

# MARTIN LUTHER KING CORRIDOR HEALTHY CONNECTIONS STUDY

FEBRUARY 2020



**CALHOUN ROAD**

**GRIGGS ROAD**

**MLK BOULEVARD**



Prepared for Harris County Engineering Department  
Prepared by Traffic Engineers, Inc.



*Sarah L. Wetmore*

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# EXECUTIVE SUMMARY

## Chapter 1 MLK Healthy Connections Study

### GOALS AND PURPOSE

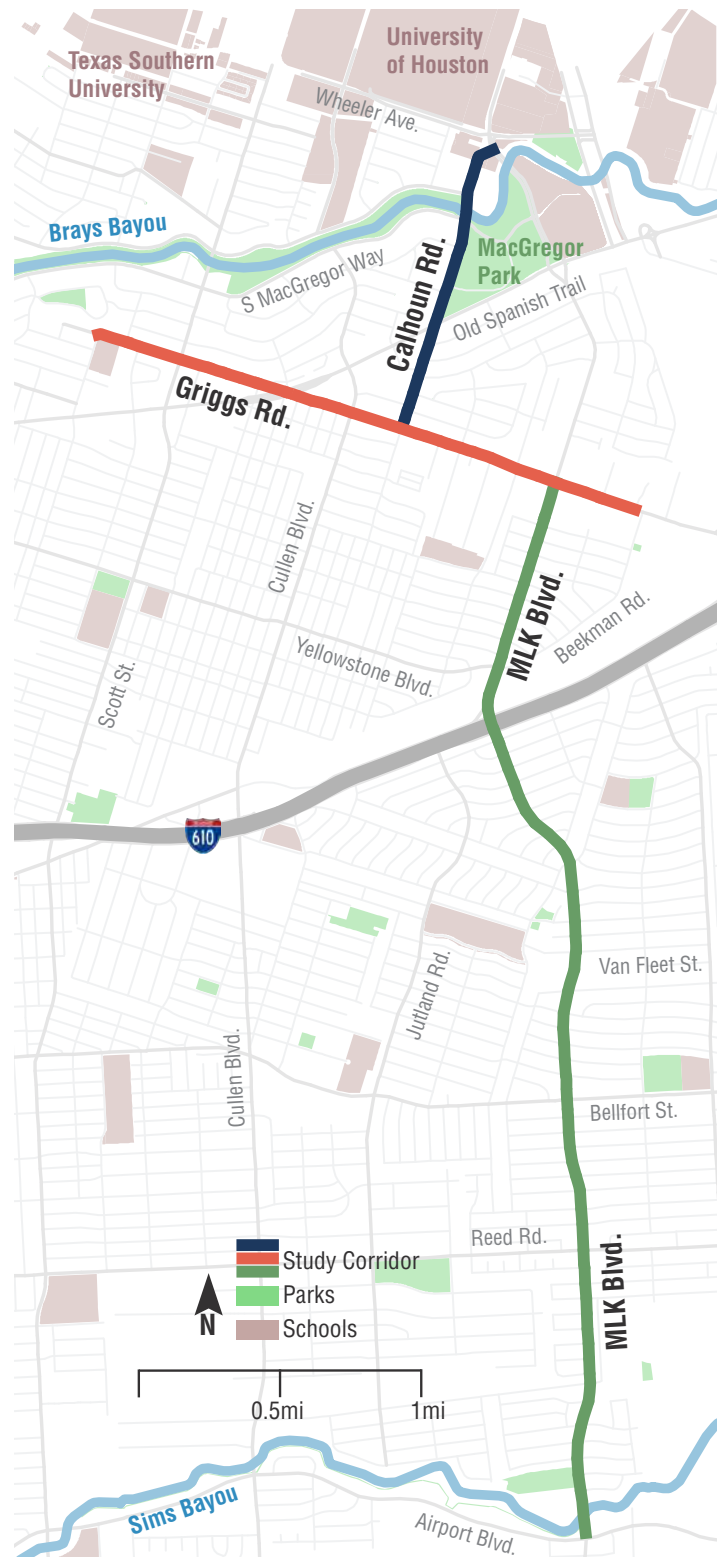
Expanding on the success of its Year 1 initiative to provide safe and healthy transportation options, Harris County Precinct One will use the MLK Healthy Connections Study to improve access to jobs, parks and bayou trails, schools and other important destinations within the OST/ South Union and South Park communities. The study covers portions of Calhoun Road, Griggs Road, and MLK Boulevard extending from the University of Houston in the north, past Brays Bayou and IH-610 to Sims Bayou and Airport Boulevard in the south. The extents of the corridor project are highlighted in the map to the right.

This study reviews the existing state of the corridor and recommends infrastructure changes to improve transportation options for all road users, including pedestrians, bicyclists and transit riders.

### BASELINE CONDITIONS

The roads in the study corridor were historically designed and built to facilitate the movement of cars and trucks through the corridor, presenting major safety risks to pedestrians, bicyclists and transit users.

The vehicle-centric characteristics of the corridor roadways can be seen in baseline data. High speeds on the corridor and high crash rates at major intersections indicate that roadways are not built to match the context of the neighborhood. Fortunately, traffic and intersection volumes show the potential to reallocate vehicle space to make room for bicyclists and transit users while maintaining traffic flow for motorists.



## RECOMMENDATIONS

The study includes corridor cross section, intersection, and transit optimization recommendations for each of the three major roadways – Calhoun Road, Griggs Road and MLK Boulevard.

### Corridors

All three major corridors can support a protected bike lane to ensure that the street is safe to ride for all types of users. The protected bike lanes connect to neighborhood bikeways and the bayou greenway trails to form a critical part of the local transportation network for residents and students. See the Calhoun Road cross section to the right for an example. For detailed recommendations by roadway, see pages 32-72.

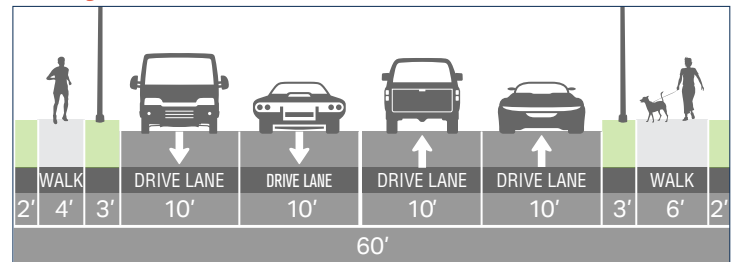
### Intersections

Re-assigning the outside lane of the major roadways to a protected bike lane allows for more narrow intersections that increase safety and visibility for bicyclists and pedestrians crossing. For all intersections, signalized and unsignalized, recommendations include adding or updating crosswalks and extending bike lane markings through the intersection. For an example, see the Griggs Road at Calhoun Road intersection recommendations to the right. For detailed recommendations by roadway, see pages 32-72.

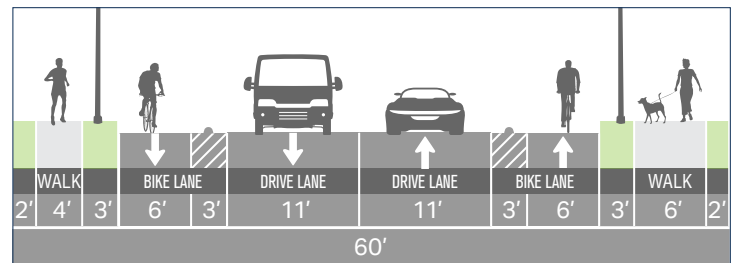
### Transit

All new bus stops along the corridor will be designed to current METRO standards for the safety and comfort of transit riders, including sidewalk connecting to all bus doors and provisions for future shelter installation. Along the MLK BOOST corridor, BOOST standards for bus stop design will be applied, including 9" curb along the boarding area. Bus stop designs will also seek to manage and minimize conflicts between bicyclists traveling in the proposed lanes and buses serving the stops. For detailed recommendations by roadway, see pages 32-72.

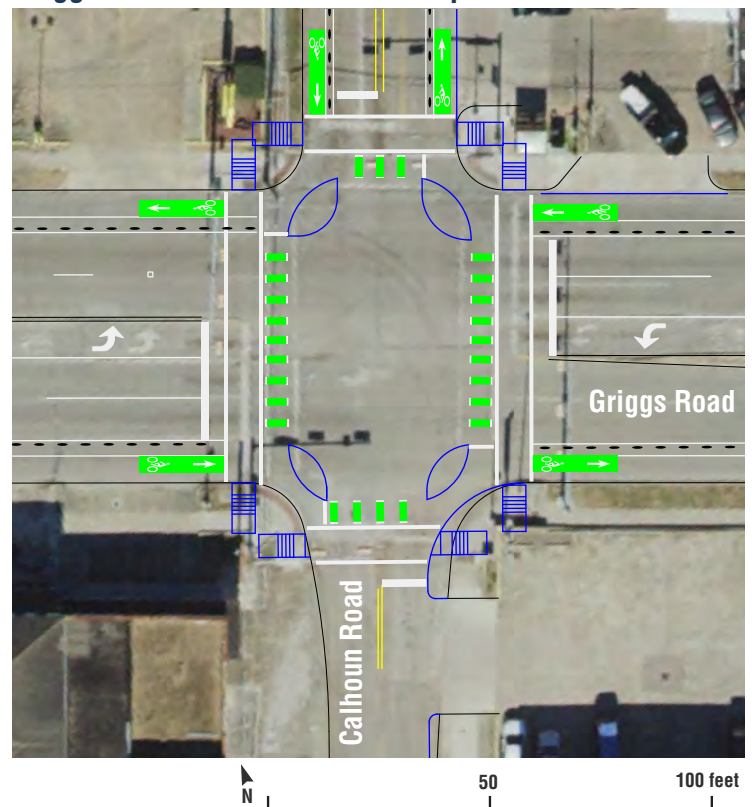
#### Calhoun Road - Wheeler Avenue to N MacGregor Way *Existing*



#### *Recommended*



#### Griggs Road at Calhoun Road Proposed Intersection



# INTRODUCTION

## *Chapter 2 MLK Healthy Connections Study*

### PROJECT GOALS

In 2018, Harris County Precinct One set a goal to expand safe and healthy transportation options for its neighborhoods, particularly in underserved communities. Precinct One's initial phase of projects (Year 1 projects, in partnership with the City of Houston) implemented in 2019 included pedestrian, bicycle and transit improvements along major corridors in Near Northside, Kashmere Gardens, and Third Ward. Building on the success of Year 1 projects, the Precinct will bring these safety and health goals to more neighborhoods in Year 2. The Year 2 MLK Healthy Connections Project will improve access to jobs, parks and bayou trails, schools and other important destinations within the OST/South Union and South Park communities. The extents of this corridor project are highlighted in the map on the next page.

Harris County Precinct One achieves multiple goals by prioritizing these corridor improvements. Well-designed streets increase safety for residents who walk, bike and ride transit for daily transportation and encourage more people to start participating in these activities. Residents in these neighborhoods also benefit from new transportation choices, providing access to work, school, the grocery store and other destinations in a way that supports a healthy lifestyle. Precinct One's recent projects have established a new, higher standard for safety and connectivity in the region. This feasibility study is the first step to replicating those standards along a critical corridor in the County's transportation network.

### THE MLK CORRIDOR VISION

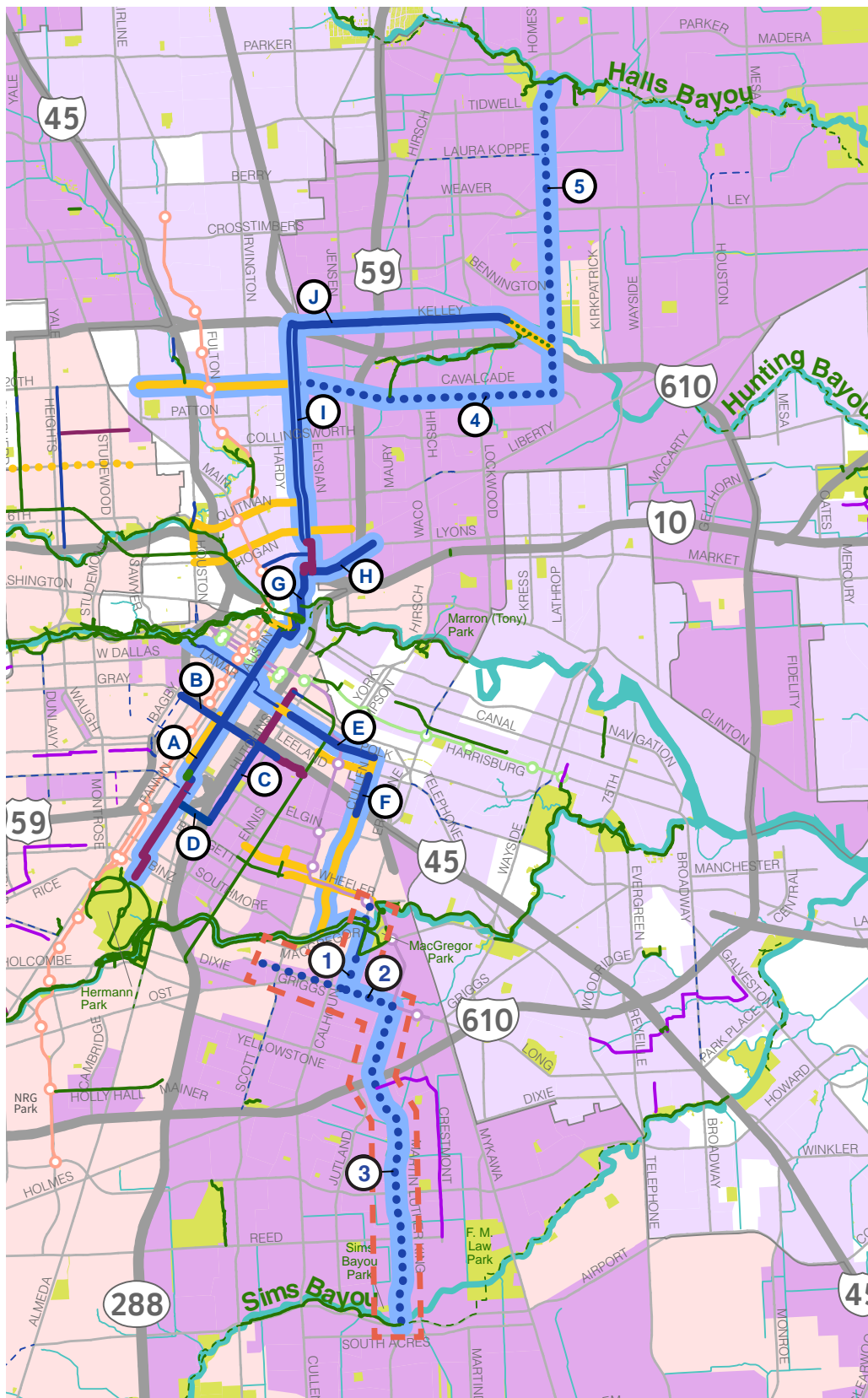
The Martin Luther King (MLK) Boulevard Corridor Project links several destinations in southeast Houston, serving as a major spine for the South Park and OST/South Union neighborhoods, just east of the Sunnyside Complete Community. At its northern end, the corridor connects to the University of Houston, MacGregor Park and Brays Bayou, which runs underneath MLK Boulevard with an existing set of bayou trails on both banks. Connections are also possible to Texas Southern University via Wheeler Avenue and its recently constructed shared-use path.

Another node along the corridor at the intersection of MLK Boulevard and Griggs Road is anchored by the new Young Library, a U.S. Post Office, a Harris Health Dental Center, and the Houston Texans YMCA with several local businesses within a quarter mile. The existing terminus of the METRORail Purple Line is located at Palm Center Transit Center, just east of the corridor. South of Griggs Road, MLK Boulevard extends toward Airport Boulevard past YWCA Houston, more schools, and several neighborhoods in South Park until it reaches Sims Bayou and Sims Bayou Park.

More than 32,000 people live within a half mile of the corridor with around 5,700 jobs in the same radius. Nearly 15% of households do not own a car and around 27% of households live in poverty. Improvements will have the greatest impact on those families who rely on walking, biking and transit for their daily needs.

MLK Boulevard and the intersecting streets included in this feasibility study were historically designed and built to facilitate the movement of cars and trucks through the corridor, but have not provided safe or comfortable places to walk and bike. This study envisions a shift to planning for all street users with an emphasis on safety and connectivity for pedestrians, bicyclists and transit users who are most vulnerable to conflicts with vehicles.

