River from about 95th Street to the confluence.
    d. The Arkansas River and Spring Creek are mapped as a common, Zone AE floodplain with a regulatory floodway near 95th Street. A detailed study has been produced to define base flood elevations and flood profiles. The floodway is very wide near 95th Street.
        (1) The floodway is about 1750' wide for the Arkansas River near 95th Street.
        (2) The floodway is about 700' wide for Spring Creek near 95th Street.
        (3) The total width between the west floodway boundary of the Arkansas River and the east floodway boundary of Spring Creek is about 2750'.

e. Peak discharges and water surface elevations for the Arkansas River near 95th Street are as follows (Exhibit B):

  (1) 10 Year Q = 47,670 cfs, WSEL = 1238.

  (2) 25 Year Q = 54,680 cfs, WSEL = 1239.

  (3) 50 Year Q = 61,280 cfs, WSEL = 1240.

  (4) 100 Year Q = 69,590 cfs, WSEL = 1241.

  (5) 500 Year Q = 90,000 cfs, WSEL = 1243.

f. The flood profiles depict the Arkansas River to be flowing at “normal depth” from the Sedgwick/Sumner County line to 83rd Street South. All flood profiles appear to be uniform and parallel to each other, and to the streambed.

g. The total width of the floodplain near 95th Street is about 11,000’ (a little more than 2 miles).

4. The nearest bridges crossing the Arkansas River are at these locations:

  a. 83rd Street South, which is located about 2.0 miles upstream (along the river) from the proposed 95th Street crossing.

  b. 119th Street South (K-53)(Sedgwick/Sumner County line), which is located about 3.9 miles downstream (along the river) from the proposed 95th Street crossing.

  c. Railroad located about 1.8 miles south of the 119th Street bridge (along the river).

  d. All three of these bridges convey essentially the same discharges as 95th Street. The 83rd Street bridge is downstream of the Wichita Valley Center Floodway confluence.

    (1) The 83rd Street South bridge is about 840’ long.

    (2) The 119th Street South bridge is about 800’ long.

    (3) The railroad bridge (south of 119th) is about 750’ long.

Regulatory Issues

1. Construction of the new bridge(s) at 95th Street will require crossing a FEMA designed floodway where no road or bridge or constriction or obstruction to the floodplain currently exists.

  a. NFIP regulations (Paragraph 60.3.(d).(3) and (4)) set forth the following requirements for construction within the floodway:

    (1) “Prohibit encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice

that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge;"

(2) "Notwithstanding any other provisions of 60.3, a community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that the community first applies for a conditional FIRM and floodway revision, fulfills the requirements for such revisions as established under the provisions of 65.12, and receives the approval of the Administrator."

b. Stated differently, the proposed construction either cannot raise the base flood profile, or if the base flood profile is raised, a CLOMR must be received from FEMA to permit the construction.

c. To demonstrate "zero rise" to the base flood profile would require the following:

(1) Build a bridge(s) with a low chord above the base flood elevation, and that spans the entire floodway. Under this scenario, the following would be required:

(a) The bridge over the Arkansas River would need to be at least 1750' long, and the low chord elevation of the bridge would need to be above 1241.0.

(b) The bridge over Spring Creek would need to be at least 700' long, and the low chord elevation of the bridge would need to be at least 1241.0.

d. Bridges of these lengths, when compared to other nearby major bridges that convey the same discharge, do not seem practicable. As an additional example, the Spring Creek bridge just upstream crossing K-15 is only about 160' long (compare this to 700').

e. Therefore, it may be advisable to build a bridge(s) of practicable length, and to pursue a CLOMR. It would seem that once the project is built, the County likely would prefer the FEMA maps recognize the new bridge and roadway.

Alternatives Investigated

1. Alternative #1: Build two separate bridges along the alignment proposed by TranSystems; one bridge over the Arkansas River, one bridge over Spring Creek.

a. Both bridges would be skewed 30 degrees (right) to align the substructures with the direction of flowing water.

   b. The bridge over the Arkansas River could be a NU-Type Prestressed Concrete Beam structure.
      (1) The total bridge length could be about 840’ assuming 7 spans @ 120’.
      (2) It may be desirable to keep the low beam at least 3’ higher than the 500-year flood, which would put it at about 1245. Therefore, the top of the road would be about 1253. For reference, the railroad tracks and K-15 to the east are at about 1255.
   c. The bridge over Spring Creek could be a K4 Type Prestressed Concrete Beam structure.
      (1) The total bridge length could be about 270’ assuming 3 spans @ 90’.
      (2) The Spring Creek Bridge would be at about the same elevation as the Arkansas River bridge.
   d. The preliminary hydraulic analyses indicate constructing bridges of these lengths in the floodway would cause about 0.5’ of backwater.
   e. The roadway length between the east abutment of the Arkansas River bridge and the west abutment of the Spring Creek bridge is about 350’.

2. <u>Alternative #2:</u> Build one long bridge along the alignment proposed by TranSystems (i.e. eliminate the 350’ of roadway between the bridges described for Alternative #1).
   a. The bridge would be skewed 30 degrees (right) to align the substructures with the direction of flowing water.
   b. The bridge could be NU Type Prestressed Concrete Beam structure.
      (1) The total bridge length could be about 1560’ assuming 13 spans at 120’.
      (2) This bridge would be built at about the same elevation as described for Alternative #1.
   c. The preliminary hydraulic analyses indicate constructing bridges of these lengths in the floodway would cause less than 0.5’ of backwater.
   d. This option would cause less disruption to the natural floodplain than Alternative #1.

3. <u>Alternative #3:</u> Re-align 95th Street to be located along a horizontal curve, and south of TranSystem’s alignment. The new alignment would cross the Arkansas River and Spring Creek perpendicular to the direction of flow.
   a. Two separate bridges could be built on the horizontal curve, eliminating the need to skew the substructures.

b. The bridge over the Arkansas River could be a 7 span (7 @ 120’) NU Type Prestressed Concrete beam bridge, which would be consistent with the lengths of other nearby bridges crossing the Arkansas River.

c. The bridge over Spring Creek could be a 3 span (3 @ 90’) Type K4 Prestressed Concrete beam bridge.

d. The revised horizontal alignment would move the roadway and bridge construction south of the hill, and allow the Spring Creek bridge to more efficiently function as an overflow structure for the Arkansas River.

Recommended Alternative

1. PEC recommends Alternative #2, one bridge that will span both the Arkansas River and Spring Creek.
   a. Preliminary bridge spans of 13 @ 120’ (1560’) would be required to span both waterways.
   b. The low chord of the new bridge should be no lower than 1246.0 at each abutment.
   c. The crown grade of 95th Street would be about 7’ above the low chord of the bridge.
   d. The center of the bridge should be at the P.I. of a crest vertical curve.
   e. The crown grade of 95th Street west of the bridge should be no lower than 1242.0.
   f. The crown grade of 95th Street east of the bridge should be about 1255.0 to match K-15.

COWSKIN CREEK

1. Existing Conditions: The proposed 95th Street bridge crossing the Cowskin Creek east of Broadway is more straightforward.
   a. The FEMA does not define a floodway for the Cowskin Creek at 95th Street South.
   b. The bridge at Broadway, located about 560’ upstream of the 95th Street bridge, is a 3 span haunched slab, skewed 30 degrees, and is about 160’ long.
   c. The Cowskin Creek drainage area is 6.8 square miles at 95th Street.
   d. Review table of discharges from FEMA FIS (Exhibit C).
      (1) 10 Year Q = 2200 cfs.
      (2) 50 Year Q = 3760 cfs.
      (3) 100 Year Q = 4340 cfs.
      (4) 500 Year Q = 5800 cfs.

2. Recommendation: Based on these discharges, it seems reasonable to recommend a slightly longer bridge at 95th Street as the bridge at Broadway (54’-72’-54’). The bridge at 95th Street will also need to be skewed 30 degrees.
3. There is no need for a CLOMR at the Cowskin Creek since an existing bridge would be replaced with a longer bridge and no significant changes to the profile grade are anticipated because it is only about 500’ east of Broadway.