## Harris County Precinct One Year 1 and Year 2 Bikeway Improvements



### LEGEND

- Precinct One
- Precinct One LMI
- Non-Precinct One LMI

### Transit

- METRORail
- Transit Center

### Bikeways

- Off-Street Path
- Bike Lane
- Neighborhood Bikeway
- Year 1 Corridor
- Year 2 Corridor
- Existing
- Planned
- Programmed
- Project by Others
- Regional Spine
- Proposed Bridge
- Study Corridor

### Water

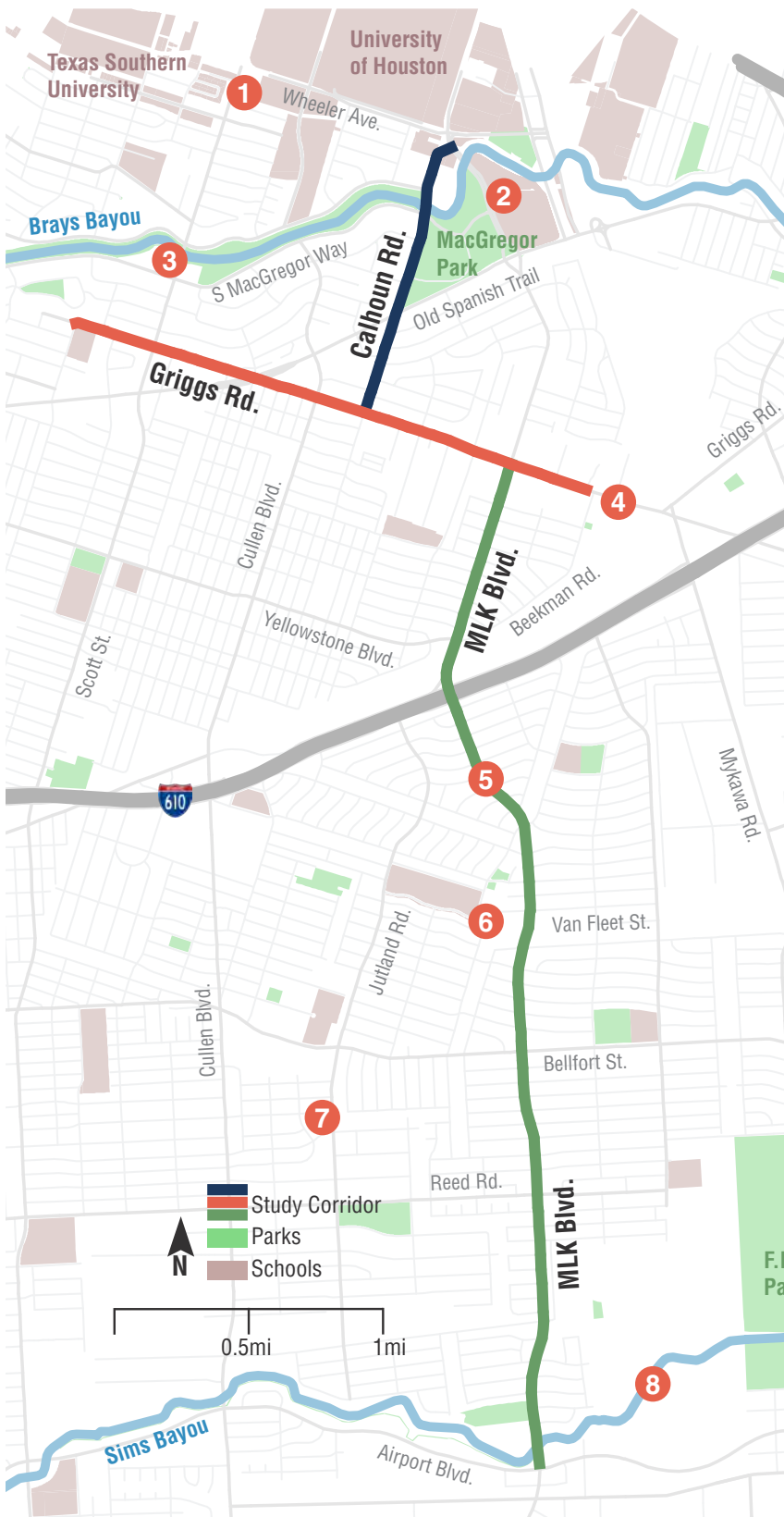
- Bayou
- Channel

### Year 1 Pct. One Project List A Year 2 Potential Project List #

- |                           |                              |
|---------------------------|------------------------------|
| A. Austin Corridor        | 1. Calhoun                   |
| B. Gray                   | 2. Griggs                    |
| C. Hutchins               | 3. MLK                       |
| D. Cleburne               | 4. Cavalcade                 |
| E. Polk                   | 5. Homestead                 |
| F. Cullen                 | 6. Hillcroft                 |
| G. McKee Corridor         | 7. Gasmer-Ludington Corridor |
| H. Lyons                  |                              |
| I. Hardy-Elysian Corridor |                              |
| J. Kelley                 |                              |







## FEATURES OF THE CORRIDOR

- 1 **University of Houston and Texas Southern University** sit at the northern end of the corridor.
- 2 **MacGregor Park** is an 83-acre green space with a community center, pool and tennis courts.
- 3 **Brays Bayou Trail** connects to the Texas Medical Center, Mason Park and other neighborhoods.
- 4 **The Palm Center Transit Center** is the terminus of the METRORail Purple Line east of MLK Blvd.
- 5 **Nodes of retail** are scattered at major intersections along the corridor and are hubs of higher pedestrian and transit activity.
- 6 Several **neighborhood schools** are within walking distance of the corridor.
- 7 Residents of **single-family residential neighborhoods** use the corridor to access work, school and other daily needs.
- 8 Existing and future segments of **Sims Bayou Trail** connect to F.M. Law Park, Townwood Park and many neighborhoods.

# CORE PRINCIPLE: DESIGNING FOR ALL AGES & ABILITIES

The primary goal in redesigning the streets of the MLK Corridor is to create a safer environment for all roadway users, particularly vulnerable road users like bicyclists, pedestrians and people riding transit.

## Bikeways

The National Association of City Transportation Officials (NACTO) guidance for designing bikeways sets parameters for bikeway facilities that are comfortable for people of All Ages & Abilities (AAA) focused on safety, comfort and equity. Figure 1 summarizes NACTO’s definition for characteristics of an AAA bikeway.

Figure 1 NACTO Definition of All Ages & Abilities Bicycle Facilities

All Ages & Abilities Bike Facilities are...		
<b>Safe</b> More people will bicycle when they have safe places to ride, and more riders mean safer streets. Among seven NACTO cities that grew the lane mileage of their bikeway networks 50% between 2007-2014, ridership more than doubles while risk of death and serious injury to people biking was halved. Better bicycle facilities are directly correlated with increased safety for people walking and driving as well. Data from New York City showed that adding protected bike lanes to streets reduced injury crashes for all road users by 40% over four years.	<b>Comfortable</b> Bikeways that provide comfortable, low-stress bicycling conditions can achieve widespread growth in mode share. Among adults in the US, only 6-10% of people generally feel comfortable riding in mixed traffic or painted bike lanes. However, nearly two-thirds of the adult population may be interested in riding more often, given better places to ride, and as many as 81% of those would ride in protected bike lanes. Bikeways that eliminate stress will attract traditionally under-represented bicyclists, including women, children, and seniors.	<b>Equitable</b> High-quality bikeways expand opportunities to ride and encourage safe riding. Poor or inadequate infrastructure – which has disproportionately impacted low-income communities and communities of color – forces people bicycling to choose between feeling safe and following the rules of the road, and induces wrong-way and sidewalk riding. Where street design provides safe places to ride and manages motor vehicle driver behavior, unsafe bicycling decisions disappear, making ordinary riding safe and legal and reaching more riders.

Source: NACTO Designing for All Ages & Abilities, 2017; see document for more details and additional resources

AAA bikeways reduce the amount conflict between bicyclists and motor vehicles, particularly in instances of high vehicle speed and volume. Figure 1 summarizes guidance from NACTO for selecting bikeway facilities using thresholds of motor vehicle volumes and speeds. These thresholds encourage more separation between people biking and motorists on roadways with high volumes and high speeds. For corridors like MLK Boulevard, this translates into building protected bikeways or shared use paths.



Source: Public Domain



Source: Seattle DOT



Table 1 NACTO's Contextual Guidance for Selecting All Ages & Abilities Bikeways

Contextual Guidance for Selecting All Ages & Abilities Bikeways				
Roadway Context				All Ages & Abilities Bicycle Facility
Target Motor Vehicle Speed*	Target Max. Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Key Operational Considerations	
Any		Any	Any of the following: high curbside activity, frequent buses, motor vehicle congestion, or turning conflicts ‡	Protected Bicycle Lane
< 10 mph	Less relevant	No centerline, or single lane one-way	Pedestrians share the roadway	Shared Street
≤ 20 mph	≤ 1,000 – 2,000		< 50 motor vehicles per hour in the peak direction at peak hour	Bicycle Boulevard
≤ 25 mph	≤ 500 – 1,500	Single lane each direction, or single lane one-way	Low curbside activity, or low congestion pressure	Conventional or Buffered Bicycle Lane, or Protected Bicycle Lane
	≤ 1,500 – 3,000			Buffered or Protected Bicycle Lane
	≤ 3,000 – 6,000			Protected Bicycle Lane
	Greater than 6,000			
	Any	Multiple lanes per direction		
Greater than 26 mph†	≤ 6,000	Single lane each direction	Low curbside activity, or low congestion pressure	Protected Bicycle Lane, or Reduce Speed
		Multiple lanes per direction		Protected Bicycle Lane, or Reduce to Single Lane & Reduce Speed
	Greater than 6,000	Any	Any	Protected Bicycle Lane, or Bicycle Path
High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts		Any	High pedestrian volume	Blke Path with Separate Walkway or Protected Bicycle Lane
			Low pedestrian volume	Shared-Use Path or Protected Bicycle Lane

\* While posted or 85th percentile motor vehicle speed are commonly used design speed targets, 95th percentile speed captures high-end speeding, which causes greater stress to bicyclists and more frequent passing events. Setting target speed based on this threshold results in a higher level of bicycling comfort for the full range of riders.

† Setting 25 mph as a motor vehicle speed threshold for providing protected bikeways is consistent with many cities' traffic safety and Vision Zero policies. However, some cities use a 30 mph posted speed as a threshold for protected bikeways, consistent with providing Level of Traffic Stress level 2 (LTS 2) that can effectively reduce stress and accommodate more types of riders.<sup>10</sup>

‡ Operational factors that lead to bikeway conflicts are reasons to provide protected bike lanes regardless of motor vehicle speed and volume.

Source: NACTO Designing for All Ages & Abilities, 2017

When the motor vehicle volumes or speeds exceed these shared lane thresholds, bicycle lanes are required to provide an AAA bikeway. Conventional bicycle lanes are typically appropriate where the motor vehicle ADT is less than 6,000 and speeds are manageable. When the ADT is higher than 3,000, a painted buffer may be appropriate between the bicycle lane and the adjacent motor vehicle lane. When motor vehicle ADT is higher than 6,000 or where motor vehicle speeds exceed 25 mph, separated bike lanes or off-street pathways are appropriate.



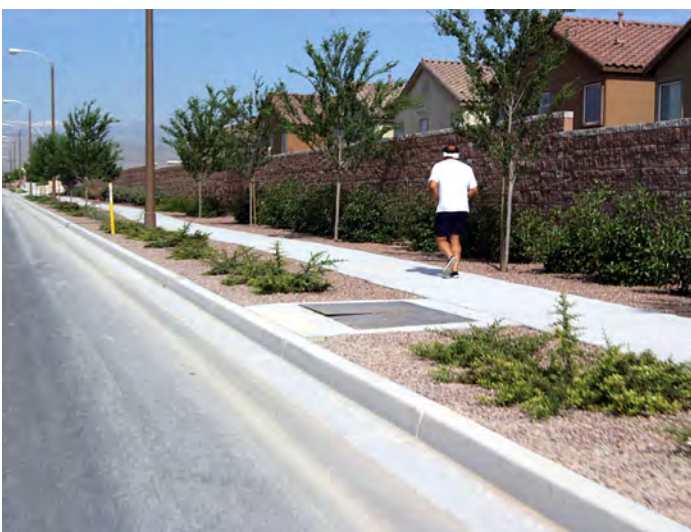
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## Sidewalks

To make roadways safe for pedestrians, sidewalks should be comfortable and designed to reduce the amount of interaction between pedestrians and vehicles. Sidewalks should be a minimum of five or six feet wide with enough room for two people to comfortably walk side-by-side or two strollers or wheelchairs to pass without leaving the sidewalk. Where possible, sidewalks should be separated from vehicle lanes by a buffer. For roadways with higher vehicle speeds and volumes, wider buffers increase safety for pedestrians.

Sidewalks should also be designed with the surrounding land use in mind and should be wider in places with heavy pedestrian traffic like near schools or transit stations. In areas, like parks, where bicycles may be sharing a sidewalk with pedestrians, sidewalks should give enough room for pedestrians and bicyclists to safely navigate the space together. In some instances, like along busy commercial corridors, a sidewalk should be wide enough to accommodate additional uses like street seating for a restaurant.

To better serve pedestrians of all ages, well-designed sidewalks should include additional amenities, particularly near transit stops. Seating, shade and lighting make it easier for older adults or people with disabilities to walk safely and comfortably.



Source: Dan Burden, all images

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## Safe Crossings

Safety and comfort for pedestrians should not stop at the sidewalk, but should extend into intersections where conflicts with vehicles are most likely. Safe intersections make pedestrians more visible to motorists and encourage slower vehicle turning speeds. Crossings at intersections should be clearly marked so that drivers know where to expect pedestrians and corner radii should be minimized to reduce turning speeds. In places where visibility and/or speeding are issues, raised crossings can slow vehicles and improve safety. At signalized intersections, signals should be clear for both pedestrians and motorists and should allow enough time for people walking slowly to cross comfortably. At intersections with a high volume of turns, it might be necessary to give pedestrians a leading signal to allow for time to be visible within the crosswalk, or to provide separate signal phases for people walking and for people driving.



Source: Dan Burden, all images

## When Designing for All Ages & Abilities Is Not Feasible

The feasibility of the preferred bikeway or sidewalk along a corridor largely depends on the type of project being pursued. The AASHTO Green Book categorizes the following three general project types based on the extent of construction:

- New construction – Roadway projects constructed along a new alignment;
- Reconstruction – Projects on existing alignments that represent significant changes to the road; and
- Construction on existing roads – these are often called “retrofit” projects, as they generally do not relocate curb or modify existing pavement edges.

New construction and reconstruction projects typically have fewer constraints and can be designed with enough room for AAA facilities. However, retrofit projects and some reconstruction projects are limited by right-of-way widths and existing infrastructure that can impact the final roadway design. In instances where an AAA facility is not possible, the next-best facility should be considered. If no design improvements are feasible, consider alternative parallel routes. A study of bicyclists' behavior by Portland State University found that alternative routes should increase trip length by less than 30 percent to be viable. All design modifications should be made with an understanding of the trade-offs for safety, network connectivity, estimated bicycle ridership, maintenance costs, and construction costs.

Even when achieving the highest standards of AAA is not possible, improvements to the corridor will still benefit mobility and safety for a segment of potential users. Improving a street corridor to make it safer for people walking and biking has also been shown to improve safety for all users.



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## Integrating Transit Into Corridor Design

Calhoun Road, Griggs Road and MLK Boulevard are all active transit corridors with several thousand people boarding and alighting buses each day. MLK Boulevard is primarily served by METRO's 80 MLK/Lockwood bus. This route is part of METRO's Frequent Network of bus routes that arrive every 15 minutes or better for most of the day, seven days per week. The 29 Cullen/Hirsch serves Calhoun Road and Old Spanish Trail and arrives at least every 30 minutes. Griggs Road is served by 5 Southmore which comes every 60 minutes or better. Both the 29 and 5 routes provide additional trips during peak hours to arrive more frequently when demand is typically higher.

Reliable transit service is a necessary component of a holistic transportation network that serves all users. Every transit trip starts and ends as a walking or biking trip, meaning sidewalks and safe bikeways are critical to transit access. Transit riders also need to cross the street to their bus stop or destination, making bus stop locations, mid-block crossing opportunities, and safe intersections critical. Bicyclists and buses typically use the same lane so conflict points should be carefully managed. Tools such as floating bus stops may be a great option where space and roadway geometry allow.

METRONext – METRO's long range planning effort – designates the 80 MLK-Lockwood as part of its high-ridership, frequent BOOST network. As a result, METRO will develop proposals to enhance customer experience by improving speed, reliability and access to stops. Improvements may include bus stop relocation, new shelters and accessibility upgrades, transit signal priority, and real-time passenger information. Any planned transit improvements should complement sidewalk and bikeway recommendations for this study area.



*Bicyclists and transit at MLK Boulevard and Reed Road*



*The Purple Line turning from MLK Boulevard onto Griggs Road*



*54 Scott passes the intersection of Griggs Road and Scott Street*



*Transit riders getting off the 73 Bellfort at MLK Boulevard*

# BASELINE CONDITIONS

## Chapter 3 MLK Healthy Connections Study

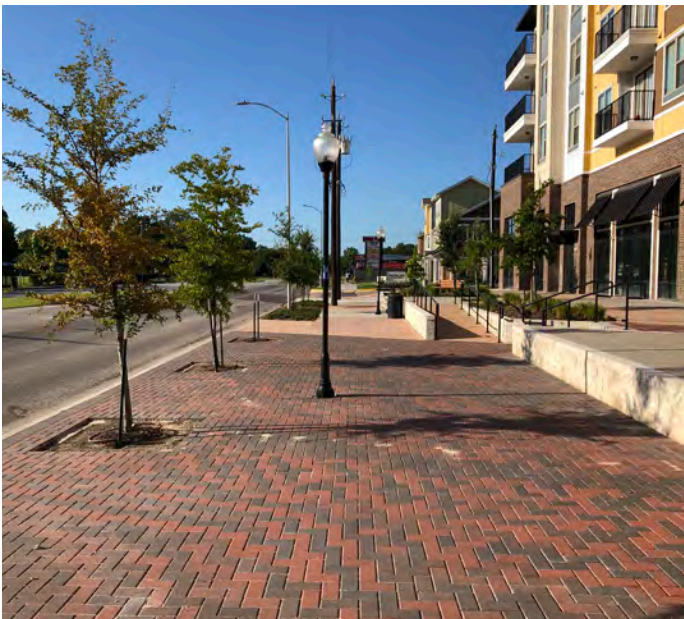
### STUDY EXTENTS

The study corridor includes three major roads and their cross-streets in the OST/South Union and South Park neighborhoods: Calhoun Road from Wheeler Avenue/MLK Boulevard to Griggs Road, Griggs Road from Tierwester Street to Beekman Road, and MLK Boulevard from Griggs Road to Airport Boulevard.

### BASELINE DATA

This chapter details data gathered from field visits, existing plans and publicly available data from the Texas Department of Transportation (TxDOT) or other agencies. Data includes:

- Traffic Volumes, page 15
- Intersection Turning Movement Counts, page 16
- Corridor Speeds, page 17
- Safety and Crash Data, page 18
- Existing Transit Infrastructure, page 19
- Existing Sidewalk Infrastructure, page 20
- Existing Bikeways, page 21
- Curbside Activity, page 22
- Recent and Planned Projects, page 23
- Community Health Data, page 24



*Wide sidewalk at Griggs Road and MLK Boulevard*



*Bus stop on MLK Boulevard*



## TRAFFIC VOLUMES

Average daily traffic counts (ADT) and turning movement counts (TMCs) at multiple locations along the study corridor during typical weekdays show the corridor's existing vehicle, pedestrian, and bicycle volumes.