BRIDGE DESIGN CRITERIA

1. Design Criteria
    a. AASHTO LRFD Bridge Design Specifications
    b. KDOT Bridge Design Manual
    c. KDOT Standard Specifications
2. Design Vehicle – HL-93
3. Design Life – 75 years
4. Clear Roadway Width – To be determined.

BRIDGE COST ESTIMATES

A breakdown of probable construction costs and assumptions is included as Exhibit D. For reference, estimated costs in FY2017 are:

1. 95th St. & Arkansas River/Spring Creek = $15.32 million
2. 95th St. & Cowskin Creek = $1.26 million
3. Total = $16.58 million

ADDITIONAL CONSIDERATIONS

Other issues to consider and discuss as the project moves forward:

- Clarify or define the specific requirement to not back up water on adjacent upstream property owners, or whether some rise is tolerable if a CLOMR is requested.
- Possibly widen the floodway on publicly owned land to comply with allowable 1.0’ surcharge.
- Verify or determine if any insurable structures actually impacted by a 0.5’ rise to the base flood profile if the new bridge is constructed.
- Assure all interested parties understand the level of effort required for a CLOMR, and that it is scoped correctly. A CLOMR is typically submitted to FEMA at the Field Check stage of a project.
- Permits will be needed from the Participating Community (Sedgwick County), the Kansas Department of Agriculture – Division of Water Resources, and the U.S. Army Corps of Engineers.

EXHIBIT A

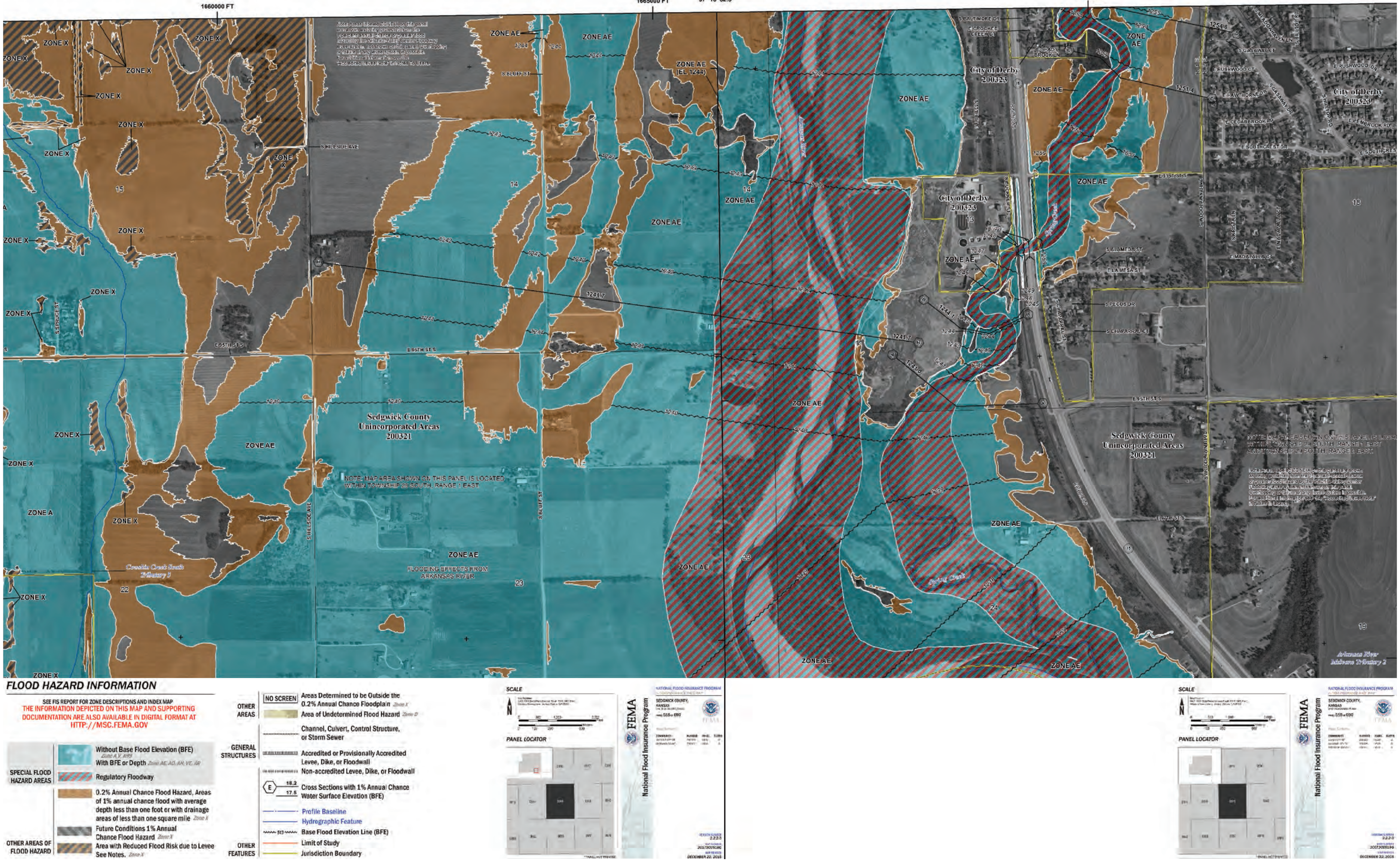
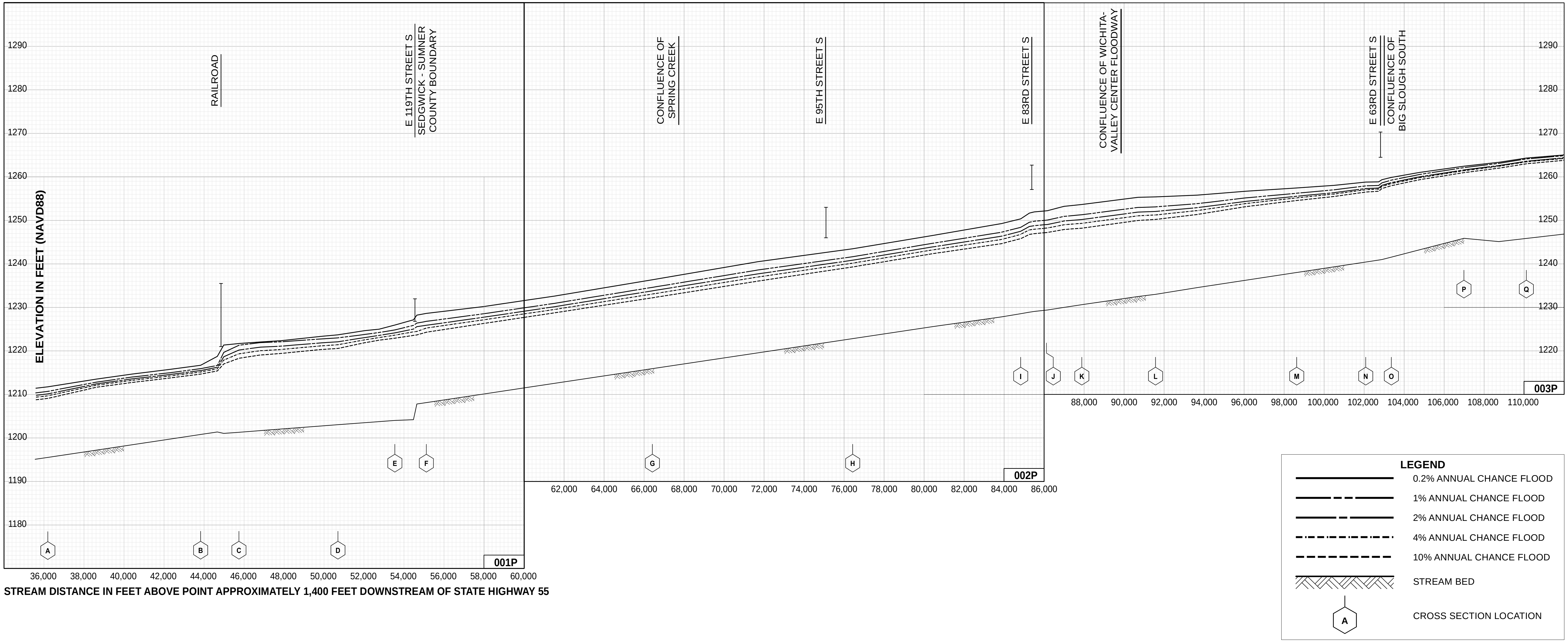