### Average Daily Traffic Counts

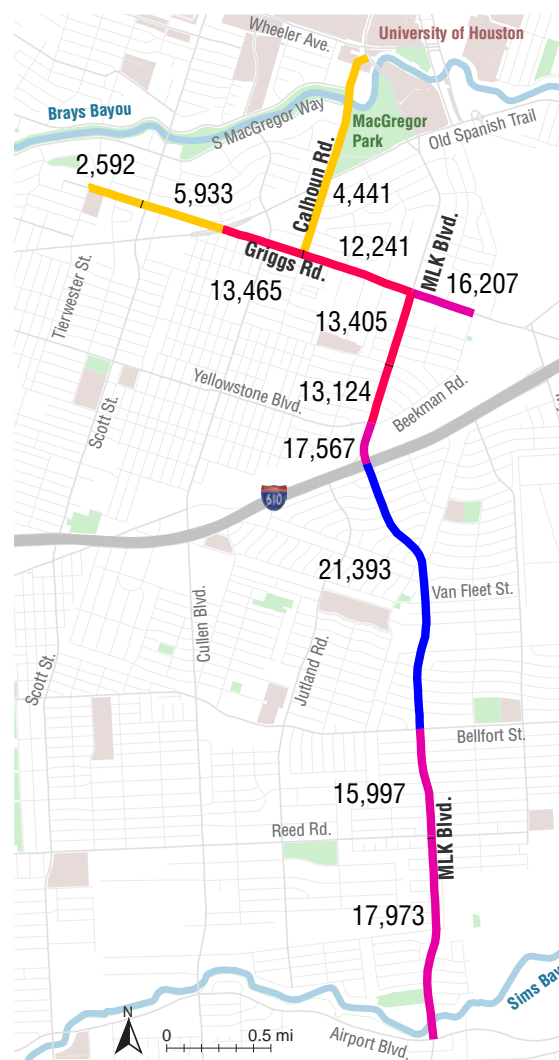
ADT counts were collected over a 48-hour time period between May 15, 2019 and May 17, 2019 at twelve locations along the corridor, as listed below.

Additionally, Table 2 shows the ADT values over the course of a typical day for all twelve locations and the highest peak hour directional volumes at each location.

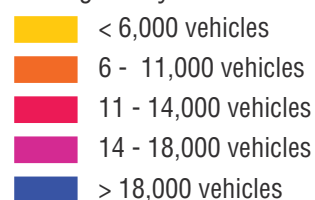
*Table 2, Average Daily Traffic and Peak Volumes*

Street Segment	Average Daily Traffic	Peak Hour Volume
Calhoun Road N MacGregor Way to Old Spanish Trl	4,441	SB - 330 (5-6 PM)
Griggs Road Tierwester St to Scott St	2,592	WB - 199 (7-8 AM)
Griggs Road Scott St to Old Spanish Trl	5,933	WB - 384 (5-6 PM)
Griggs Road Old Spanish Trl to Cullen Blvd	13,465	EB - 820 (5-6 PM)
Griggs Road Calhoun Rd to MLK Blvd	12,241	WB - 998 (7-8 AM)
Griggs Road MLK Blvd to Beekman Rd	16,207	EB - 737 (5-6 PM)
MLK Boulevard Griggs Rd to Perry St	13,405	SB - 788 (5-6 PM)
MLK Boulevard Perry St to Yellowstone Blvd/Beekman Rd	13,124	SB - 709 (5-6 PM)
MLK Boulevard Yellowstone Blvd/Beekman Rd to IH-610 S Loop	17,567	NB - 843 (7-8 AM)
MLK Boulevard IH-610 S Loop to Bellfort St	21,393	SB - 1210 (5-6 PM)
MLK Boulevard Bellfort St to Reed Rd	15,997	SB - 971 (5-6 PM)
MLK Boulevard Reed Rd to Airport Blvd	17,973	SB - 1061 (5-6 PM)

*Average Daily Traffic*



*Average Daily Traffic*



## Intersection Turning Movement Counts

TMCs were collected on September 11, 2019 during the morning and evening peak hours, 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM respectively, at 15 intersections along the corridor as listed below.

Table 3 shows the morning and evening peak hour volumes approaching at each intersection. ADTs can be found in Appendix A and TMCs (including bicycle and pedestrian volumes) can be found in Appendix B.

*Table 3, Intersection Turning Movement Counts*

Intersection	Morning Peak Hour				Evening Peak Hour			
	NB	SB	EB	WB	NB	SB	EB	WB
Calhoun Rd at S MacGregor Way	330	76	84	31	178	312	132	35
Calhoun Rd at Old Spanish Trl	224	79	772	803	145	332	1086	964
Griggs Rd at Scott St	205	112	255	775	87	222	751	485
Griggs Rd at Old Spanish Trl	923	620	107	322	650	1490	193	319
Griggs Rd at Cullen Blvd	116	53	127	724	509	76	398	456
Griggs Rd at Calhoun Rd	531	140	248	711	367	466	797	501
Griggs Rd at Milart St	210	33	310	743	82	54	764	423
Griggs Rd at MLK Blvd	725	625	232	806	498	927	633	619
Griggs Rd at Beekman Rd	75	27	267	822	121	43	764	531
MLK Blvd at Yellowstone Blvd/ Beekman Rd	1311	537	155	49	825	1139	434	101
MLK Blvd at IH-610 Frontage Roads	1280	734	431	913	622	1688	444	1184
MLK Blvd at Van Fleet St	1225	652	63	75	604	1680	48	58
MLK Blvd at Bellfort St	1136	584	319	520	503	1458	494	618
MLK Blvd at Reed Rd	1243	561	240	194	552	1298	416	215
MLK Blvd at Airport Blvd	1322	608	392	537	501	1201	432	588

*Note: Actual peak hour times may differ for each segment and intersection.*



*Bicyclist crossing Griggs Road at Calhoun Road*



*Intersection of Calhoun Road and S MacGregor Way*



## SPEED DATA

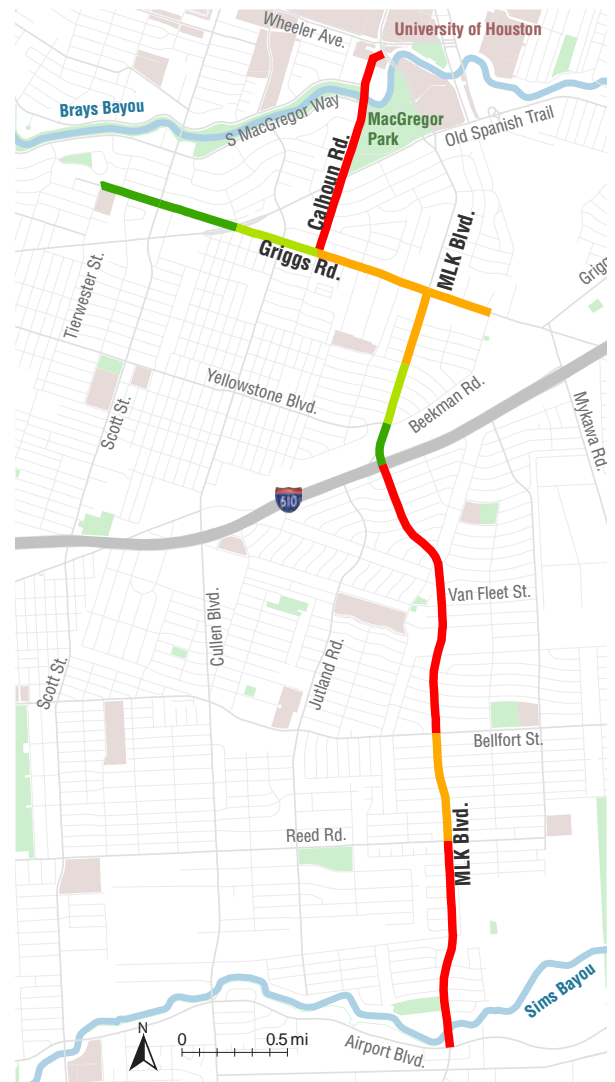
In coordination with the ADT counts, speed data was collected for the twelve segment locations along the corridor. Table 4 shows the posted and 85th percentile speeds for each segment. High vehicle speeds are dangerous for all road users, especially for bicyclists and pedestrians. The ratio of the observed 85th percentile speed to the posted speed compares the speed at which most drivers are utilizing the roadway to the posted speed limit.

The map below shows the ratio for each segment of the study corridor with red segments indicating more severe speeding and green segments indicating general compliance with posted speed limits. MLK Boulevard near IH-610 is the only segment with 85th percentile speeds lower than posted speeds. Based on observations in the field, this is likely due the railroad crossing and the curve in the roadway before it reaches the IH-610 frontage road.

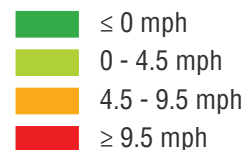
Table 4, Speeds by Segment

Street Segment	Posted Speed	85th % Speed	Diff.
Calhoun Road N MacGregor Way to Old Spanish Trl	30	39.5	+9.5
Griggs Road Tierwester St to Scott St	30	30	+0.0
Griggs Road Scott St to Old Spanish Trl	30	30	+0.0
Griggs Road Old Spanish Trl to Calhoun Blvd	35	38.5	+3.5
Griggs Road Calhoun Rd to MLK Blvd	35	42	+7.0
Griggs Road MLK Blvd to Beekman Rd	35	42.5	+7.5
MLK Boulevard Griggs Rd to Perry St	35	41.5	+6.5
MLK Boulevard Perry St to Yellowstone Blvd/Beekman Rd	35	39.5	+4.5
MLK Boulevard Yellowstone Blvd/Beekman Rd to IH-610 frontage road	35	31	-4.0
MLK Boulevard IH-610 S Loop to Bellfort St	35	44.5	+9.5
MLK Boulevard Bellfort St to Reed Rd	35	42	+7.0
MLK Boulevard Reed Rd to Airport Blvd	35	45	+10.0

Difference: 85th Percentile and Posted Speed



Measured 85th Percentile minus Posted Speed



## SAFETY ASSESSMENT/CRASH ANALYSIS

All recorded collisions in the TxDOT CRIS database between July 2014 and July 2019 along Calhoun Road, Griggs Road, and MLK Boulevard within the study area were obtained to analyze the crash history along the corridor. Crashes from the past five years were mapped and analyzed to determine crash locations and crash severity trends. Table 5 shows intersection crash rates for major intersections along the corridor, measured in crashes per million entering vehicles (MEV).

The crash rate for the entire corridor is 521 crashes per 100 million vehicle miles traveled (VMT). This value is more than 3 times higher than the 2018 TxDOT recorded average crash rate for an urban divided four lane or more roadway (158 per 100 million VMT), underscoring the need for infrastructure improvements. Crash rates vary by segment with the highest crash rates at Griggs Road at Old Spanish Trail, Griggs Road at Scott Street, MLK Boulevard at Bellfort Street, and MLK Boulevard at Airport Boulevard.

There were 142 pedestrian-related crashes and 74 bicycle-related crashes along the corridor during the five-year period. The 521 crashes resulted in 37 total fatalities, including 20 pedestrian-related and 6 bicycle-related. Although only 9% of all crashes involved a pedestrian or bicyclist, 70% of all fatalities were a pedestrian or bicyclist. Crash density is mapped below with labels showing fatal crashes.

*Table 5, Intersection Crashes (July 2014-July 2019)*

Intersection	Total Crashes	Pedestrian Crashes	Bicycle Crashes	Total Crash Rate (per MEV)
Calhoun Rd at S MacGregor Way	2	-	-	0.18
Calhoun Rd at Old Spanish Trl	15	2	-	0.35
Griggs Rd at Scott St	54	6	-	1.21
Griggs Rd at Old Spanish Trl	53 <sup>1</sup>	-	-	2.35 <sup>2</sup>
Griggs Rd at Cullen Blvd	3	-	-	0.08
Griggs Rd at Calhoun Rd	12	2	-	0.45
Griggs Rd at Milart St	13	4	-	0.54
Griggs Rd at MLK Blvd	38	6	-	0.80
Griggs Rd at Beekman Rd	28	2	2	0.68
MLK Blvd at IH-610 S Loop	45	-	-	0.66
MLK Blvd at Van Fleet St	17	-	2	0.44
MLK Blvd at Bellfort St	50	2	-	0.97
MLK Blvd at Reed Rd	29	2	-	0.69
MLK Blvd at Airport Blvd	46	-	-	0.91

1. Total crashes at intersection, not in the underpass

2. Calculated value only includes crashes and traffic volumes at the intersection, not in the underpass

*Crash Density*



## TRANSIT INFRASTRUCTURE

The corridor is served by several METRO bus routes and two METRORail Purple Line stops. Existing transit routes along or intersecting the study corridor are detailed below and shown in the map to the right.

### 900 – METRORail Purple Line

The Purple Line stops at University of Houston and University Oaks near the intersection of Wheeler Avenue and Calhoun Road/MLK Boulevard. It continues to its terminus at the Palm Center Transit Center near the intersection of Griggs Road and MLK Boulevard. Both stations are served with a 12-minute frequency during peak hours and an 18-minute frequency off-peak and on weekends.

**5 – Southmore** runs along Griggs Road within the study corridor with a 30-minute frequency during peak hours and a 45-minute frequency off-peak and on weekends.

**28 – OST/Wayside** intersects the study corridor at Old Spanish Trail. It runs with a 20-minute frequency during peak hours and a 30-minute frequency off-peak and on weekends.

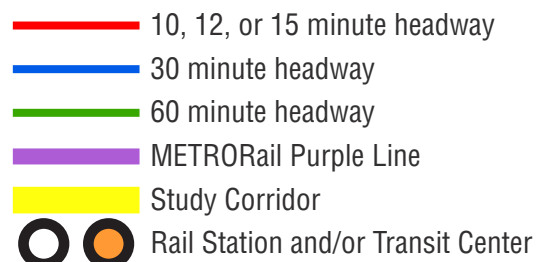
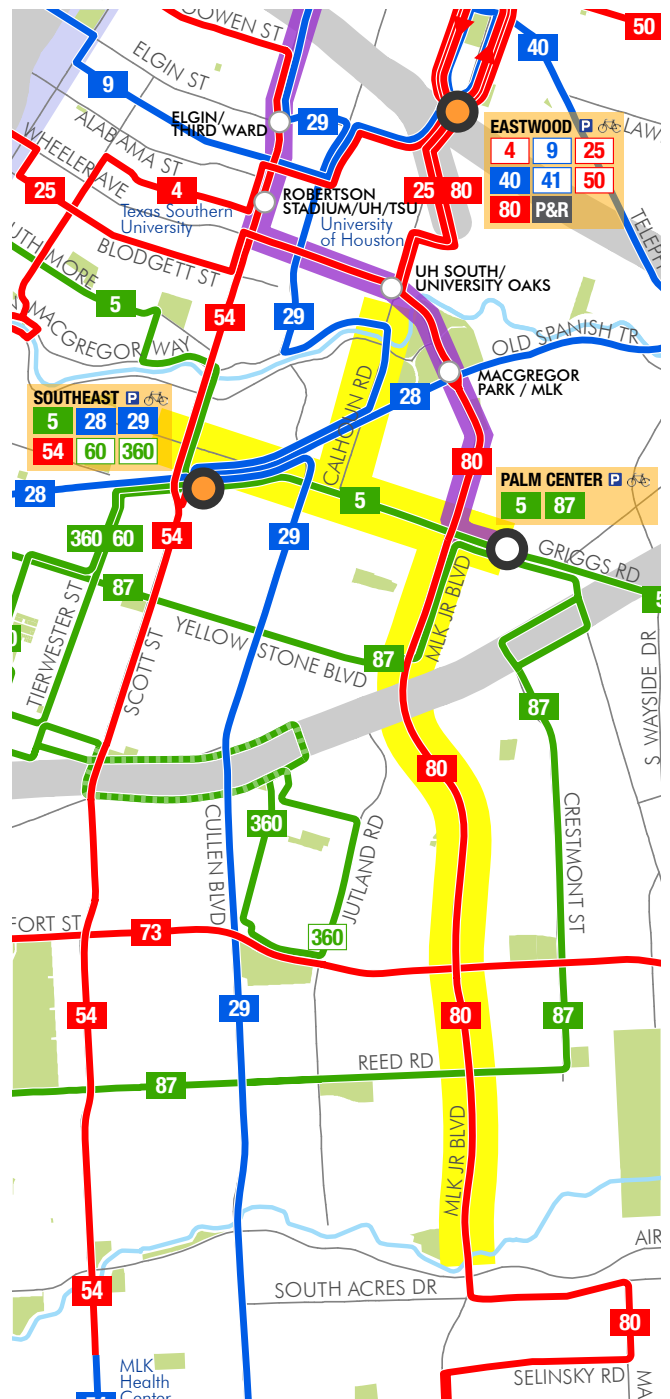
**29 – Cullen/Hirsch** runs along Calhoun Road within the study corridor between North Macgregor Way and Old Spanish Trail. It runs with a 20-minute frequency during peak hours and a 30-minute frequency off-peak and on weekends.

**73 – Bellfort** intersects the study corridor at Bellfort Street. It runs with a 12-minute frequency during peak hours and a 12 to 15-minute frequency off-peak and on weekends.

**80 – MLK/Lockwood** runs along MLK Boulevard within the study corridor between Griggs Road and Airport Road. Route 80 consists of a short route and a long route; both run along MLK Boulevard within the corridor. The route runs with a 15-minute frequency during peak hours and a 15-minute frequency off-peak and on weekends.

**87 – Sunnyside** runs along MLK Boulevard within the study corridor between Griggs Road and Beekman Road and intersects the corridor at Reed Road. It runs with a 30-minute frequency during peak hours and a 60-minute frequency off-peak and on weekends.