1660000 FT
1665000 FT
97° 16' 52.5"
1670000 FT
ZONE X
ZONE AE
ZONE AE (EL 1244)
ZONE A
City of Derby 200323
Sedgwick County Unincorporated Areas 200321
NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 28 SOUTH, RANGE 1 EAST
FLOODING EFFECTS FROM ARKANSAS RIVER
Spring Creek
Cowskin Creek South Tributary 3
Arkansas River Midway Tributary 2
S BLUFF ST
S HILLSIDE AVE
E 55TH ST S
E 63RD ST S
S ROCK RD
E MADISON AVE
FLOOD HAZARD INFORMATION
SEE FIS REPORT FOR ZONE DESCRIPTIONS AND INDEX MAP
THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTP://MSC.FEMA.GOV
SPECIAL FLOOD HAZARD AREAS
Without Base Flood Elevation (BFE) Zone A, V, A99
With BFE or Depth Zone AE, AO, AH, VE, AR
Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD
0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
Future Conditions 1% Annual Chance Flood Hazard Zone X
Area with Reduced Flood Risk due to Levee See Notes. Zone X
OTHER AREAS
NO SCREEN Areas Determined to be Outside the 0.2% Annual Chance Floodplain Zone X
Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES
Channel, Culvert, Control Structure, or Storm Sewer
Accredited or Provisionally Accredited Levee, Dike, or Floodwall
Non-accredited Levee, Dike, or Floodwall
E 18.2 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation (BFE)
Profile Baseline
Hydrographic Feature
513 Base Flood Elevation Line (BFE)
OTHER FEATURES
Limit of Study
Jurisdiction Boundary
SCALE
PANEL LOCATOR
FEMA
National Flood Insurance Program
NATIONAL FLOOD INSURANCE PROGRAM
SEDGWICK COUNTY, KANSAS
DECEMBER 22, 2016

EXHIBIT B



FEDERAL EMERGENCY MANAGEMENT AGENCY

SEDGWICK COUNTY, KS
AND INCORPORATED AREAS

FLOOD PROFILES

ARKANSAS RIVER

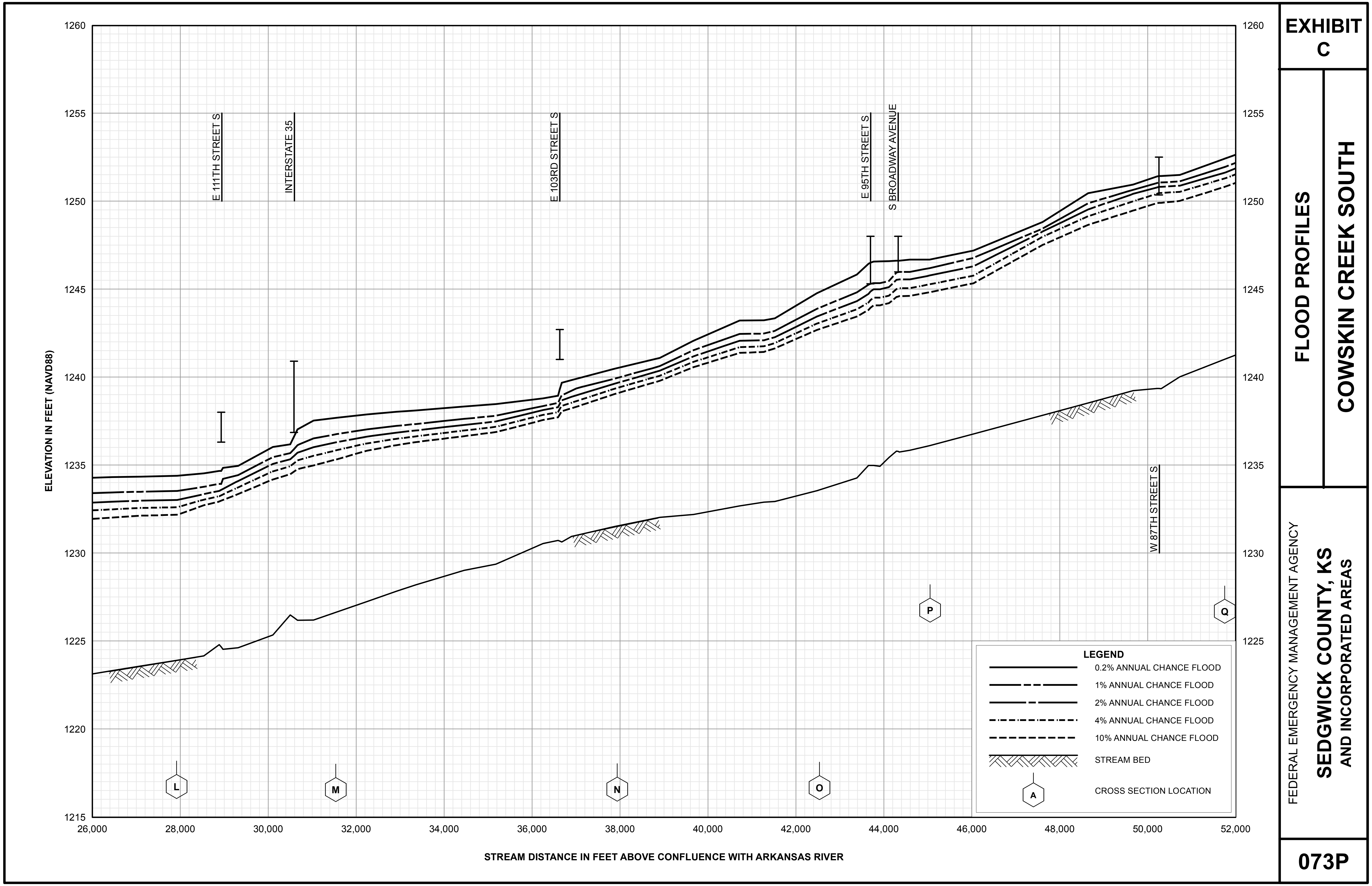


EXHIBIT C
FLOOD PROFILES
COWSKIN CREEK SOUTH
FEDERAL EMERGENCY MANAGEMENT AGENCY
SEDGWICK COUNTY, KS
AND INCORPORATED AREAS
073P
ELEVATION IN FEET (NAVD88)
STREAM DISTANCE IN FEET ABOVE CONFLUENCE WITH ARKANSAS RIVER
1260
1255
1250
1245
1240
1235
1230
1225
1220
1215
26,000
28,000
30,000
32,000
34,000
36,000
38,000
40,000
42,000
44,000
46,000
48,000
50,000
52,000
E 111TH STREET S
INTERSTATE 35
E 103RD STREET S
E 95TH STREET S
S BROADWAY AVENUE
W 87TH STREET S
L
M
N
O
P
Q
LEGEND
0.2% ANNUAL CHANCE FLOOD
1% ANNUAL CHANCE FLOOD
2% ANNUAL CHANCE FLOOD
4% ANNUAL CHANCE FLOOD
10% ANNUAL CHANCE FLOOD
STREAM BED
A
CROSS SECTION LOCATION

Appendix G: Public Comments

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both? None
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? None
- Where do you see **future commercial/business development** in this area? That would Be terrible
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  [✓ At-Grade] Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? Yes.
- What, if anything, would improve farm vehicle access along this route? Nothing
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - ○ Why? We like it Country!
  - ○ Why not?
- Any other comments you would like to share? (Please specify) Redacted due to Vulgarity You!