Existing Transit Service



Source: METRO

## PEDESTRIAN INFRASTRUCTURE

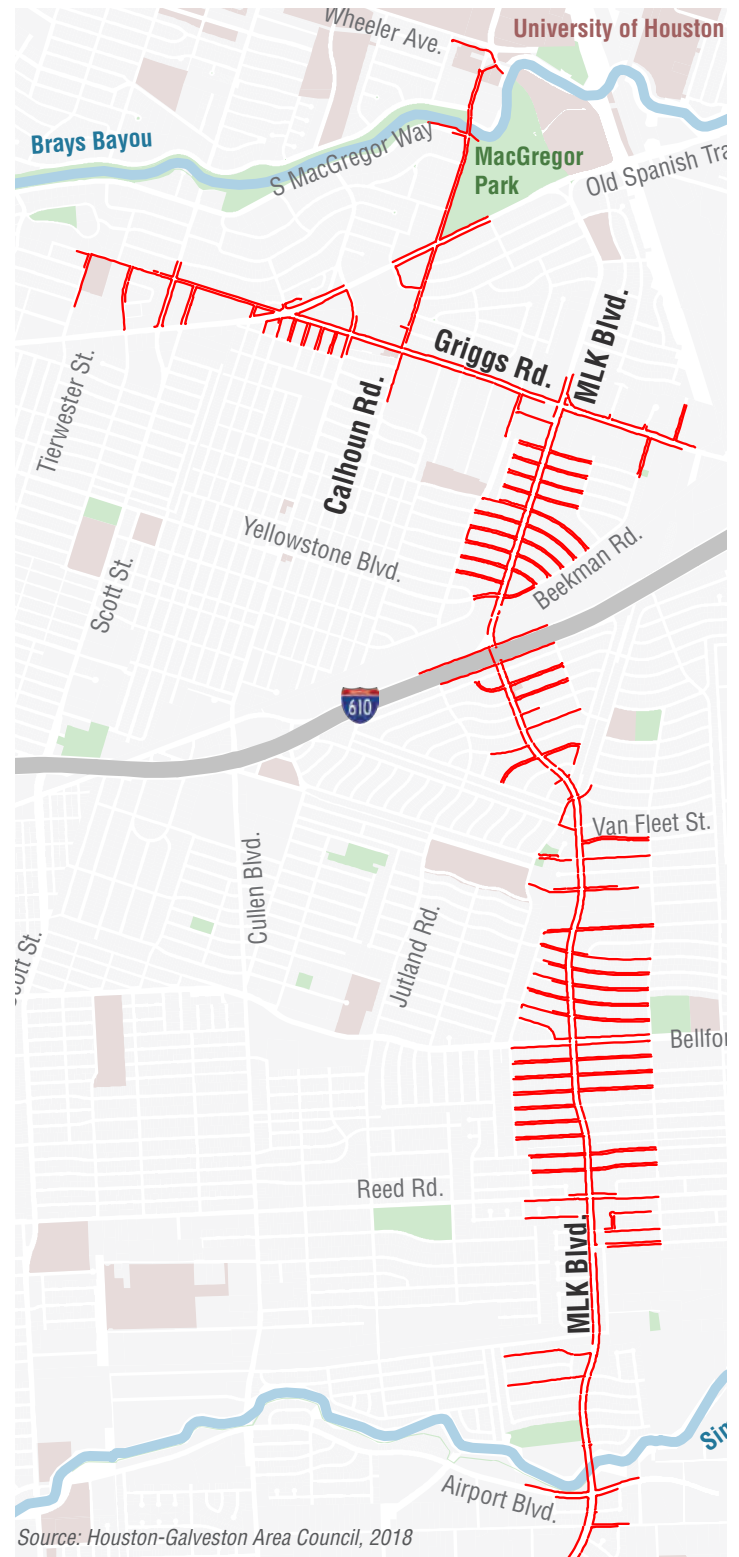
### Sidewalks

Although most of the study corridor has existing sidewalks, large segments are not safe for people of All Ages & Abilities and some gaps still exist in the sidewalk network. For long stretches of Calhoun Road and MLK Boulevard, sidewalks are either too narrow (less than five-feet wide) or are not buffered from vehicle travel lanes. Sidewalks on Griggs Road from Scott Street to Old Spanish Trail were recently updated to be 6-feet wide and the rest of Griggs Road mostly has five-foot sidewalks with buffers.

### Crossings

The study corridor includes several major intersection crossings on roads with high vehicle speeds and volumes like MLK Boulevard and Griggs Road. In general, these crossings are wide (often 80 feet or more) and do not have curb ramps that are compliant with the Americans with Disabilities Act (ADA). Additionally, most unsignalized crossings along the corridor do not have existing crosswalk markings.

*Existing Sidewalks on the Corridor*



■ Existing Sidewalk within 1/4 mile of study corridor



## BICYCLE INFRASTRUCTURE

The study corridor has only a few bikeways, none of which are high-comfort. MLK Boulevard and Griggs Road do not have any existing bike lanes, although Griggs Road is designated as a signed bicycle route. However, several high comfort bikeways intersect the corridor and would be linked by this project. The existing bicycle facilities and bike share stations within and near the study area are detailed at right.

### Calhoun Road

Calhoun Road has on-street bike lanes in both directions between South MacGregor Way and Griggs Road. The portion between Roseneath Drive and Old Spanish Trail has a 3-foot painted buffer. The portion between Old Spanish Trail and Griggs Road is largely in the gutter and has lost most of its pavement markings.

### Wheeler Avenue

Wheeler Avenue has a bi-directional shared path on the southern side between Calhoun Road and Sampson Street that connects to Texas Southern University.

### Brays Bayou

The Brays Bayou Greenway Trail runs along the bayou on both the northern and southern sides with connections to the street network at Calhoun Road, MLK Boulevard, and Wheeler Avenue near the study area. The trail is connected to the larger Bayou Greenways Trail network and runs largely east to west.

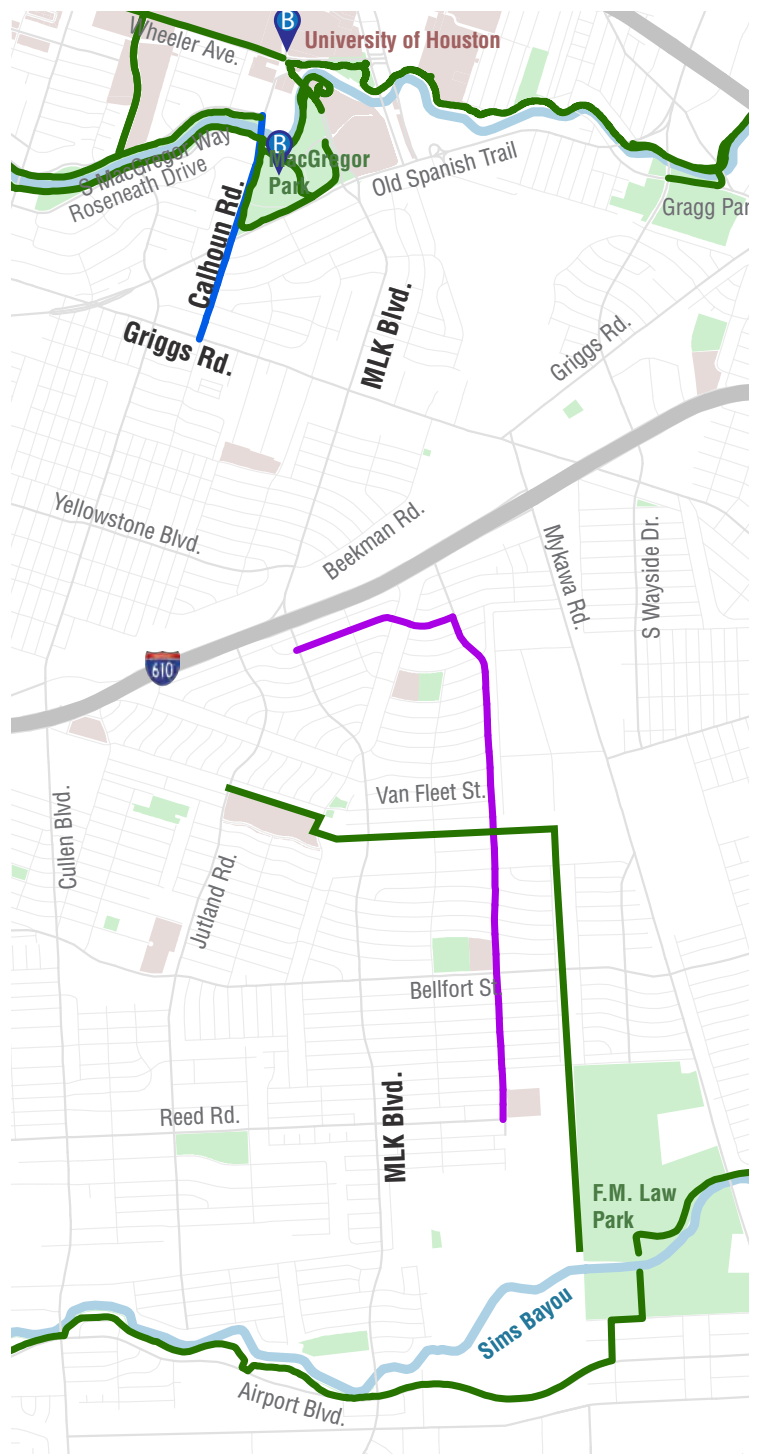
### Sims Bayou

The Sims Bayou Greenway Trail runs along the southern side of the bayou to the west with a connection to MLK Boulevard near the study area. An extension of this trail to the east from MLK Boulevard is currently under construction. The trail is connected to the larger Bayou Greenways Trail network and runs largely east to west.

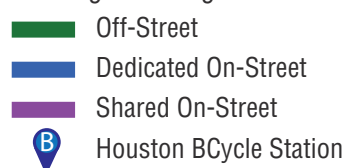
### Bike Share

Houston Bike Share installed new BCycle Stations in the study area in 2018 and 2019. A station at Wheeler Avenue near MLK Boulevard serves the METRORail Purple Line at the southern end of the University of Houston Campus. The second station was installed in November 2019 in MacGregor Park.

Existing/Programmed Bikeways and BCycle Stations



Existing and Programmed Bikeways



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## CURBSIDE ACTIVITY

### Parking

The majority of the project corridor curbsides are designated as no-parking areas. A 760-foot segment of Calhoun Road provides on-street parking for about 35 spaces on the east side of the roadway along MacGregor Park. Field observations indicate that drivers use the spaces all day, potentially as a free parking option for the University of Houston to the north. This conclusion was drawn based on the heavy utilization of the parking spaces closest to the university and the limited utilization of the spaces inside MacGregor Park and further south.



*Unmetered parking along MacGregor Park*

### Bus Stops

Each of the major roadways in the corridor have bus stops at both intersections and mid-block. Some stops include covered or uncovered seating, but most only have bus stop signage. Any changes to bus stop design and placement should consider the impact on pedestrians and bicyclists.



*A covered bus stop for the 80 MLK/Lockwood on MLK Boulevard*

### Access Management

At major intersections along the corridor including Calhoun Road and Griggs Road, MLK Boulevard and Beekman Boulevard, and MLK and Belfort, pedestrians have to cross large driveways serving drivers accessing businesses. These access management conflicts are often in groups of two or three and are not marked to indicate pedestrian crossings. Many of the driveways are also located near important transit stops that allow riders to transfer from one line to another.



*Driveway access across a sidewalk on Calhoun Road*

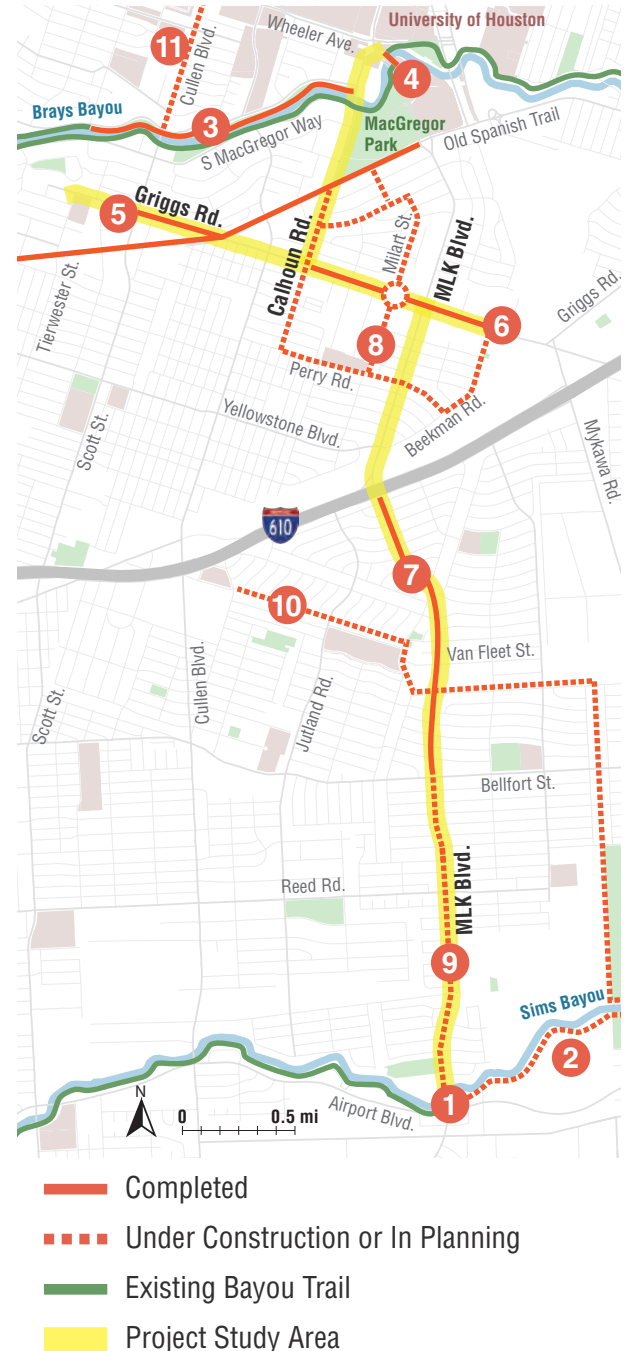
## RECENT/PLANNED INFRASTRUCTURE PROJECTS

Several infrastructure and planning projects within or near the MLK corridor are planned, under construction, or recently completed, elevating the importance of All Ages and Abilities improvements. Table 6 shows a list of known projects in the corridor and a map for context.

*Table 6, Recent and Planned Projects*

Project	Status	Implementing Agency
1 Sims Bayou Greenway Trailhead at MLK Boulevard and Airport Boulevard	Under construction	Houston Parks Board
2 Sims Bayou Greenway from MLK Boulevard to Stuart Park	In planning	Houston Parks Board
3 Brays Bayou Greenway Trail Replacement	Under Construction	Houston Parks Board
4 Brays Bayou Pedestrian/Bicycle Bridge from University of Houston to MacGregor Park	Completed 2019	Houston Parks Board
5 Old Spanish Trail and Griggs Road Landscaping Project	Completed	OST/Almeda Corridors Redevelopment Authority
6 Griggs Road and MLK Boulevard Corridor Improvements Project	Completed	OST/Almeda Corridors Redevelopment Authority
7 MLK Boulevard Reconstruction and Drainage Improvements IH-610 to Belfort Street	Completed	City of Houston
8 Neighborhood Greenways Project	In Planning/Design	Houston Southeast
9 MLK Boulevard Drainage Improvements Study	In Planning	City of Houston
10 Saltwater Ditch Trail	In Planning	Harris County, City of Houston, Harris County Flood Control District
11 Cullen Boulevard Reconstruction	Under Construction	Harris County Precinct One

*Recent and Planned Projects*





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## COMMUNITY HEALTH

According to the Centers for Disease Control, about 59% of Harris County adults get the recommended amount of vigorous aerobic activity each week and around one-third of adults in Harris County are inactive altogether. The 2018 Health of Houston Survey also showed that 50% of children participated in at least 60 minutes of physical activity seven days a week.

The recent Health of Houston Survey shows indicators for two areas spanning this corridor: Medical Center/MacGregor and Greater Hobby/Edgebrook – see Table 7. In both instances, the neighborhoods include many neighborhoods that are not in the study area and may skew the results of the survey. However, the data does show a high percentage of overweight and obese adults and a large portion of residents who do not get the recommended level of daily exercise.

Physical activity increases a person's life span by reducing risks for obesity and major chronic illnesses like heart disease, diabetes and cancer. Regular physical activity can also improve a person's mental health. Built environment has a significant impact on whether people get outside for regular exercise and activity. Negative health outcomes are also exacerbated by poverty as low-income residents are often un- or under-insured and live in neighborhoods that have historically received little investment in quality of life improvements that can benefit public health.

Better access to safe sidewalks, bikeways and parks can increase the number of residents getting the recommended amount of daily physical activity. Harris County Precinct One included health as a component of the Comprehensive Transportation Policy in its recent precinct transportation plan and is implementing those policy goals through this study.

*Table 7, 2018 Health of Houston Survey Results*

Indicator	Medical Center/ MacGregor Neighborhood	Greater Hobby/ Edgebrook Neighborhood	Houston Area
Obese Adults	31%	44%	30%
Overweight/Obese Adults	57%	81%	68%
Diabetes Diagnosis	9%	16%	13%
High Blood Pressure	31%	27%	29%
Less than Recommended Physical Activity	36%	40%	41%
No Parks in Walking Distance	15%	19%	21%
No Sidewalks in Neighborhood	10%	19%	22%

# CORRIDOR RECOMMENDATIONS

## Chapter 4 MLK Healthy Connections Study

### HOLISTIC IMPROVEMENTS

Recommendations for this corridor address infrastructure improvements that would make the corridor a safe place for all roadway users and promote healthy transportation options that do not currently exist. The recommendations are divided into three chapters, one each for Calhoun Road, Griggs Road, and MLK Boulevard. Each road is split into smaller segments based on the characteristics of the roadway.