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ● Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? no residential
- Where do you see **future commercial/business development** in this area?
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns?
- What, if anything, would improve farm vehicle access along this route? yes
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why?
  - ○ Why not?
- Any other comments you would like to share? (Please specify)

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - Rural – shoulder with open ditches no curb and gutter
  - Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? NONE - floodplain + privately owned property
- Where do you see **future commercial/business development** in this area? NONE - floodplain + privately owned property
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? Yes, adversly - NOT AN IMPROVEMENT
- What, if anything, would improve farm vehicle access along this route? There won't be an improvement - leave as is
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - Why?
  - Why not? Because you can't build there - won't grow business. Plenty of access now. Waste of a lot of good money. Seriously negatively impacts current residents - won't benefit us!
- Any other comments you would like to share? (Please specify)
  This plan is not needed for the reasons they are giving. I feel they are trying to sell this big expense and imposition to residents for other reasons than helping us out. This will not.

You put a lot of $ and time into creating a website & you want feedback. Create a place on the website for us to provide comments and feedback & ask questions please!

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - Rural – shoulder with open ditches no curb and gutter
  - [✓ Urban – curb and gutter and storm sewer]
- Where do you see **future residential development** in this area? All the way out to Butler Co.
- Where do you see **future commercial/business development** in this area? west of River
- Do you believe this route may improve emergency services? [✓ Y] N 100% Cold
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route? 10 feet shoulders
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - Why? Easier Access To Both West and East Sedg Co.
  - Why not?
- Any other comments you would like to share? (Please specify) Bring 95th wider out to Butler county line - east

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? NOT much (I hope)
- Where do you see **future commercial/business development** in this area? NONE (I hope)
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? YES
- What, if anything, would improve farm vehicle access along this route? NONE
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - Why? We already have Access plenty
  - Why not?
- Any other comments you would like to share? (Please specify) WHY NOT 71ST St?

I LIVE RURAL by CHOICE! I CHOOSE TO REMAIN RURAL!

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ● Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? none
- Where do you see **future commercial/business development** in this area?
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route?
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - Why? we don't want groth you do
  - Why not? use K-53
- Any other comments you would like to share? (Please specify) not 95th

ARC95 Questionnaire
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Sedgwick County... working for you

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? minimal
- Where do you see **future commercial/business development** in this area? hopefully none
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one) ? don't know
  At-Grade Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route? is a concern!!
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? quicker + easier access to western Sedgwick Co.
  - ○ Why not?
- Any other comments you would like to share? (Please specify) Check River Blvd – 63rd to 95th development along river: proposal 20 yrs ago or more ?(Ray Warren?)

ARC95 Questionnaire
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Sedgwick County... working for you

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area?
- Where do you see **future commercial/business development** in this area? @ K15, I-35
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why?
  - ○ Why not?
- Any other comments you would like to share? (Please specify)

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - [✓ Urban – curb and gutter and storm sewer]
- Where do you see **future residential development** in this area? Various and higher ~~Cl~~ Class than 47 + B[illegible]
- Where do you see **future commercial/business development** in this area? ____________
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade [✓ Rail over Road] * Road over Road and Rail
- Would these improvements change your traffic patterns? no
- What, if anything, would improve farm vehicle access along this route? ____________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] !! N
  - ○ Why? ____________
  - ○ Why not? ____________
- Any other comments you would like to share? (Please specify) ____________

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ● Rural – shoulder with open ditches no curb and gutter
  - [✓ Urban – curb and gutter and storm sewer]
- Where do you see **future residential development** in this area? NO resdintil
- Where do you see **future commercial/business development** in this area? ____________
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? YES
- What, if anything, would improve farm vehicle access along this route? ____________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? ____________
  - ○ Why not? ____________
- Any other comments you would like to share? (Please specify) ____________

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ☒ Urban – curb and gutter and storm sewer – previously recommended parkway approach
- Where do you see **future residential development** in this area? initially along arterials Meridian and Broadway, then filling inward south of Haysville
- Where do you see **future commercial/business development** in this area? southward, spreading between arterials Meridian & Broadway
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? no – at least not daily
- What, if anything, would improve farm vehicle access along this route? __________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? opening up the area for commercial and residential use – quite significantly beneficial
  - ○ Why not? __________
- Any other comments you would like to share? (Please specify) very positive – hasten it

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ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? __________
- Where do you see **future commercial/business development** in this area? __________
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route? __________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ☒ Why? people will not have to go as far to get across River
  - ○ Why not? __________
- Any other comments you would like to share? (Please specify) __________

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☑ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Not sure
- Where do you see **future commercial/business development** in this area? in town
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  [✓ At-Grade] Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? NO
- What, if anything, would improve farm vehicle access along this route? not sure
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? Better infrastructure
  - ○ Why not? ______
- Any other comments you would like to share? (Please specify) NO

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- What type of **typical section** should we consider using? Rural, urban or a [✓ blend of both?]
  - ○ Rural – shoulder with open ditches no curb and gutter—other intersections
  - ○ Urban – curb and gutter and storm sewer—at Hillside, Hydraulic, Broadway, K-15
- Where do you see **future residential development** in this area? Hillside, Hydraulic, Broadway, K-15
- Where do you see **future commercial/business development** in this area? Broadway, K-15
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? not likely, unless part of a new loop.
- What, if anything, would improve farm vehicle access along this route? frontage road
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? But only if it is part of a new loop encompassing K96-I235 loop
  - ○ Why not? ______
- Any other comments you would like to share? (Please specify) ______

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ☒ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? YOU BUILD ACCESS DEVELOPMENT WILL FOLLOW

  ALONG THE ENTIRE IMPROVEMENT
- Where do you see **future commercial/business development** in this area? DITTO
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? DEPENDS TURNPIKE ACCESS
- What, if anything, would improve farm vehicle access along this route? NOT A FARMER - NO CLUE
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ☒ Why? A BETTER FACILATE MOVEMENTS OF COMMERCE
  - ○ Why not? ____
- Any other comments you would like to share? (Please specify) ____

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? South
- Where do you see **future commercial/business development** in this area? Downtown
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route? underpass
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? I live Here
  - ○ Why not? ____
- Any other comments you would like to share? (Please specify) X

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- What type of **typical section** should we consider using? Rural, urban or [✓ a blend of both?]
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ______________
- Where do you see **future commercial/business development** in this area? ______________
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? ______________
- What, if anything, would improve farm vehicle access along this route? Wide Shoulders
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? FROM South of 79th it would be a direct path +
  - ○ Why not? ______________
- Any other comments you would like to share? (Please specify) ______________

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Derby
- Where do you see **future commercial/business development** in this area? Turnpike
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  [✓ At-Grade] Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? ______________
- What, if anything, would improve farm vehicle access along this route? ______________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? River crossing
  - ○ Why not? ______________
- Any other comments you would like to share? (Please specify) Keep speed limit 55

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - Rural – shoulder with open ditches no curb and gutter
  - Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Derby
- Where do you see **future commercial/business development** in this area? Derby
- Do you believe this route may improve emergency services? Y N
  not on the Derby side
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? No
- What, if anything, would improve farm vehicle access along this route? ______
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - Why? ______
  - Why not? ______
- Any other comments you would like to share? (Please specify) It seems like 63rd St would be a better / less expensive route.