Recommendations include proposed changes to the street cross sections to accommodate All Ages & Abilities bikeways, transit recommendations to optimize stop placement and design for more reliable bus route operation, and intersection design changes to increase the safety and visibility of pedestrians and bicyclists. All recommendations are supported by detailed analysis, described in more detail on the following pages.

#### Calhoun Road Segments

Wheeler Avenue	to N MacGregor Way
N MacGregor Way	to S MacGregor Way
S MacGregor Way	to Old Spanish Trail
Old Spanish Trail	to Griggs Road

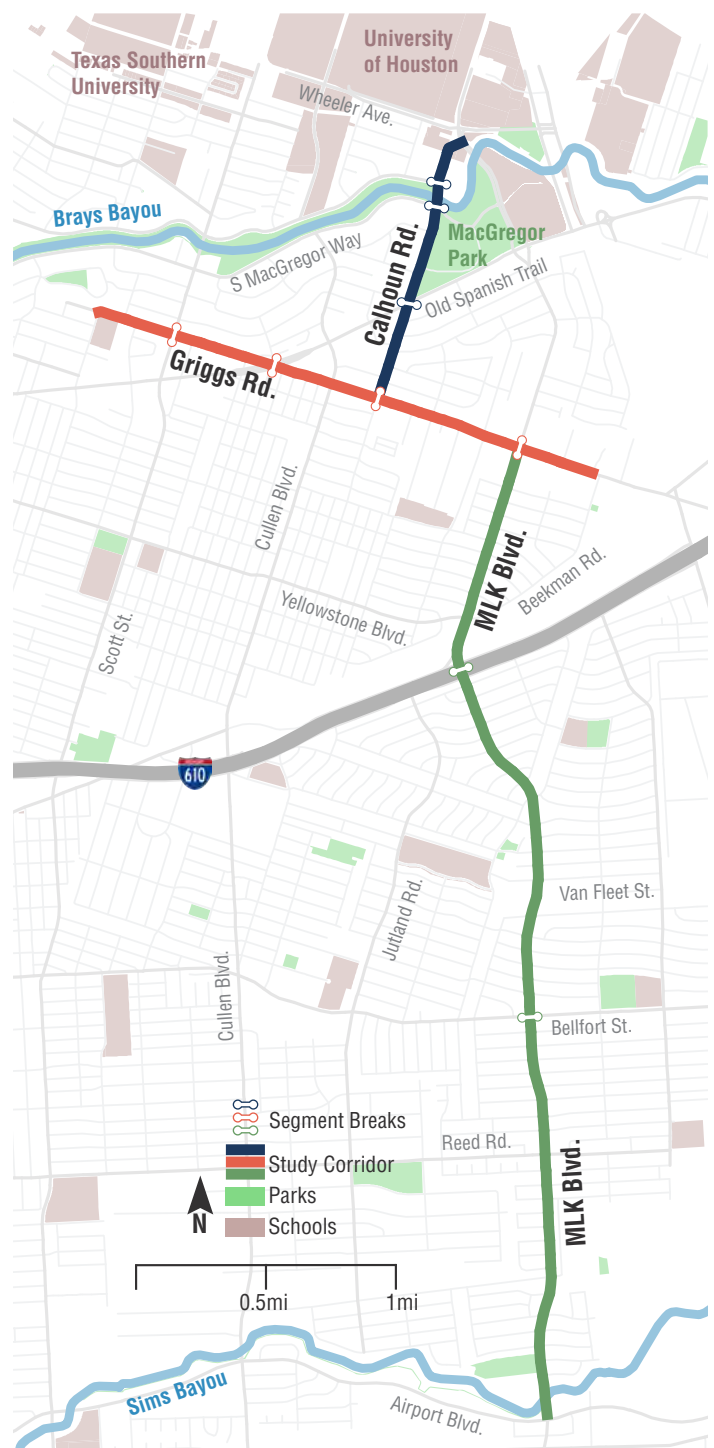
#### Griggs Road Segments

Tierwester Street	to Scott Street
Scott Street	to Old Spanish Trail
Old Spanish Trail	to Calhoun Road
Calhoun Road	to MLK Boulevard
MLK Boulevard	to Beekman Road

#### MLK Boulevard Segments

Griggs Road	to IH-610
IH-610	to Bellfort Street
Bellfort Street	to Airport Boulevard

Study Corridor Segments



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## VEHICLE CAPACITY ANALYSIS

A vehicle intersection capacity analysis was conducted at major corridor intersections along the corridor for morning and evening peak hours. The capacity analysis provides an indication of the adequacy of the roadway facilities to serve the traffic demands during peak traffic conditions. A comparison between the baseline conditions and recommended conditions provides an indication as to how the recommendations may impact vehicular operation.

Capacity analysis provides information regarding traffic operations at an intersection and are expressed in terms of the level of service (LOS). The LOS indicates the average seconds of delay experienced by a motorist at a signalized intersection or at the stop-controlled approach of an unsignalized intersection. As a frame of reference, intersection LOS ranges from A to F, with LOS A representing free flow conditions and LOS F representing highly congested conditions. In general, a signalized intersection or stop-controlled approach at an unsignalized intersection operating at LOS D or better in an urban area is characterized as acceptable delays. LOS methodology is based on the 2010 Highway Capacity Manual (HCM) from the Transportation Research Board. Table 8 below presents the vehicle LOS delay threshold criteria as defined in the HCM. The analysis was conducted in PTV Vistro 7.00 and the detailed reports can be found in the Appendix C.

Adjustments were made to the Vistro model to include the characteristics of each intersection such as geometry, signal timings, heavy vehicles, bus operations, parking activity, bicycle conflicts, and pedestrian crossings. The overall intersection LOS results are discussed within each corridor segment. Detailed LOS results including approach and lane group LOS, volume to capacity ratio, and queue are provided in the appendices. Under the proposed recommended conditions, signal phasing and timings changed only if the recommended intersection geometry forced a modification in which the phasing and timings were optimized for the recommended condition while cycle length was always maintained.

*Table 8, Level of Service Thresholds*

Level of Service	Control Delay (seconds per vehicle)
A	0-10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

## TRANSIT ANALYSIS

The MLK Corridor Project encompasses 101 existing bus stops on 6 routes that serve approximately 2,265 boardings on a typical weekday. The project offers the opportunity to improve safety, comfort, and access for transit riders and other people walking in the corridor as well as to make transit service faster and more reliable.

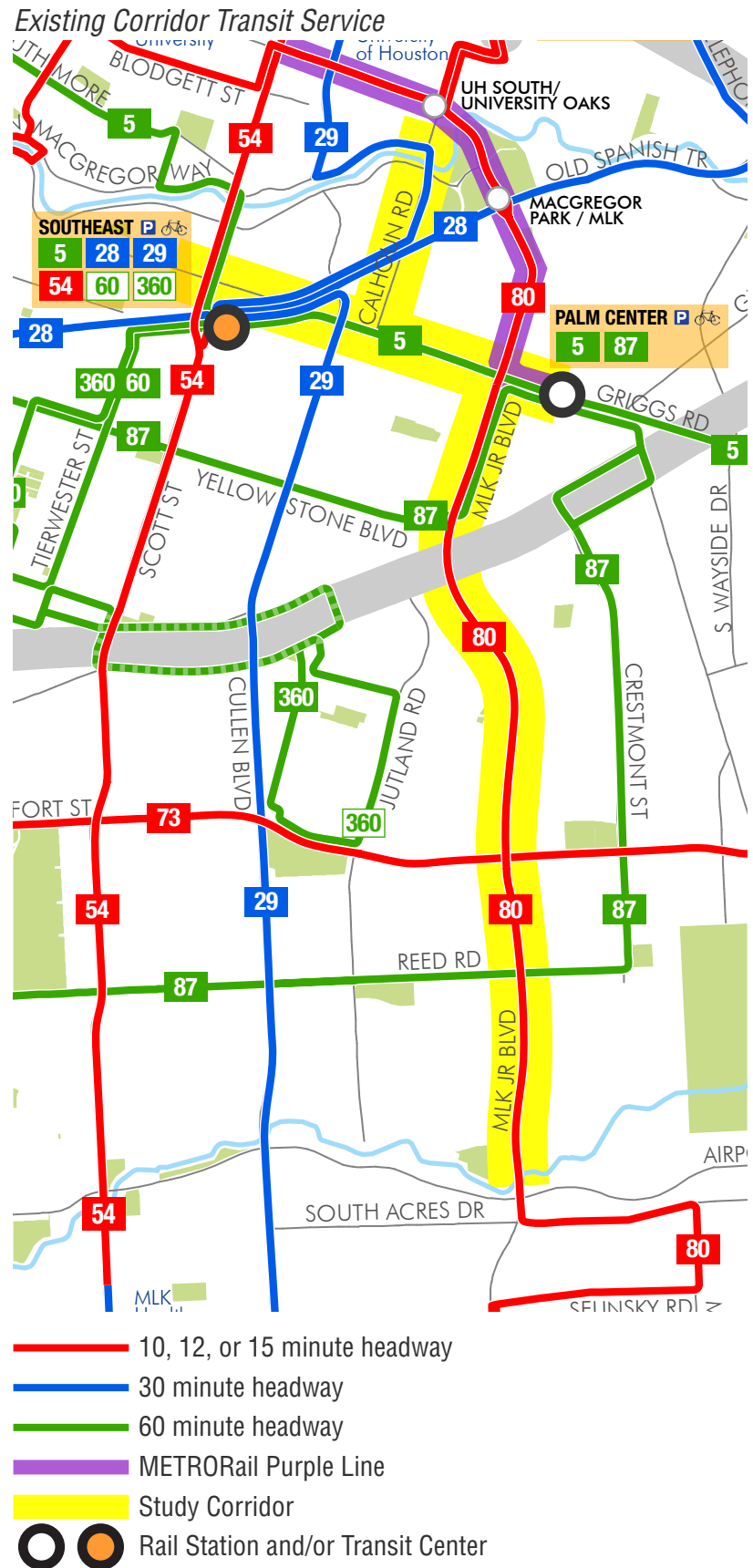
## BOOST

Bus Operations Optimized Service Treatments (BOOST) is a METRO process to improve the transit experience on key METRO bus lines. Seventeen BOOST corridors are proposed in the METRONext Moving Forward Plan approved by voters in 2019, including the 80 MLK/Lockwood frequent bus line that travels along MLK Boulevard through the study corridor.

Key components of BOOST include:

- Stop optimization
- Enhanced bus stop design
- Accessible sidewalks
- Improved street crossings
- Transit signal priority
- Service optimization

The first four items can be addressed through this project, benefiting transit riders in the short term and facilitating implementation of BOOST in the future.



Source: METRO

## STOP OPTIMIZATION

Stop optimization refers to the spacing of bus stops from one another combined with the placement of bus stops relative to intersections. Guidelines for stop optimization vary based on the type of bus service provided. Frequent bus lines, those that run every 15 minutes or better and are colored red in the map on previous page, generate high ridership. As a result, speed and reliability are important on frequent routes and stops should be about one quarter mile apart to provide good access along the route while allowing buses to pick up speed between stops.

METRO's "blue" routes that typically run every 30 minutes should be planned for promotion to frequent route in the future and can follow the same design guidelines. Low-frequency bus routes - those that arrive less often than every 30 minutes and are colored green - are generally focused on providing basic transit access and coverage, so more closely spaced stops are acceptable.

The preferred placement of bus stops is on the far side of intersections, especially at signalized intersections where transit signal priority (TSP) may be implemented. Other considerations include bus and traffic turning movements, connecting bus routes, and right-of-way obstructions like utilities. At unsignalized intersections, stop placement should be coordinated with the design of any crossing improvements.

*Table 9, Corridor Stop Optimization*

Segment (distance)	Stops		Spacing (avg. mi. between stops)	
	Existing	Optimized	Existing	Optimized
<b>Calhoun Road</b> (0.5 miles)	4 NB	3 NB	0.17 miles	0.25 miles
Old Spanish Trail to North MacGregor Way	5 SB	3 SB	0.13	0.25
<b>Griggs Road</b> (1.3 miles)	10 EB	8 EB	0.14	0.19
Palm Transit Center to Old Spanish Trail	10 WB	8 WB	0.13	0.20
<b>Martin Luther King Boulevard</b> (3.9 miles)	31 NB	20 NB	0.13	0.21
Airport Boulevard to Griggs Road	32 SB	19 SB	0.13	0.22

### Martin Luther King, Jr. Boulevard

The proposed bus stop optimization along MLK Boulevard, which is served by the 80 MLK/Lockwood and on a short segment by the 87 Sunnyside, is based on BOOST standards. As indicated in Table 9, the number of stops on the segment from Airport Boulevard to Griggs Road is reduced from 31 to 20 northbound and from 32 to 19 southbound, changing the average spacing from 0.13 miles to 0.21-0.22 miles. Specific recommended stop locations for MLK Boulevard are shown on pages 60-65.

### Griggs Road and Calhoun Road

The proposed bus stop optimization along Griggs Road and Calhoun Road, which encompasses segments of the 5 Southmore, 28 OST-Wayside, and 29 Cullen/Hirsch, is based on METRO local standards and best practices to reduce conflicts with the proposed bikeway. As shown in Table 9, the number of stops on these segments is reduced slightly and resulting spacing is between 0.19 and 0.25 miles. Specific recommended stop locations for Calhoun Road are shown on page 37. Recommendations for Griggs Road are found on pages 47-50.



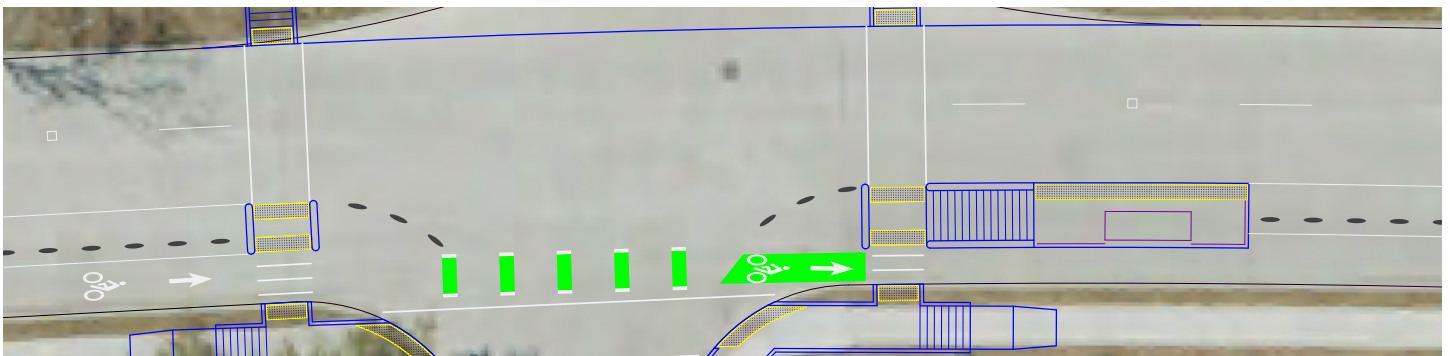
## BUS STOP DESIGN

All new bus stops along the corridor will be designed to current METRO standards for the safety and comfort of transit riders, including sidewalk meeting all bus doors and provisions for future shelter installation. Along the MLK BOOST corridor, BOOST standards for bus stop design will be applied, including 9" curb along the boarding area.

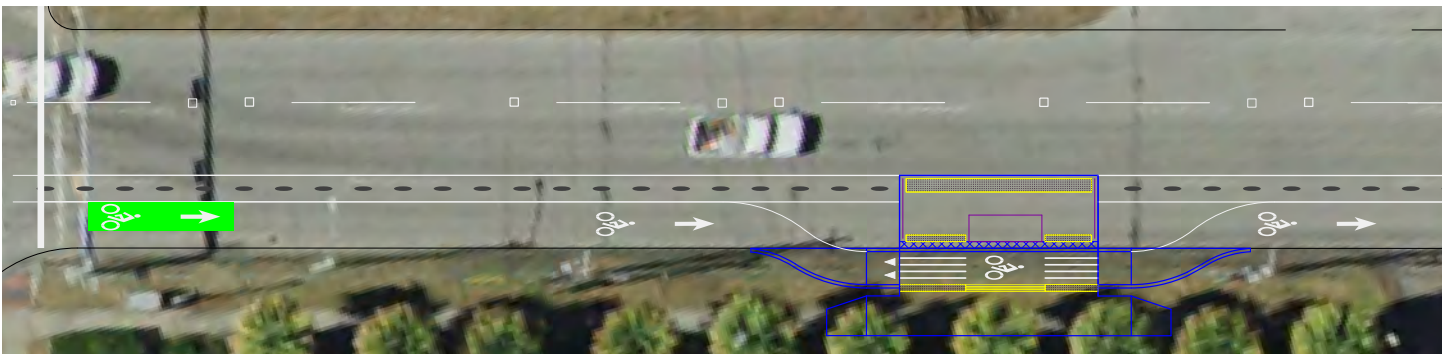
Bus stop designs will also seek to manage and minimize conflicts between bicyclists traveling in the proposed lanes and buses serving the stops. The three primary approaches to bikeway-bus stop interaction—floating bus stops, shared lane bus stops, and shared platform bus stops—are described below.

### Floating Bus Stops

Floating bus stops are the preferred approach to minimize conflict between bikes and buses. In a floating design, the bike lane is routed behind the bus boarding area and the bus remains in the travel lane. Based on available pavement width, the bike lane may remain on the street pavement or it may swing behind the curb through the bus stop area. Below, an example of the former is shown at MLK & Willow Glen and an example of the latter is shown at MLK & Beekman. Photos of floating bus stops in other cities are shown at the bottom of the page.