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - [✓ Rural – shoulder with open ditches no curb and gutter]
  - Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Around Haysville, and South of Derby
- Where do you see **future commercial/business development** in this area? Haysville, SE Side of Derby
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? Yes, when going to Rose Hill or South on K-15
- What, if anything, would improve farm vehicle access along this route? ______
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - Why? Another way across the river to the east and Southeast
  - Why not? ______
- Any other comments you would like to share? (Please specify) ______

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - [✓ ○ Rural – shoulder with open ditches no curb and gutter]
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Stay Sarce Lots Farm
- Where do you see **future commercial/business development** in this area? Small Bus
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? Yes
- What, if anything, would improve farm vehicle access along this route? Depends if its a 2 Ln or 4 Ln
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? will improve access to Derby and back. If there is Fly over for RR Crossing
  - ○ Why not? ____
- Any other comments you would like to share? (Please specify) ____

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Both sides of road Meridian South
- Where do you see **future commercial/business development** in this area? ____
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? Yes
- What, if anything, would improve farm vehicle access along this route? ____
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ☒ Why? More direct route to all services which would also increase traffic for businesses
  - ○ Why not? ____
- Any other comments you would like to share? (Please specify) ____

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ☒ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Greenwich Rd, Broadway
- Where do you see **future commercial/business development** in this area? Greenwich Rd, Broadway Meridian
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? Yes
- What, if anything, would improve farm vehicle access along this route? UKN
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - Why? We have always been Left Behind, We Need More Improvements
  - Why not?
- Any other comments you would like to share? (Please specify)

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ● Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area?
- Where do you see **future commercial/business development** in this area?
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - Why?
  - Why not?
- Any other comments you would like to share? (Please specify)

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
    - ● Rural – shoulder with open ditches no curb and gutter
    - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? It's Farm Ground
- Where do you see **future commercial/business development** in this area? I Don't!
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? NO
- What, if anything, would improve farm vehicle access along this route? nothing
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
    - Why? ________________
    - Why not? ________________
- Any other comments you would like to share? (Please specify) NEXT MEETING - Q & A

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
    - ○ Rural – shoulder with open ditches no curb and gutter
    - ● Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Yes
- Where do you see **future commercial/business development** in this area? Yes
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? ________________
- What, if anything, would improve farm vehicle access along this route? Wider Shoulders
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
    - Why? ________________
    - Why not? ________________
- Any other comments you would like to share? (Please specify) ________________

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
    - Rural – shoulder with open ditches no curb and gutter
    - Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Haysville headed South along Meridian
- Where do you see **future commercial/business development** in this area? 87th & Broadway
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? yes, I would use it to avoid both Derby and Mulvane.
- What, if anything, would improve farm vehicle access along this route?
- Do you see the proposed improvements benefitting southern Sedgwick County? Y N
    - Why? Bike lanes to the side of The road
    - Why not?
- Any other comments you would like to share? (Please specify) I would hook up 103rd on the west side of the Arkansas to 95th on the east side of the river
  Those roads are already established auxillary roads

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
    - Rural – shoulder with open ditches no curb and gutter
    - Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? I dont think We need any More
- Where do you see **future commercial/business development** in this area? if it goes through there Will be
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route? it would be worse for farmers
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
    - Why? We have plenty access There now
    - Why not?
- Any other comments you would like to share? (Please specify)

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ● Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? first 2 miles south of 71st
- Where do you see **future commercial/business development** in this area? Broadway
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  [✓ At-Grade] Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? Yes
- What, if anything, would improve farm vehicle access along this route? ________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? Growth .. improved traffic
  - ○ Why not? ________
- Any other comments you would like to share? (Please specify) ________

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I think the bridge over the Ark. R. on 95th would be wonderful.

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ● Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer

The SATS-recommended Parkway seems unnecessarily destructive to existing properties, trees, and landscaping, and farming.

Bad Idea 300' wide

- Where do you see **future residential development** in this area? ________

Good Idea 120' wide The 3-Lane Rural Road makes sense: improved travel without destroying so much of residents' property.

- Where do you see **future commercial/business development** in this area? ________
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Either [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? Yes, crossing the Ark. River on 95th on the way to Mulvane!
- What, if anything, would improve farm vehicle access along this route? ________
- Do you see the proposed improvements benefitting southern Sedgwick County? Y N
  - ○ Why? ________
  - ○ Why not? ________
- Any other comments you would like to share? (Please specify) ________

ARC95 Questionnaire
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ARC95
Sedgwick County... working for you

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ● Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? South on Meridian
- Where do you see **future commercial/business development** in this area? around Broadway, K-15
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? No
- What, if anything, would improve farm vehicle access along this route?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? easier access East West across the river
  - ○ Why not?
- Any other comments you would like to share? (Please specify)

ARC95 Questionnaire
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ARC95
Sedgwick County... working for you

- What type of typical section should we consider using? Rural, urban or a blend of both?
  - ○ [✓ Rural] – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ?
- Where do you see **future commercial/business development** in this area? Wichita area
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  [✓ At-Grade] Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? Minimally
- What, if anything, would improve farm vehicle access along this route? mixing more traffic + farm equipment seems more Dangerous.
- Do you see the proposed improvements benefitting southern Sedgwick County? Y N
  - ○ Why?
  - ☒ Why not? Most traffic heads to Wichita
- Any other comments you would like to share? (Please specify) Cost Benefit analysis

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or [✓ a blend of both?]
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? all along the southern part of Sedg Co.
- Where do you see **future commercial/business development** in this area? Along the corridor
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? this would improve my access going East
- What, if anything, would improve farm vehicle access along this route? ?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? residental & Commercial expansion
  - ○ Why not? ______
- Any other comments you would like to share? (Please specify) ______

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ☒ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ______
- Where do you see **future commercial/business development** in this area? BDNY + 95th
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route? ______
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? 71st Needs bridge & 4 lanes to Derby
  - ○ Why not? Bridge Needs to be 4 lane to casino
- Any other comments you would like to share? (Please specify) ______

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ● Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Farm Ground & R Res.
- Where do you see **future commercial/business development** in this area? I. don't!
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? NO
- What, if anything, would improve farm vehicle access along this route? NOTHING
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - Why?
  - Why not?
- Any other comments you would like to share? (Please specify) NEXT MEETING FORMAT – Q+A

ARC95 Questionnaire
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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ● Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area?
- Where do you see **future commercial/business development** in this area? 47th/Broadway
- Do you believe this route may improve emergency services? Y [✓ N] Casino has services
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? Maybe
- What, if anything, would improve farm vehicle access along this route?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - Why? Better access & business development
  - Why not?
- Any other comments you would like to share? (Please specify)

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ☒ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ______
- Where do you see **future commercial/business development** in this area? B'dway + 95TH
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? YES
- What, if anything, would improve farm vehicle access along this route? ?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? ANY IMPROVEMENT would benefit southern SC
  - ○ Why not? ______
- Any other comments you would like to share? (Please specify) ______

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David C. Halsey
106 E. 80th
Haysville, Ks
67060

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ☒ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? South of Kellogg 135th-119th South of Derby
- Where do you see **future commercial/business development** in this area? 135th / Broadway / Rock Road
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? YES
- What, if anything, would improve farm vehicle access along this route? WARNING SIGNS
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? Improved traffic And Improved Image of Southern County
  - ○ Why not?
- Any other comments you would like to share? (Please specify) Study should Look at 135th AS North/south, would Benifit more Sedgwick County Population

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? NO
- Where do you see **future commercial/business development** in this area? None
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route? Stay away
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - ○ Why?
  - ○ Why not? 95th St is fine the way it is leave us alone -
- Any other comments you would like to share? (Please specify) use 63rd Street - you are only wanting more access to Casino By Using 95th St.

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Have you considered a route just west of Mulvane and down K-53?

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer

I do kind of like the idea of a 95th Street bridge across the Ark. R.

- Where do you see **future residential development** in this area? ______________________
- Where do you see **future commercial/business development** in this area? ______________________
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? Yes! If it's a limited-access road, I'd lose my driveway. 1802 E. 95th
- What, if anything, would improve farm vehicle access along this route? ______________________
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - ○ Why? ______________________
  - ○ Why not? It would be easier to drive through without stopping.
- Any other comments you would like to share? (Please specify) I would be sorry to see my big old trees taken out.