*MLK at Willow Glen Floating Bus Stop*



*MLK at Beekman Floating Bus Stop*



*Source: Seattle DOT*



*Source: Public Domain*

## Shared Lane Bus Stops

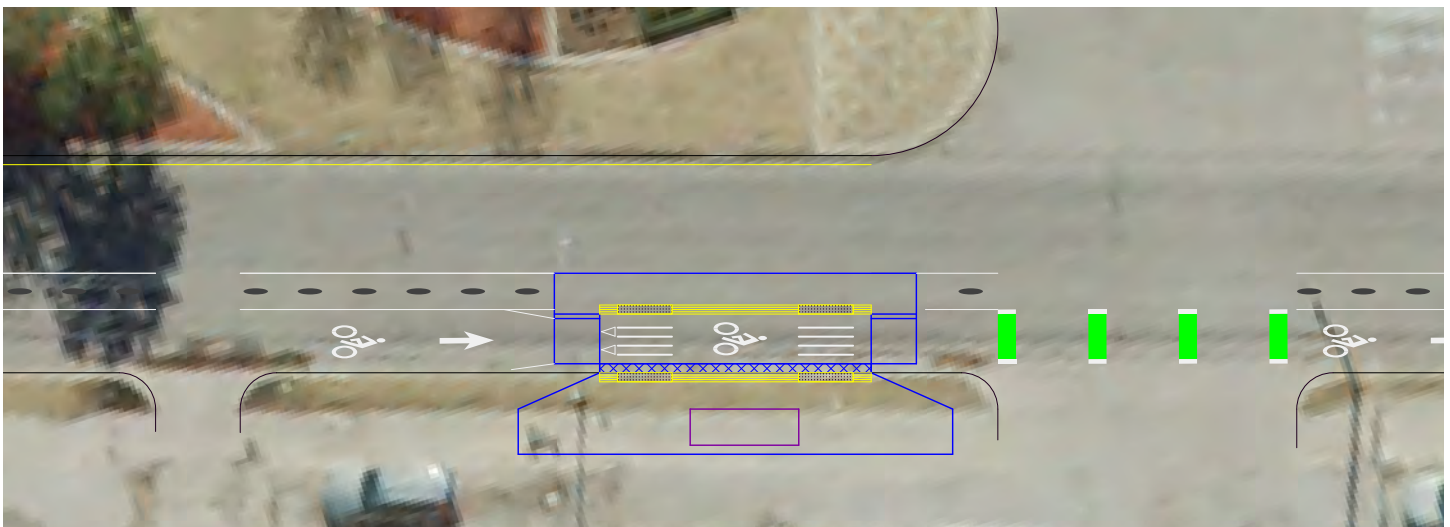
Where right-of-way limitations, geometric constraints, cost considerations or other issues make the application of a floating bus stop challenging, a shared design can be acceptable, especially where bus boarding and bicycle volumes are expected to be lower. In a shared design, the bus yields to any bicyclists and pulls into the bike lane to serve a stop along the curb. Pavement markings highlight the conflict area. An example is shown below for the proposed northbound stop at Calhoun Road and Old Spanish Trail.



*Calhoun at Old Spanish Trail Shared Lane Bus Stop*

## Shared Platform Bus Stops

In some cases, right-of-way and geometric constraints may preclude a floating bus stop and a shared lane bus stop may be undesirable because it requires the bus to pull out of the travel lane. In these cases, a shared platform bus stop can be considered. In a shared platform design, the bike lane passes through the bus stop boarding area. When a bus is serving the stop, bicyclists must yield to passengers boarding and alighting. An example is shown below for the westbound bus stop at Griggs and Carol.



*Griggs at Carol Shared Platform Bus Stop*



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## SAFE CROSSINGS

To make a round trip on transit, a rider will typically have to cross the street in one direction of travel. Providing safe crossings in proximity to bus stops improves safety and access for transit riders and other people walking to destinations in the corridor.

At proposed bus stop locations that are not in proximity to a traffic signal, a number of design features will be considered to provide an appropriate crossing improvement for the context. These include:

- Pedestrian refuge/median cut-through
- Curb extension
- Raised crosswalk
- Pedestrian crossing signage
- Rectangular rapid flashing beacon (RRFB)
- Pedestrian hybrid beacon (HAWK)

Currently, only 43% of bus stops in the corridor are in proximity to a marked crossing. This would improve to more than 90% with the proposed bus stop and improved crossing locations.



*Pedestrian crossing MLK Boulevard at Belfort Street after getting off the 73 Belfort bus*



*An 87 Sunnyside bus at the intersection of MLK Boulevard and Beekman Road/Yellowstone Boulevard*

# CALHOUN ROAD

## WHEELER AVENUE TO GRIGGS ROAD

### Chapter 5 MLK Healthy Connections Study

The segment of Calhoun Road included in the Healthy Connections Study extends from Wheeler Ave in the north to Griggs Road in the south. The recommended cross-section of Calhoun Road will modify the existing roadway to improve safety and accessibility for all road users.

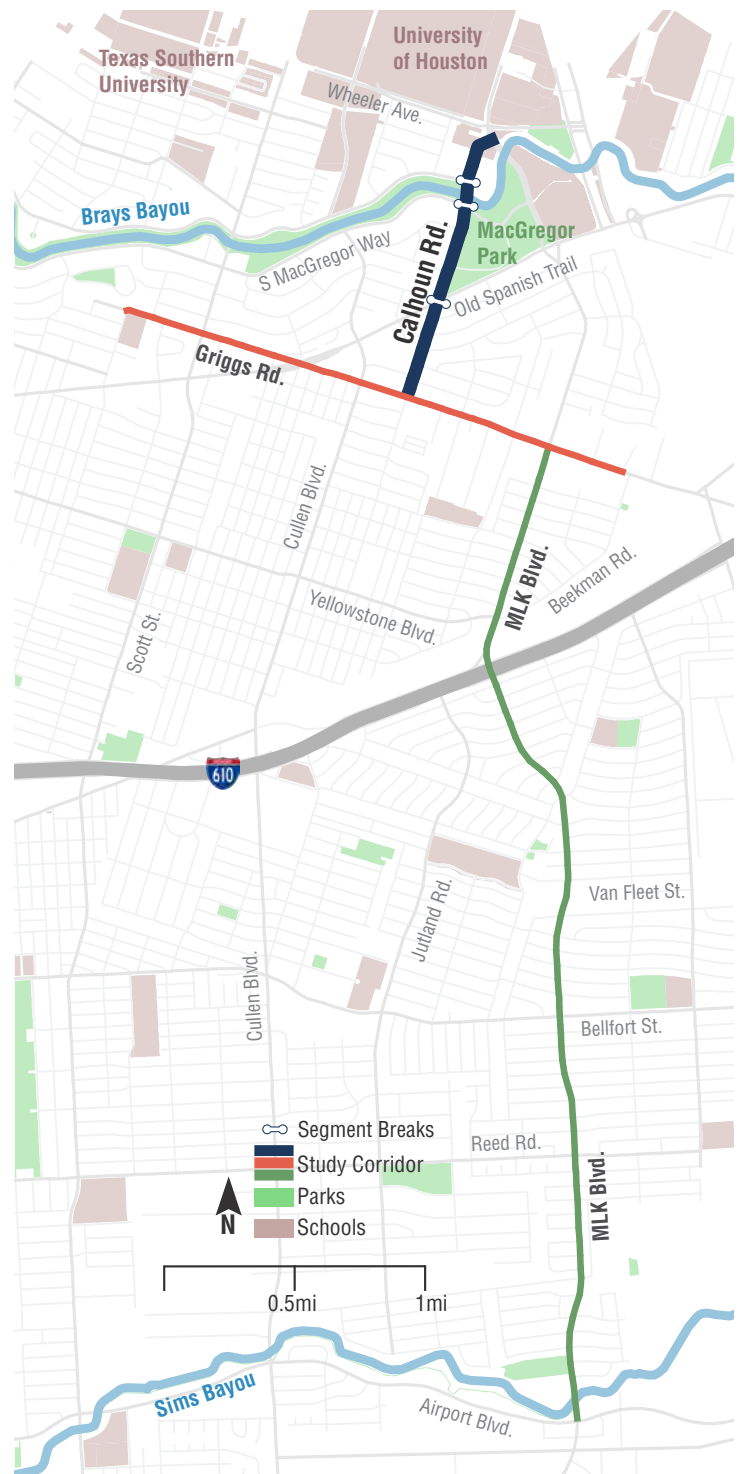
The recommendations in this chapter provide detailed proposals for corridor cross-sections that provide a protected on-street bike lane along the full length of the segment, safer pedestrian accommodations, transit service improvements, and intersection modifications on Calhoun Road.



*Covered stop for the 29 Cullen/Hirsch route on Calhoun Road*



*Intersection of Calhoun Road and Old Spanish Trail*



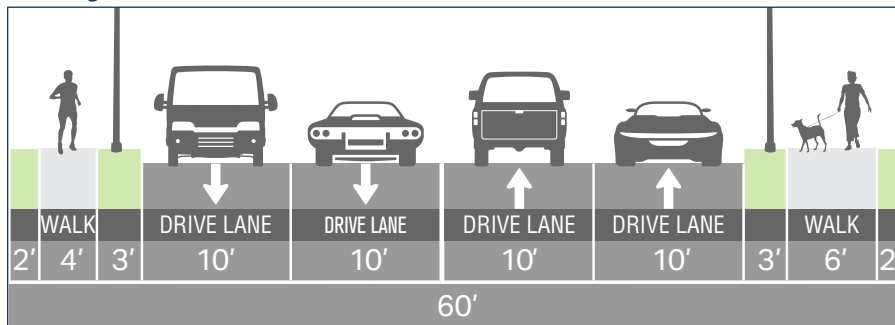
# CALHOUN ROAD

SEGMENT  
A

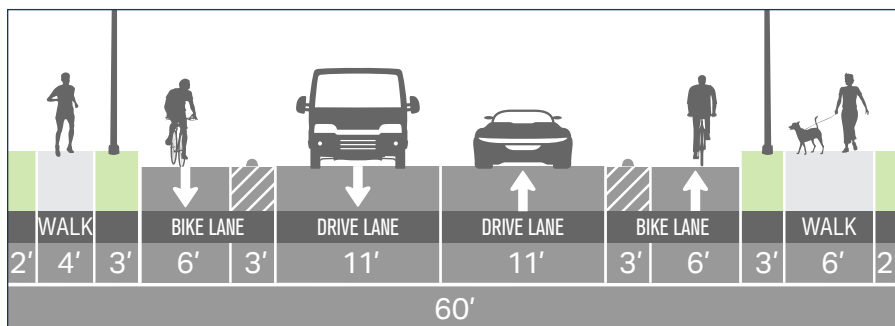
## WHEELER AVENUE TO N MACGREGOR WAY

Calhoun Road from Wheeler Avenue to N MacGregor Way has four 10-foot vehicle travel lanes (two in each direction), sidewalks on both sides and no bike facilities. The sidewalks are mostly buffered from the vehicle lanes and vary in width from 4 feet to 6 feet. While it does not include any transit stops, the segment is bordered by the METRORail Purple Line on its northern end at Wheeler Avenue and the 29 Cullen/Hirsch Bus Route on its southern end at N MacGregor Way. The street serves nearby apartment complexes, a church, a Zipcar station, a nearby BCycle station, two large parking lots and the University of Houston's South Park Annex.

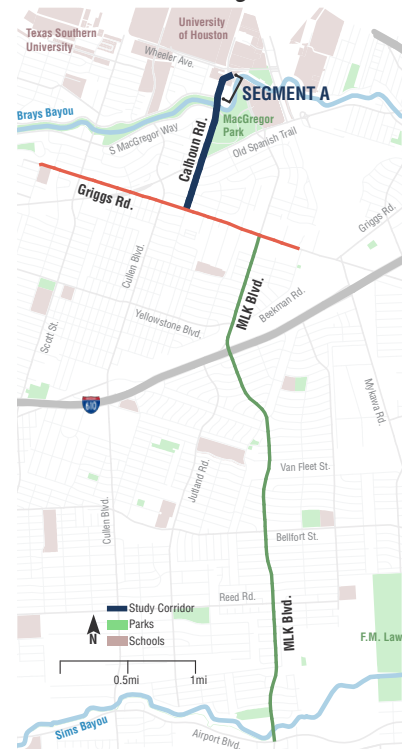
### Existing



### Recommended



### Calhoun Road Segment A



## RECOMMENDED IMPROVEMENTS

- Re-assign one vehicle lane in each direction to add a protected 6-foot bike lane with a 3-foot buffer.
- Increase pedestrian safety by using the new bike lanes as a buffer between sidewalks and vehicle travel lanes.
- Provide an improved pedestrian and bicycle connection to the northern bank Brays Bayou Greenway Trail.
- Provide an off-street bicycle path connecting the Calhoun Road bike lanes to the Wheeler Avenue side path. For more details, see page 40.
- Provide a mid-block crossing for pedestrians and bicyclists to access the recommended off-street paths east of the University of Houston parking lot. For detailed intersection recommendations see pages 39-40.
- Maintain a vehicle lane in each direction and widen it to 11-feet to allow motorists to make safer turns.
- Add on-street metered parking near the intersection with MLK Boulevard.

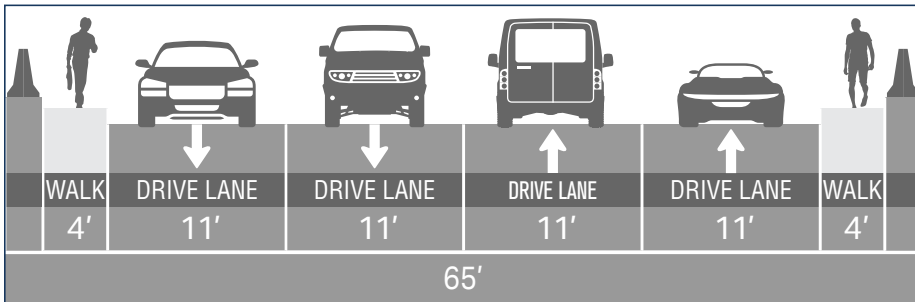
# CALHOUN ROAD

SEGMENT  
**B**

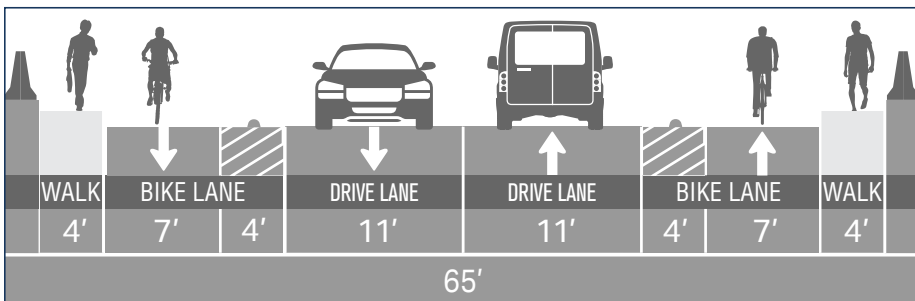
## N MACGREGOR WAY TO S MACGREGOR WAY

The bridge spanning Brays Bayou between N MacGregor Way and S MacGregor Way has four 11-foot travel lanes (two in each direction). This segment has narrow 4-foot sidewalks on each side with no buffer from vehicle traffic and railings on the outside of edge. The segment does not have any bicycle facilities. Both the northern and southern ends of the bridge connect to the Brays Bayou Greenway Trail. The 29 Cullen/Hirsch Bus Route crosses the bridge, although there are no existing stops on this segment. The bridge serves as the most direct connection between the University of Houston and the residential neighborhoods and MacGregor Park south of Brays Bayou.

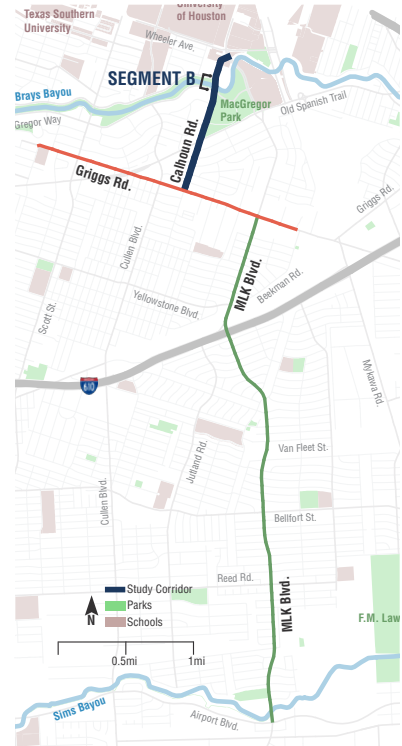
### Existing



### Recommended



### Calhoun Road Segment B



## RECOMMENDED IMPROVEMENTS

- Re-assign one vehicle lane in each direction to add a protected 7-foot protected bike lane with a 4-foot buffer.
- Increase pedestrian safety by using the new bike lanes as a buffer between the sidewalks and vehicle travel lanes.
- Improve the pedestrian and bicycle connections across Brays Bayou to better link the University of Houston, the Brays Bayou Greenway Trail and MacGregor Park.
- Keep one vehicle lane in each direction to allow enough room for bus travel.



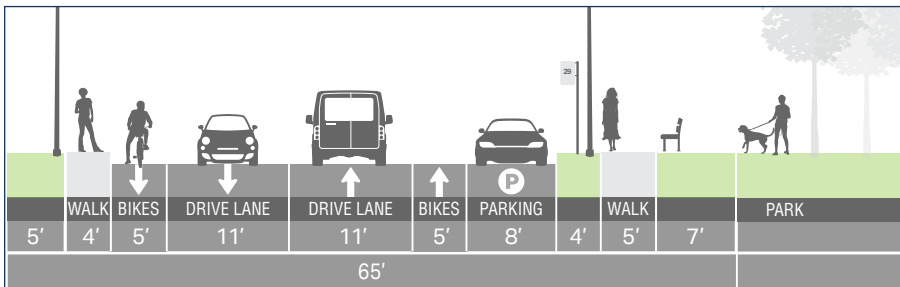
# CALHOUN ROAD

SEGMENT  
**C**

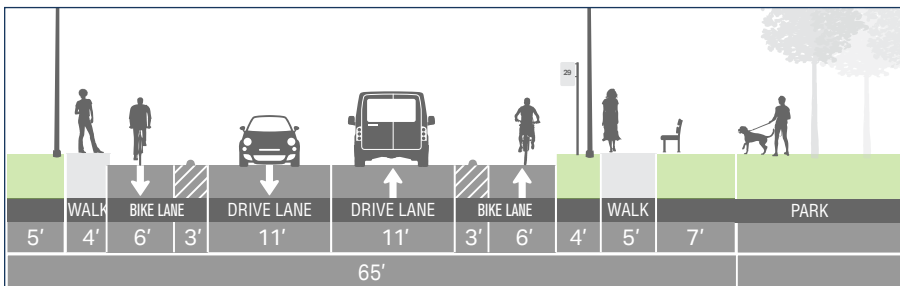
## S MACGREGOR WAY TO OLD SPANISH TRAIL

South of Brays Bayou, Calhoun Road has two 11-foot vehicle lanes and two 5-foot striped bike lanes with no buffer. South of Roseneath Drive, the bike lanes expand to six feet and are buffered. Northbound, Calhoun Road has an 8-foot parking lane mostly used by students, a 5-foot sidewalk and a 4-foot buffer. The southbound side has a narrow 4-foot sidewalk with no buffer. MacGregor Park borders the segment on the east and a residential neighborhood sits to the west. Houston Bike Share installed a new BCycle station at the park in November 2019. The 29 Cullen/Hirsch Bus Route serves the segment with one northbound stop and two southbound stops.