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? NO SEWER OR WATER
- Where do you see **future commercial/business development** in this area? NO SEWER OR WATER
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? YES
- What, if anything, would improve farm vehicle access along this route? ______________________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? SOUTH SEDGWICK HAS ONLY ONE WAY TO GO. (UP)
  - ○ Why not? ______________________
- Any other comments you would like to share? (Please specify) NEED SEWER! WATER SO BUILDER WILL COME

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - Rural – shoulder with open ditches no curb and gutter
  - Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? EAST of K-15
- Where do you see **future commercial/business development** in this area? I DON'T
- Do you believe this route may improve emergency services? Y N POSSIBLE
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? NO
- What, if anything, would improve farm vehicle access along this route? ??
- Do you see the proposed improvements benefitting southern Sedgwick County? Y N
  - Why? IT WILL EXPAND RESIDENTIAL POPULATION
  - Why not?
- Any other comments you would like to share? (Please specify) WATER FROM ARK RIVER & SPRING CREEK REAL ISSUES!

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - Rural – shoulder with open ditches no curb and gutter
  - Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Without Sewer & Water – Little progress –
- Where do you see **future commercial/business development** in this area? Some
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? No
- What, if anything, would improve farm vehicle access along this route? Bridge over River
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - Why? Been Stagnant too long – Potential There.
  - Why not? Cost?
- Any other comments you would like to share? (Please specify)

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ● Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? East - SouthEast
- Where do you see **future commercial/business development** in this area? South of Derby
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? Yes
- What, if anything, would improve farm vehicle access along this route? ?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? Easyer Traffic Flow from East Sedgwick to & from South Areas
  - ○ Why not?
- Any other comments you would like to share? (Please specify) ________________

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter but need to handle storm water and flooding
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Any where that is dry
- Where do you see **future commercial/business development** in this area? At the major intersections
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? No
- What, if anything, would improve farm vehicle access along this route? ________________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y N]
  - ○ Why? Only those who use it. I don't think it will draw
  - ○ Why not? additional traffic
- Any other comments you would like to share? (Please specify) ________________

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? East South East
- Where do you see **future commercial/business development** in this area? So. of Derby
- Do you believe this route may improve emergency services? Y N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ☒ Why? less traffic
  - ○ Why not?
- Any other comments you would like to share? (Please specify)

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter –
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? would help south Derby/Mulvane growth
- Where do you see **future commercial/business development** in this area? along Rock Rd, K15, Broadway
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road Road over Road and Rail
  Realign road 1/4 mi so of 95th between K15 and woodlawn/Rock Rd
- Would these improvements change your traffic patterns?
- What, if anything, would improve farm vehicle access along this route?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? improve property values, expedite growth, increase tax base
  - ○ Why not?
- Any other comments you would like to share? (Please specify) consider making this part of an outer loop around south wichita

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  ● Rural – shoulder with open ditches no curb and gutter
  ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? on 95th Broadway to Derby
- Where do you see **future commercial/business development** in this area? Broadway 79th to Casino
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? I don't think so.
- What, if anything, would improve farm vehicle access along this route? __________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  ● Why? Anything on the "Southside" of Wichita would Be an improvement.
  ○ Why not? __________
- Any other comments you would like to share? (Please specify) Thanks for inviting us to get our input.

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  ○ Rural – shoulder with open ditches no curb and gutter
  ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? REPAIR/REPLACE ABANDONED HOUSING
- Where do you see **future commercial/business development** in this area? COMERICAL AGRA
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? __________
- What, if anything, would improve farm vehicle access along this route? __________
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  ○ Why? __________
  ○ Why not? TOO FAR OUT OF WICHITA AREA
- Any other comments you would like to share? (Please specify) THE MELINIALS WANT TO LIVE IN THE CITY
  FIX INNER URIBAN TRANSPORTATION

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ☑ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ______
- Where do you see **future commercial/business development** in this area? ______
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route? Wide shoulder's
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? ______
  - ○ Why not? ______
- Any other comments you would like to share? (Please specify) ______

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☑ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? yes
- Where do you see **future commercial/business development** in this area? Derby area
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route? 4 lanes be safer for passing
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? increasing residential development
  - ○ Why not? ______
- Any other comments you would like to share? (Please specify) ______

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter – Paved Shoulders only!
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Several - Mulvane to Derby east of River Haysville to river
- Where do you see **future commercial/business development** in this area? In Haysville & Mulvane More IN South Derby
- Do you believe this route may improve emergency services? [✓ Y] N absolutely
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? Of Course - an easy way to get to ICT & West Plants
- What, if anything, would improve farm vehicle access along this route? Ability to cross the river without going into a town
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ☒ Why? Development - would boom - Housing
  - ○ Why not?
- Any other comments you would like to share? (Please specify) For our area to develop we must have more & easier access to main arteries -

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? None, it's in a flood plain
- Where do you see **future commercial/business development** in this area? None, it's in a flood plain
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? NO
- What, if anything, would improve farm vehicle access along this route? Not putting this plan into effect
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - ○ Why?
  - ○ Why not? Existing highways and right of ways already provide enough access + area for improvements
- Any other comments you would like to share? (Please specify) This is not a fiscally responsible plan. I would also like more forums to speak on this topic.

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer

  55 MPH
- Where do you see **future residential development** in this area? IT WAS HEADED THIS WAY BEFORE THE 2008 BUST – SEE NO REASON WHY IT WILL NOT CONTINUE THIS WAY
- Where do you see **future commercial/business development** in this area? SAME AS RESIDENTIAL COMMERCIAL WILL FOLLOW
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade   Rail over Road   [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? YES
- What, if anything, would improve farm vehicle access along this route? RURAL OPTION ABOVE W/SHOULDERS
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? HOW COULD IT NOT? INCREASE TAX BASE, STIMULATE GROWTH + AREA ECONOMY
  - ○ Why not?
- Any other comments you would like to share? (Please specify) TURNPIKE ACCESS @ 95th IS A SURPRISING THING WITH 53 HIGHWAY + 71ST STREET NO COMPLAINT WITH IS

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? 71st St from Broadway to K15
- Where do you see **future commercial/business development** in this area? "
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade   [✓ Rail over Road]   Road over Road and Rail
- Would these improvements change your traffic patterns? no – too far south
- What, if anything, would improve farm vehicle access along this route?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ☒ Why? more development
  - ○ Why not?
- Any other comments you would like to share? (Please specify)

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ☒ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ENTIRE 95TH CORRIDOR
- Where do you see **future commercial/business development** in this area? SHOULD BE A ZONED MIX.
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? NOT CURRENTLY - LESS KTA EXIT
- What, if anything, would improve farm vehicle access along this route? DON'T KNOW
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - Why? LIKE HWY 96 WE NEED A SOUTH CORRIDOR
  - Why not? —
- Any other comments you would like to share? (Please specify) KEEP PUSHING

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ● Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? N of 95th between Rock + Greenwich
- Where do you see **future commercial/business development** in this area? S. Rock To 95th K-15 to 95th + South to Mulvane
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? Yes
- What, if anything, would improve farm vehicle access along this route?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - Why? Added traffic to Derby + Haysville businesses
  - Why not?
- Any other comments you would like to share? (Please specify)

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ☑ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ?.
- Where do you see **future commercial/business development** in this area? None.
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? We live right at the rail crossing now
- What, if anything, would improve farm vehicle access along this route? Wider easement.
- Do you see the proposed improvements benefitting southern Sedgwick County? Y N
  - ☑ Why? Better routes
  - ○ Why not? __________
- Any other comments you would like to share? (Please specify) __________

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ☑ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? __________
- Where do you see **future commercial/business development** in this area? __________
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? Somewhat
- What, if anything, would improve farm vehicle access along this route? __________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? ease of access
  - ○ Why not? __________
- Any other comments you would like to share? (Please specify) __________

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- What type of **typical section** should we consider using? Rural, urban [✓ or a blend of both?]
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? __________
- Where do you see **future commercial/business development** in this area? __________
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route? __________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? easier access across the river
  - ○ Why not? __________
- Any other comments you would like to share? (Please specify) we don't want to lose our farm ground!

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ☒ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? I see it expanding if roads are better
- Where do you see **future commercial/business development** in this area? Expanding with roads
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? Yes when I leave town or head to Oklahoma
- What, if anything, would improve farm vehicle access along this route? widen Roads
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? better access to I-35
  - ○ Why not? __________
- Any other comments you would like to share? (Please specify) __________

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - [✓ Urban – curb and gutter and storm sewer]
- Where do you see **future residential development** in this area?
- Where do you see **future commercial/business development** in this area?
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? Yes
- What, if anything, would improve farm vehicle access along this route?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why?
  - ○ Why not?
- Any other comments you would like to share? (Please specify)

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? NONE
- Where do you see **future commercial/business development** in this area? NONE
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? SOMEWHAT
- What, if anything, would improve farm vehicle access along this route?
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - ○ Why?
  - ○ Why not? A BRIDGE FROM NOWHERE TO NOWHERE
- Any other comments you would like to share? (Please specify) AN UNDERPASS AT RAIL CROSSING EAST OF EXISTING BRIDGE. NATURAL DRAINAGE EXISTS

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- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? None
- Where do you see **future commercial/business development** in this area? None
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? Not much
- What, if anything, would improve farm vehicle access along this route? None
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - ○ Why? increase traffic
  - ○ Why not? ____
- Any other comments you would like to share? (Please specify) ____

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? SOUTH
- Where do you see **future commercial/business development** in this area? WILL FOLLOW RESIDENTIAL/STREETS
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? POSSIBLY
- What, if anything, would improve farm vehicle access along this route? N/A
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? GROWTH, BUILD IT AND THEY WILL COME.
  - ○ Why not? ____
- Any other comments you would like to share? (Please specify) DO AS MUCH AS FEASIBLY POSSIBLE

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ● Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Around the casino.
- Where do you see **future commercial/business development** in this area? ______
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? Yes
- What, if anything, would improve farm vehicle access along this route? ______
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? Better flow of traffic across S Sedgwick Co.
  - ○ Why not? ______
- Any other comments you would like to share? (Please specify) ______

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ● Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? SOUTH of 95th ST.
- Where do you see **future commercial/business development** in this area? ______
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? Yes
- What, if anything, would improve farm vehicle access along this route? ______
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - ○ Why? BETTER EAST/WEST CONNECTIVITY
  - ○ Why not? ______
- Any other comments you would like to share? (Please specify) ______

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
    - ○ Rural – shoulder with open ditches no curb and gutter
    - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ______
- Where do you see **future commercial/business development** in this area? ______
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? YES – FOR THE BETTER
- What, if anything, would improve farm vehicle access along this route? ______
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
    - ○ Why? ______
    - ○ Why not? ______
- Any other comments you would like to share? (Please specify) I THINK THIS SHOULD HAPPEN & THE ~~[illegible]~~ SOONER THE BETTER

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, [✓ urban] or a blend of both?
    - ○ Rural – shoulder with open ditches no curb and gutter
    - ☒ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? WEBB TO ~~MERDIAN~~ MERIDIAN
- Where do you see **future commercial/business development** in this area? ROCK & 95th
  MERIDIAN & 95th
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? YES
- What, if anything, would improve farm vehicle access along this route? DON'T KNOW
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
    - ○ Why? BETTER TRAFFIC FLOW EAST & WEST
    - ○ Why not? ______
- Any other comments you would like to share? (Please specify) ACCESS TO I-35

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
    - ○ Rural – shoulder with open ditches no curb and gutter
    - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ______
- Where do you see **future commercial/business development** in this area? ______
- Do you believe this route may improve emergency services? Y N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? ______
- What, if anything, would improve farm vehicle access along this route? ______
- Do you see the proposed improvements benefitting southern Sedgwick County? Y N
    - ○ Why? ______
    - ○ Why not? ______
- Any other comments you would like to share? (Please specify) I really don't know, I came to learn, Didn't learn much.

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
    - ☒ Rural – shoulder with open ditches no curb and gutter
    - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Hydraulic → River off 95th
- Where do you see **future commercial/business development** in this area? Broadway Corridor
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? Yes
- What, if anything, would improve farm vehicle access along this route? Rock Shoulder & Field Entrance
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
    - ○ Why? ______
    - ○ Why not? ______
- Any other comments you would like to share? (Please specify) ______

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - Rural – shoulder with open ditches no curb and gutter
  - Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ____
- Where do you see **future commercial/business development** in this area? ____
- Do you believe this route may improve emergency services? Y N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? ____
- What, if anything, would improve farm vehicle access along this route? ____
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - Why? ____
  - Why not? Money could be better spent elsewhere
- Any other comments you would like to share? (Please specify) Spend money on Railroad quiet zone thru Derby starting at 95th

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ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a [✓ blend] of both? need to learn more about.
  - Rural – shoulder with open ditches no curb and gutter — 55mph is important
  - Urban – curb and gutter and storm sewer – accommodating bikes is important.
- Where do you see **future residential development** in this area? throughout
- Where do you see **future commercial/business development** in this area? In Derby & in SE Wichita.
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one) Need grade separation for sure
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? yes
- What, if anything, would improve farm vehicle access along this route? wider roads (additional lanes &/or shoulders) so people can pass slower vehicles
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - Why? Accommodate truck ~~to~~, traffic exiting KTA + highways.
  - Why not? ____
- Any other comments you would like to share? (Please specify) Long-term planning for the south side is critical to future economic development.

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both? None
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? N of Derby
- Where do you see **future commercial/business development** in this area? N of Derby
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one) None

  At-Grade Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? will make it easy for Bingoers
- What, if anything, would improve farm vehicle access along this route? ________
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - ○ Why? ________
  - ● Why not? will only benefit Casino neighbors
- Any other comments you would like to share? (Please specify) ________

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - [✓ Rural – shoulder with open ditches no curb and gutter]
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? West of River
- Where do you see **future commercial/business development** in this area? South of Derby on K15
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? No
- What, if anything, would improve farm vehicle access along this route? None
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - ○ Why? ________
  - ○ Why not? ________
- Any other comments you would like to share? (Please specify) ________

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ☒ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ?
- Where do you see **future commercial/business development** in this area? ?
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one) ?

  At-Grade Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? Yes
- What, if anything, would improve farm vehicle access along this route? ________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - Why? ________
  - Why not? ________
- Any other comments you would like to share? (Please specify) ________

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? South in vicinity of casino
- Where do you see **future commercial/business development** in this area? K-15 South from Derby to Mulv
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? No
- What, if anything, would improve farm vehicle access along this route? It works well as is
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - Why? ________
  - Why not? This is designed to benefit Derby. No help to Haysville at all
- Any other comments you would like to share? (Please specify) LISTEN TO THE RESIDENTS. They don't want it.

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, [✓ urban] or a blend of both?
    - ○ Rural – shoulder with open ditches no curb and gutter
    - ☒ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ____
- Where do you see **future commercial/business development** in this area? ____
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? YES
- What, if anything, would improve farm vehicle access along this route? ?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
    - ○ Why? BETTER TRAFFIC FLOW/MORE GROWTH
    - ○ Why not? ____
- Any other comments you would like to share? (Please specify) I WOULD LIKE A TURNPIKE INTERCHANGE AT 95th STREET.