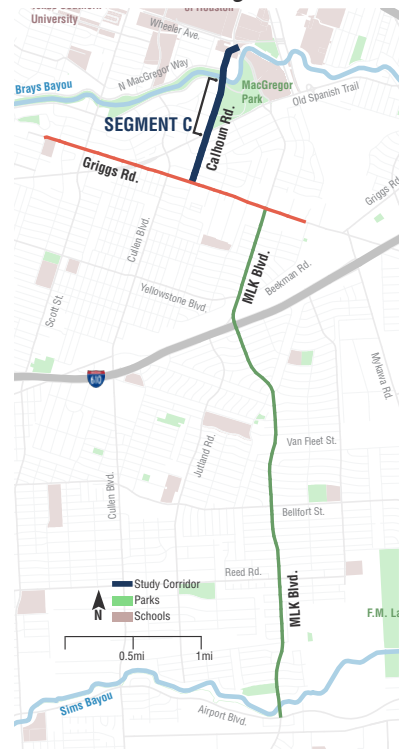
### Existing



### Recommended



### Calhoun Road Segment C



## RECOMMENDED IMPROVEMENTS

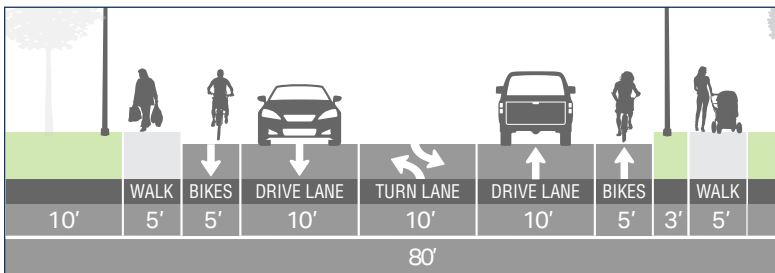
- Re-assign on-street parking to provide a protected 6-foot bike lane with 3-foot buffer.
- Extend bicycle lane markings across unsignalized intersections.
- Increase pedestrian safety by using the updated bike lanes as a buffer between sidewalks and vehicle travel lanes.
- Improve the safety of connections from residential neighborhoods to the south and west and the destinations to the north like Brays Bayou and the University of Houston.
- Keep one travel lane in each direction at 11 feet to provide enough room for buses.
- Implement transit stop modification to improve reliability, speed and bus stop amenities. For detailed transit recommendations, see page 37.

# CALHOUN ROAD

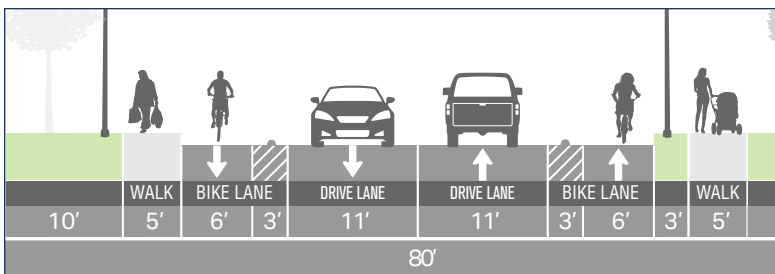
## OLD SPANISH TRAIL TO GRIGGS ROAD

South of Old Spanish Trail, Calhoun Road has two 10-foot travel lanes with a 10-foot center turn lane. Five-foot bike lanes without a buffer run in both directions and often are covered by debris and water. Most of the segment has 5-foot sidewalks on both sides with a buffer from vehicle traffic. Several sidewalk segments are in poor condition with driveway conflicts near the intersections with Old Spanish Trail and Griggs Road. This portion of Calhoun Road does not have any transit stops, but is surrounded by a residential neighborhood on the west and a church, private school and commercial buildings on the east.

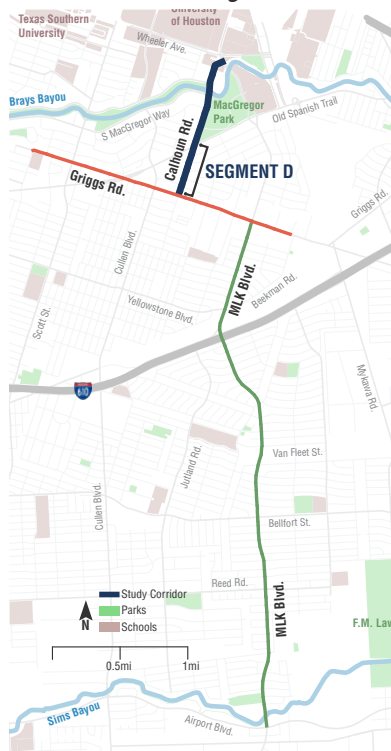
**Existing**



### ***Recommended***



### Calhoun Road Segment D

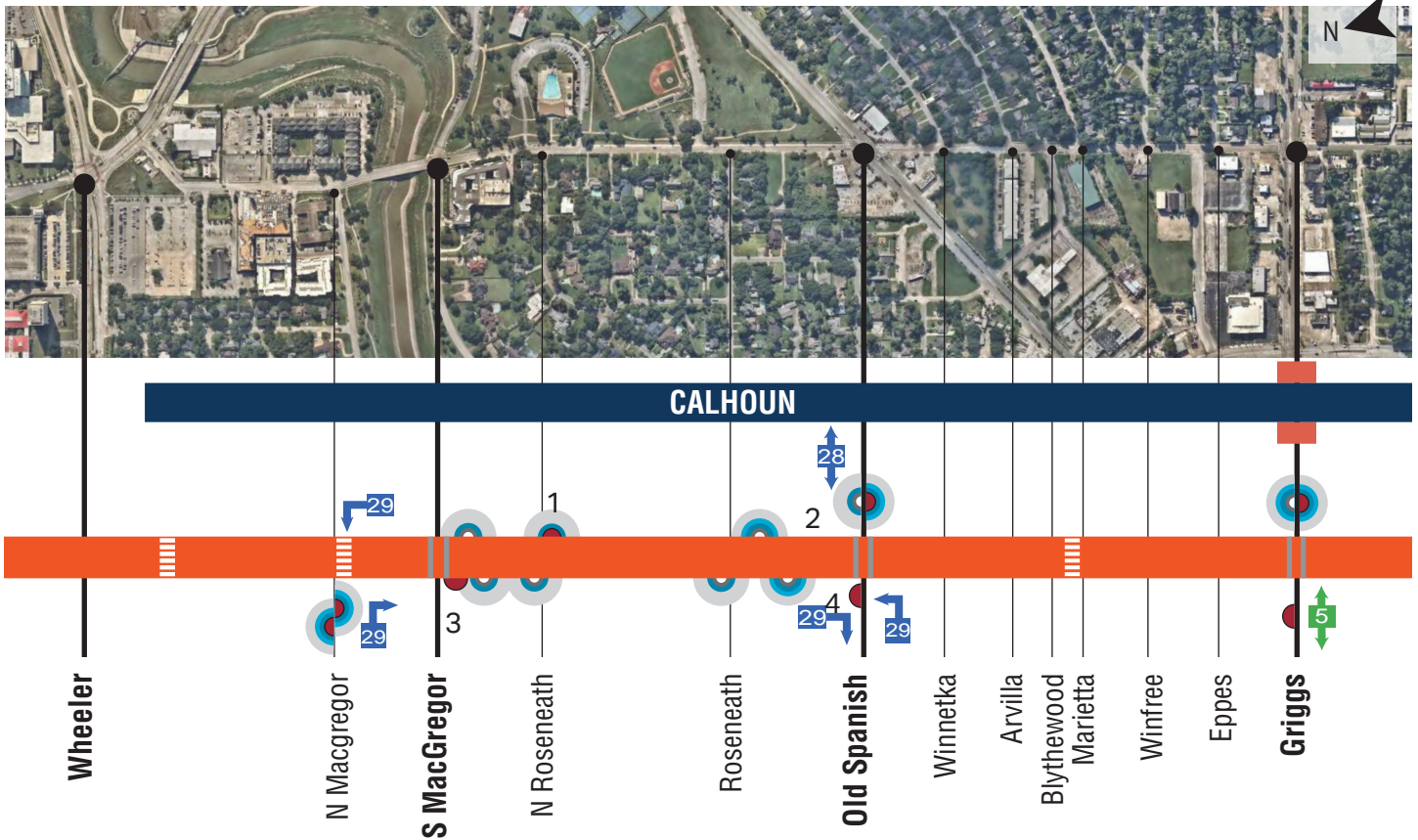


## RECOMMENDED IMPROVEMENTS

- Re-allocate center turn lane width to provide protected 6-foot bike lanes with a 3-foot buffer.
- Extend bicycle lane markings across unsignalized intersections.
- Increase pedestrian safety by using the updated bike lanes as a buffer between sidewalks and vehicle travel lanes.
- Improve the safety of connections from residential neighborhoods to the south and west and the destinations to the north like MacGregor Park, Brays Bayou and the University of Houston.
- At the Griggs Road and Old Spanish Trail intersections, provide bicycle and pedestrian infrastructure to improve visibility and reduce crossing distances. For more details on intersection improvements, see pages 39-40.
- Remove the center turn lane and maintain one 11-foot vehicle travel lane in each direction.
- Ensure safe turning movements at the intersection of Calhoun Road and Marietta Lane for connectivity to the Houston Southeast Neighborhood Greenway.

# CALHOUN ROAD

## TRANSIT RECOMMENDATIONS

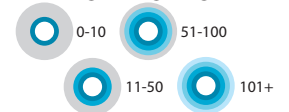


### RECOMMENDED STOPS (NEW/RECONSTRUCTED)

Key	Northbound Stop	Placement	Type	Bikeway	Route(s)
1	Calhoun @ N Roseneath	NS	Standard	Shared Lane	29
2	Calhoun @ Old Spanish Trl.	FS	Standard	Shared Lane	29

Key	Southbound Stop	Placement	Type	Bikeway	Route(s)
3	Calhoun @ S Braeswood	FS	Standard	Shared Lane	29
4	Old Spanish Trl. @ Calhoun	FS	Standard	NA	28, 29

Weekday Bus Boardings + Alightings



● Existing Stop to Remain  
○ Existing Stop to be Removed  
● New Stop

— Existing Crosswalk  
— Proposed Crosswalk

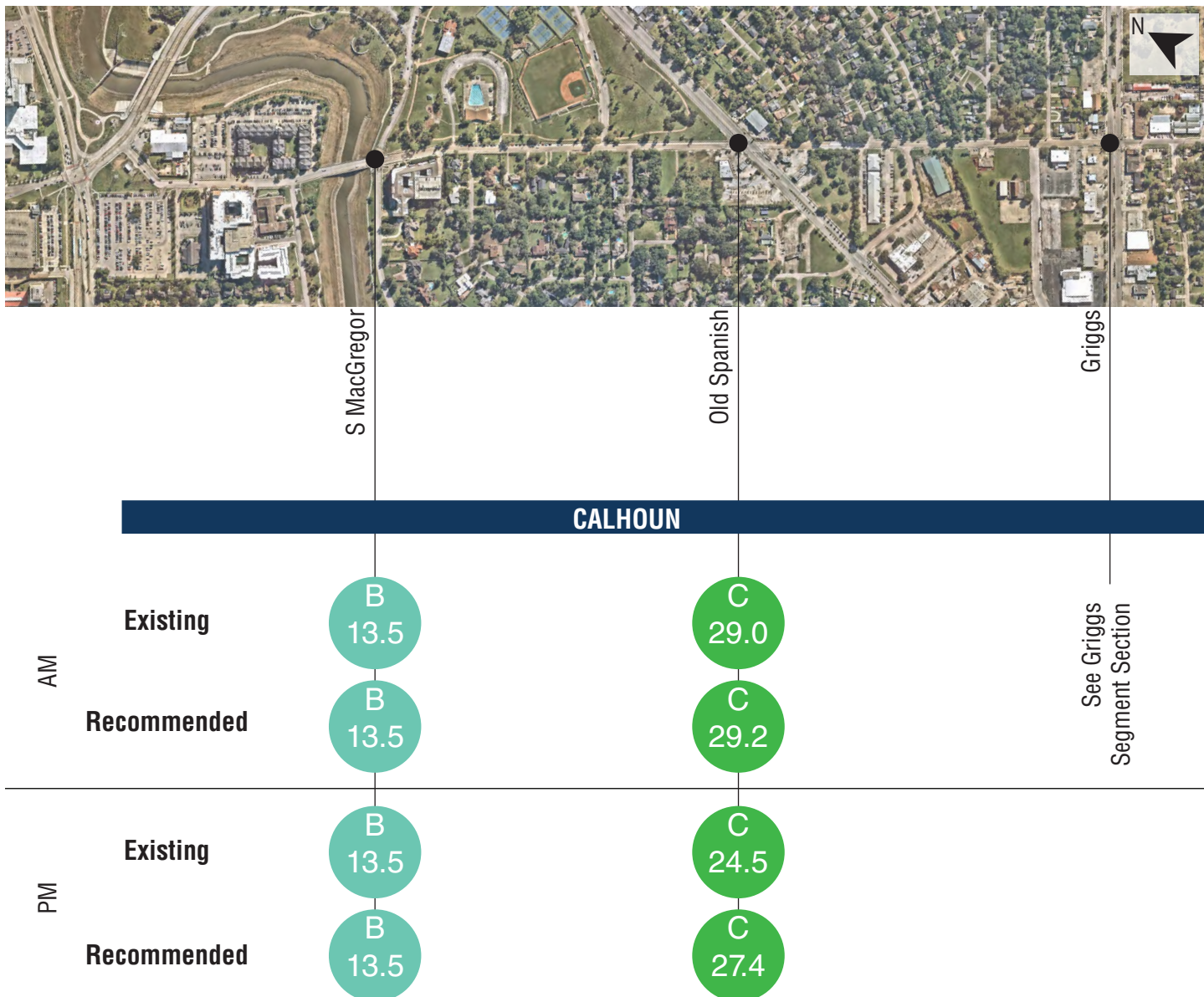
### UNSIGNALIZED CROSSINGS

New crossings are recommended at the following locations:

- A shared bike/ped crossing at N MacGregor Way to allow access between the northbound bike lane and the Brays Bayou trail.
- A shared bike/ped crossing at the curve near MLK to allow access from the northbound bike lane and east side sidewalk to the trail to Wheeler Avenue.

# CALHOUN ROAD

## INTERSECTION ANALYSIS



The vehicle capacity analysis indicates that the proposed corridor improvements do not have a significant impact on the major signalized intersection operations. While Calhoun Rd. will be reduced by one travel lane in each direction, at the intersection of Calhoun Rd. and S. MacGregor Way, the NB left-turn pocket lane is maintained although the storage length is reduced. The reduction in left-turn storage does not affect operations due to the small left-turn volumes. The intersection of Calhoun Rd. at Old Spanish Trail will see a reduction in a SB flared right turn lane and a NB pocket left turn lane. The turn lanes slightly impact the approach operations and increase delay, but does not significantly reduce overall intersections operation; LOS C for the morning and evening peak hours is maintained.

Detailed capacity analysis results are provided in Appendices C and D.