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
    - ○ Rural – shoulder with open ditches no curb and gutter
    - ● Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? undecided
- Where do you see **future commercial/business development** in this area? undecided
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? possibly
- What, if anything, would improve farm vehicle access along this route? undecided
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
    - ● Why? Better traffic flow and highway access
    - ○ Why not? ____
- Any other comments you would like to share? (Please specify) ____

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - [✓ Rural – shoulder with open ditches no curb and gutter]
  - Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? east of river
- Where do you see **future commercial/business development** in this area? east of river
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? Yes
- What, if anything, would improve farm vehicle access along this route? ________
- Do you see the proposed improvements benefitting southern Sedgwick County? Y N
  - Why? ________
  - Why not? ________
- Any other comments you would like to share? (Please specify) ________

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - Rural – shoulder with open ditches no curb and gutter
  - Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? no
- Where do you see **future commercial/business development** in this area? ________
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? ________
- What, if anything, would improve farm vehicle access along this route? ________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - Why? I live At 95th and K-15 9529 S K-15
  - Why not? I will not be letting morris cross my feild to acess 95th
- Any other comments you would like to share? (Please specify) ________

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - [✓ Rural – shoulder with open ditches no curb and gutter]
  - ○ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? Shoud be no smaller than 5acre lots
- Where do you see **future commercial/business development** in this area? ____________
- Do you believe this route may improve emergency services? ~~Y~~ [✓ N] has not been an issue now
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade   Rail over Road   [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? only going into derby →
- What, if anything, would improve farm vehicle access along this route? NO
- Do you see the proposed improvements benefitting southern Sedgwick County?   Y   N
  - ○ Why? ____________
  - ○ Why not? ____________
- Any other comments you would like to share? (Please specify) over

What about 103 St.

What will this do to current homes farm land Would it be purchased at fare market value or taken by Emint domain,

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ☒ Rural – shoulder with open ditches no curb and gutter
  - ☒ Urban – curb and gutter and storm sewer – from K-15 to Rock Rd. & imediatly S. of Haysville
- Where do you see **future residential development** in this area? maybe S of Haysville, Imediately S. of Derby ~~[illegible]~~ you can be within Derby City Limits but in the Mulvane School District
- Where do you see **future commercial/business development** in this area? none imediately but then the saying build it & it will come
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)

  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? to go to west Wichita, definitely
- What, if anything, would improve farm vehicle access along this route? at least they're not horse drawn? Shouldn't be allowed on the roadway
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - Why? hopefully in conjunction with "both ends
  - Why not?
- Any other comments you would like to share? (Please specify) Definite grade separation 95th over

C.O.O & PEC have my comments re: Market St. in Derby going under RR & Baltimore/K-15

Charles M. Jeffries

316-990-6529

610 N Woodlawn Blvd
Derby KS 67037-1901

Keep at it!

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both? NONe
  - Rural – shoulder with open ditches no curb and gutter
  - Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? North of 95
- Where do you see **future commercial/business development** in this area? NO
- Do you believe this route may improve emergency services? Y [✓ N]
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  [✓ At-Grade] Rail over Road Road over Road and Rail
- Would these improvements change your traffic patterns? No
- What, if anything, would improve farm vehicle access along this route? Nothing
- Do you see the proposed improvements benefitting southern Sedgwick County? Y [✓ N]
  - Why? You have already
  - Why not? 6 acres of my 80 acres I dont want to losEN eRS more income
- Any other comments you would like to share? (Please specify)

You took some of my farm a few years ago made my acres go from 80 to 74
I need that acreage for my livelihood.
if you take more you will leave me with 70 acres. 10 acres amount to a good amount of money over a few years

Leola Jones

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - Rural – shoulder with open ditches no curb and gutter
  - Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ______
- Where do you see **future commercial/business development** in this area? ______
- Do you believe this route may improve emergency services? Y N maybe
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? ______
- What, if anything, would improve farm vehicle access along this route? ______
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N (over)
  - Why? ______
  - Why not? ______
- Any other comments you would like to share? (Please specify) see back

I was concerned about the Rolf cemetery. I asked about it and got an answer I was pleased with.

Wondering how much right of way would be ~~ued~~ used going along farmland. Our family farm is already small and if more were taken, it would not be good.

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ● Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ______________________
- Where do you see **future commercial/business development** in this area? 47th / Broadway
- Do you believe this route may improve emergency services? Y [✓ N] casino has services
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade Rail over Road [✓ Road over Road and Rail]
- Would these improvements change your traffic patterns? Maybe
- What, if anything, would improve farm vehicle access along this route? ______________________
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - o Why? Better access & business development
  - o Why not? ______________________
- Any other comments you would like to share? (Please specify) ______________________

ARC95 Questionnaire
Public Meeting
August 16 – 18, 2016

- What type of **typical section** should we consider using? Rural, urban or a blend of both?
  - ○ Rural – shoulder with open ditches no curb and gutter
  - ☒ Urban – curb and gutter and storm sewer
- Where do you see **future residential development** in this area? ______________________
- Where do you see **future commercial/business development** in this area? B dway + 95TH
- Do you believe this route may improve emergency services? [✓ Y] N
- At K-15/BNSF/95th Street, there is a rail crossing. Given the choice, which style of crossing do you feel is most appropriate for this area? (Circle one)
  At-Grade [✓ Rail over Road] Road over Road and Rail
- Would these improvements change your traffic patterns? YES
- What, if anything, would improve farm vehicle access along this route? ?
- Do you see the proposed improvements benefitting southern Sedgwick County? [✓ Y] N
  - o Why? ANY IMPROVEMENT would benefit southern SC
  - o Why not? ______________________
- Any other comments you would like to share? (Please specify) ______________________

ARC95 (Arkansas River Crossing)/95th Street Study
Community Meetings – Derby and Haysville
November 15 and 17, 2016

SURVEY

Which following concepts for the K 15/BNSF – 95th Street Interchange do you believe will be best, based on efficiency and safety? (Select one)

☐ Alt 1 – Four Quadrant Gate System
☐ Alt 2 – Rail over Roadway
☐ Alt 3 – Roadway over Roadway and Rail (K-15 Intersection)
☒ Alt 4 – Roadway over Roadway and Rail (K-15 Interchange)

ARC95 (Arkansas River Crossing)/95th Street Study
Community Meetings – Derby and Haysville
November 15 and 17, 2016

SURVEY

Which following concepts for the K 15/BNSF – 95th Street Interchange do you believe will be best, based on efficiency and safety? (Select one)

- ☐ Alt 1 – Four Quadrant Gate System
- ☐ Alt 2 – Rail over Roadway
- ☒ Alt 3 – Roadway over Roadway and Rail (K-15 Intersection)
- ☐ Alt 4 – Roadway over Roadway and Rail (K-15 Interchange)

ARC95 (Arkansas River Crossing)/95th Street Study
Community Meetings – Derby and Haysville
November 15 and 17, 2016

SURVEY

Which following concepts for the K 15/BNSF – 95th Street Interchange do you believe will be best, based on efficiency and safety? (Select one)

☐ Alt 1 – Four Quadrant Gate System
☒ Alt 2 – Rail over Roadway
☐ Alt 3 – Roadway over Roadway and Rail (K-15 Intersection)
☐ Alt 4 – Roadway over Roadway and Rail (K-15 Interchange)

ARC95 (Arkansas River Crossing)/95th Street Study
Community Meetings – Derby and Haysville
November 15 and 17, 2016

SURVEY

Which following concepts for the K 15/BNSF – 95th Street Interchange do you believe will be best, based on efficiency and safety? (Select one)

- ☐ Alt 1 – Four Quadrant Gate System
- ☑ Alt 2 – Rail over Roadway
- ☐ Alt 3 – Roadway over Roadway and Rail (K-15 <u>Intersection</u>)
- ☐ Alt 4 – Roadway over Roadway and Rail (K-15 <u>Interchange</u>)

ARC95 (Arkansas River Crossing)/95th Street Study
Community Meetings – Derby and Haysville
November 15 and 17, 2016

SURVEY

Which following concepts for the K 15/BNSF – 95th Street Interchange do you believe will be best, based on efficiency and safety? (Select one)

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ARC95 (Arkansas River Crossing)/95th Street Study
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November 15 and 17, 2016

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Move 95th to Northbound K15 as far north as possible

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This is a great idea. I hope we are able to proceed.

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It's not getting any Cheaper!
Why half ass it?!?

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Definately

None Look at the
other roads across

Ellen Carkey

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