# CALHOUN ROAD

## INTERSECTION RECOMMENDATIONS

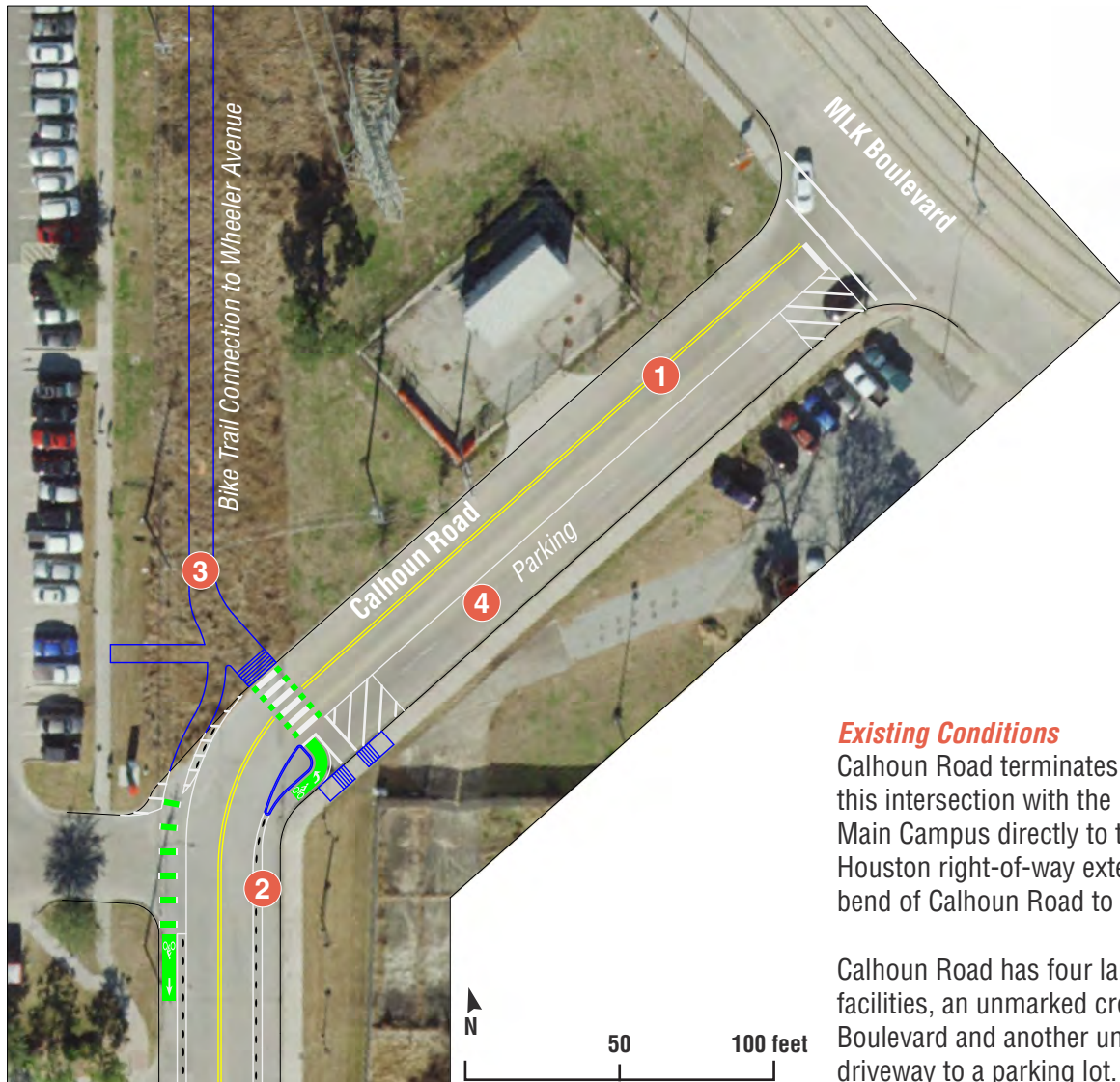


	Intersection	Existing Condition	Recommended Change	Justification
1	MLK Boulevard (details on page 40)	Stop on Calhoun Street	Crosswalk	Increase visibility of pedestrians
2	N Macgregor Way	Stop on N MacGregor Way	Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclists and pedestrians
3	S MacGregor Way	Signal	Bicycle box; Bicycle signal face; Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclists and pedestrians; Reduce right-turn conflict
4	Unsignalized intersections between S MacGregor Way and Old Spanish Trail	Stop on Side Street	Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclists and pedestrians
5	Old Spanish Trail	Signal	Bicycle box; Bicycle signal face; Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclists and pedestrians; Reduce right-turn conflict
6	Unsignalized intersections between Old Spanish Trail and Griggs Road	Stop on Side Street	Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclists and pedestrians
7	Griggs Road	Signal	Protected intersection; Bicycle signal face; Bicycle lane extension markings; Crosswalks	Increased protection for bicycles and pedestrians; Reduce right-turn conflict

# CALHOUN ROAD



## MLK BOULEVARD INTERSECTION RECOMMENDATIONS



### Existing Conditions

Calhoun Road terminates into MLK Boulevard at this intersection with the University of Houston Main Campus directly to the north. City of Houston right-of-way extends north from the bend of Calhoun Road to Wheeler Avenue.

Calhoun Road has four lanes with no bike facilities, an unmarked crossing at MLK Boulevard and another unmarked crossing at the driveway to a parking lot.

Recommended Change	Justification
1 Reduce vehicle travel lanes to two	Reduce vehicle speeds to create safer environment for bicyclists and pedestrians
2 Add protected bike lanes south of the curve in Calhoun Road (AAA standards)	Increase safety and visibility for bicyclists; increase buffer between vehicles and pedestrians; reduce vehicle speeds
3 Construct a bike trail north to Wheeler Avenue and add visible pedestrian and bicycle crossings from Calhoun Road to side paths	Create bicycle connectivity to Wheeler Avenue; increase visibility of pedestrians and bicyclists at crossing.
4 Add angled parking north of the curve in Calhoun Road	Buffer pedestrians from vehicle lanes; reduce vehicle speeds



# GRIGGS ROAD

## TIERWESTER STREET TO BEEKMAN ROAD

### Chapter 6 MLK Healthy Connections Study

The portion of Griggs Road included in the Healthy Connections Study extends from Tierwester Street in the west to Beekman Road in the east. The recommended cross-section of Calhoun Road will modify the existing roadway to improve safety and accessibility for all road users.

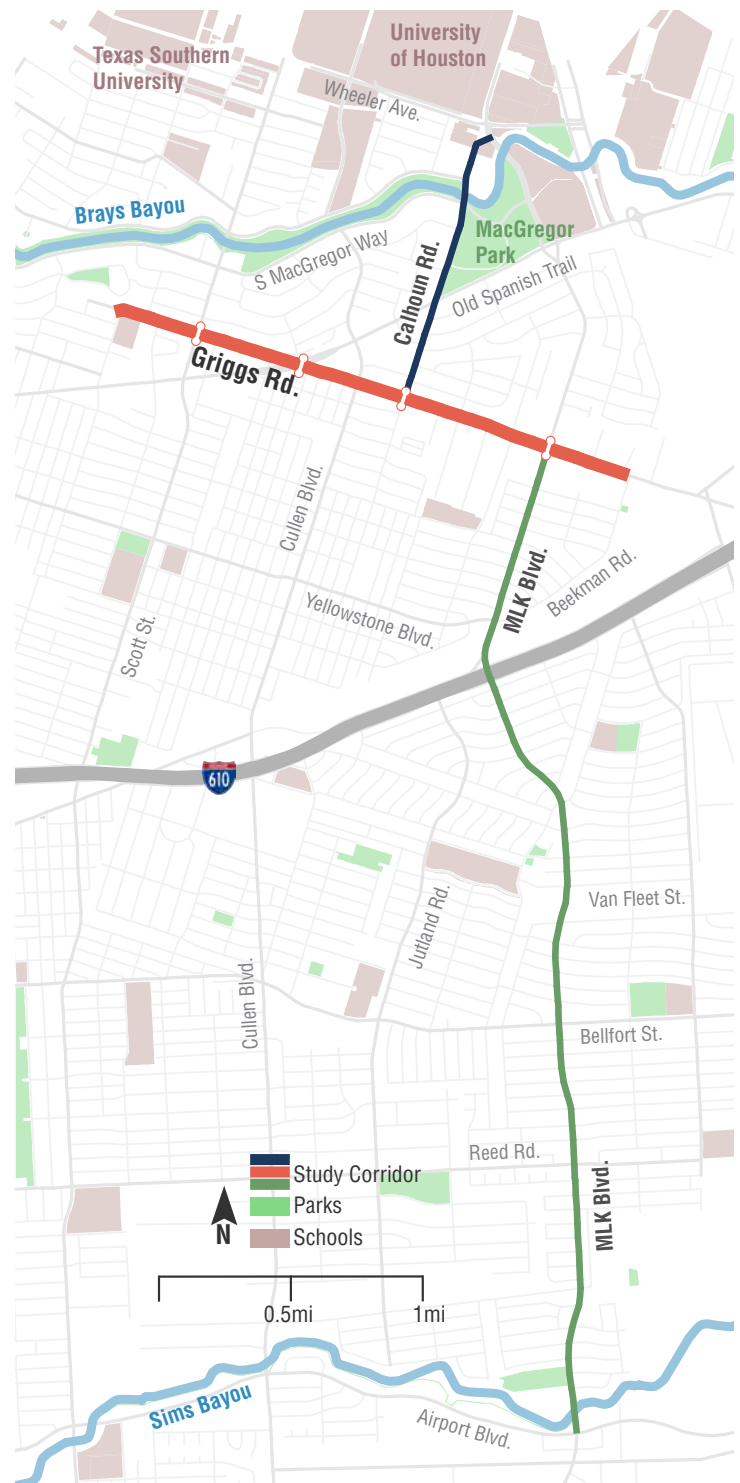
The recommendations in this chapter provide detailed proposals for corridor cross-sections that provide a protected on-street bike lane along most of the segment, safer pedestrian accommodations, transit service improvements, and intersection modifications on Griggs Road.



*Intersection of Old Spanish Trail and Griggs Road*



*Recently constructed median improvements on Griggs Road*





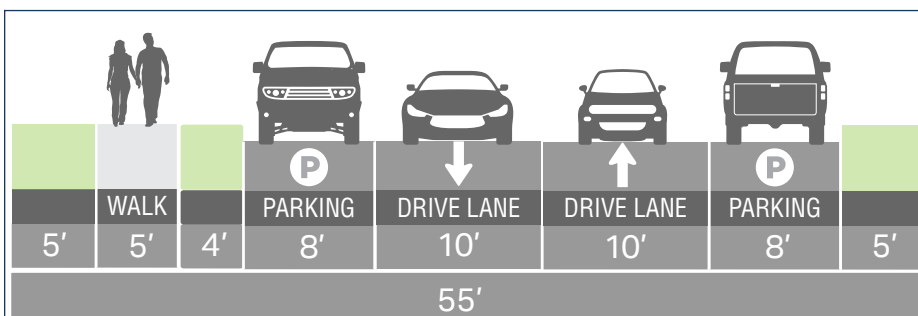
# GRIGGS ROAD

## SEGMENT A

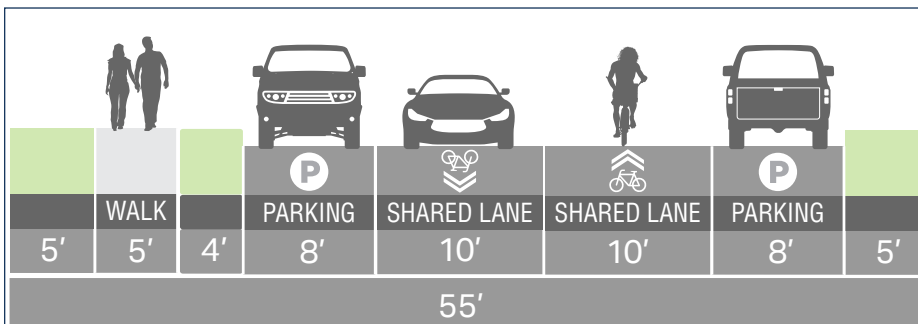
### TIERWESTER STREET TO SCOTT STREET

From Tierwester Street to Scott Street, Griggs Road has two 10-foot travel lanes with 8-foot parking on both sides. The eastbound side of the street has a buffered 5-foot sidewalk in good condition, but the westbound side has no sidewalk along the segment. There are no transit stops or bikeways along the corridor, but the 5 Southmore and 54 Scott bus routes both intersect Griggs at Scott Street. This portion of Griggs Road is mostly surrounded by single-family residential, but also serves Thompson Elementary School on its far western edge.

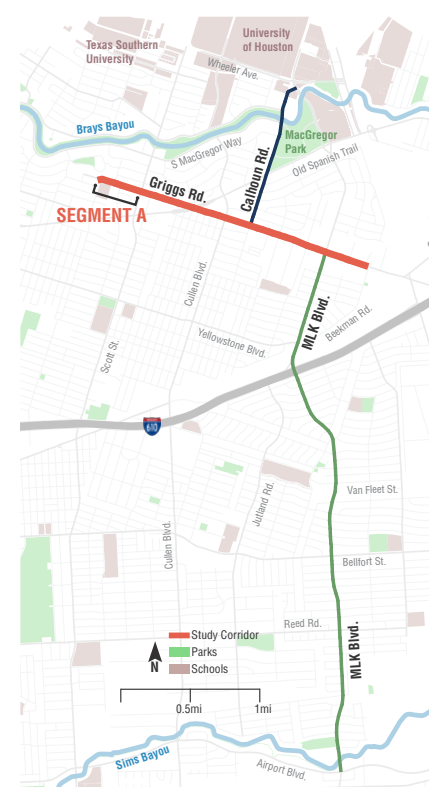
#### Existing



#### Recommended



#### Griggs Road Segment A



### RECOMMENDED IMPROVEMENTS

- Add shared lane markings for bicyclists to both travel lanes.
- Consider adding advisory bike lanes in the place of shared lane markings for increased bicyclist visibility.
- Retain street parking and lane widths along the segment.
- Retain 5-foot sidewalks with a 4-foot buffer along the southern side of the corridor.

*Note: Advisory bike lanes define a space for bicyclists using dashed lane markings, indicating that a motorist can drive in that lane if no bicyclist is present. Advisory bike lanes provide a more visible alternative to shared lane markings or “sharrows,” and are ideal for streets with low vehicle volumes.*

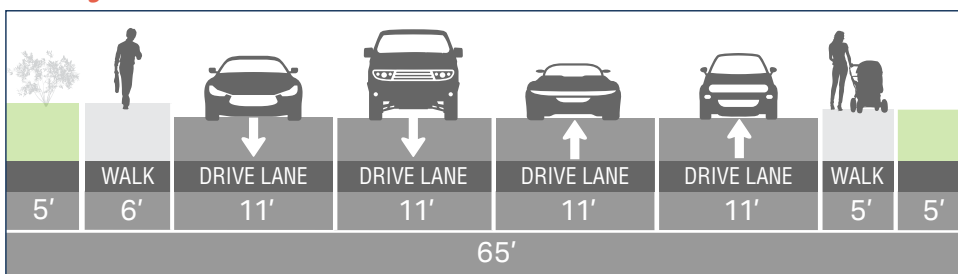
# GRIGGS ROAD

## SEGMENT B

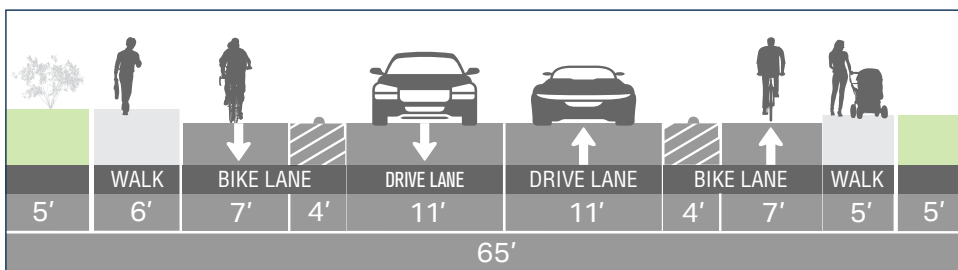
### SCOTT STREET TO OLD SPANISH TRAIL

Between Scott Street and Old Spanish Trail, Griggs Road has four 11-foot travel lanes. Both the 6-foot westbound sidewalks and the 5-foot eastbound sidewalks have been recently reconstructed to include street trees and decorative pavement. There are currently no bicycle facilities or transit stops on the segment. The surrounding land use includes a large apartment complex, a church, some retail, and a small number of single-family homes. Several driveways along the segment were rebuilt along with the sidewalks.

#### Existing



#### Recommended



#### Griggs Road Segment B



## RECOMMENDED IMPROVEMENTS

- Re-assign one vehicle lane in each direction to add a protected 7-foot bike lane with a 4-foot buffer.
- Extend bicycle lane markings across unsignalized intersections.
- Increase pedestrian safety by using the new bike lanes as a buffer between sidewalks and vehicle travel lanes.
- Maintain a vehicle lane in each direction.
- Improve safety for pedestrians and bicyclists through the intersections at Scott Street and Old Spanish Trail. For detailed intersection improvements, see pages 53-55.

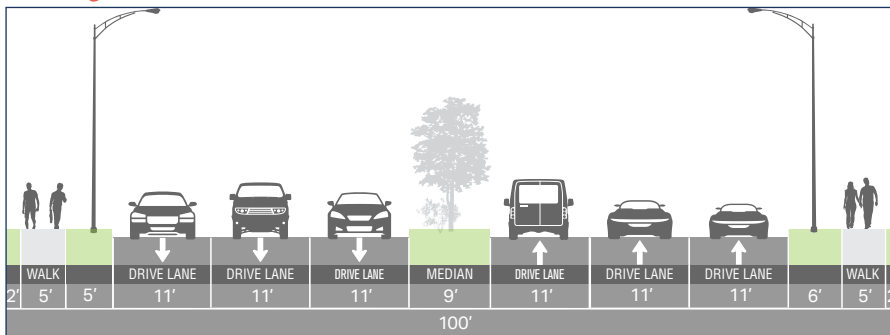
# GRIGGS ROAD

## SEGMENT C

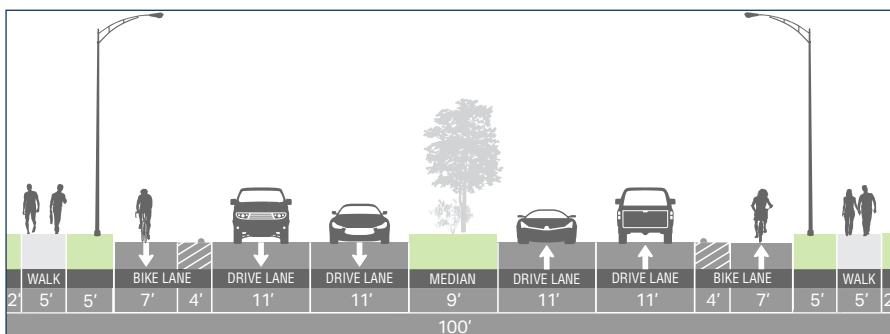
### OLD SPANISH TRAIL TO CALHOUN ROAD

Most of Griggs Road in this segment has six 11-foot travel lanes and a newly landscaped 9-10 foot median with crossovers and left turn bays. The eastbound portion between Old Spanish Trail and Cullen Boulevard only has two vehicle lanes. The existing right-of-way has 5-foot sidewalks that are buffered for most of the corridor, but no bicycle infrastructure. Three eastbound and three westbound bus stops serve the 5 Southmore Bus Route and the 29 Cullen/Hirsch Bus Route crosses Griggs Road at Cullen Boulevard. Nearly the entire segment is surrounded by commercial and retail land uses with several conflict points for pedestrians at driveways.

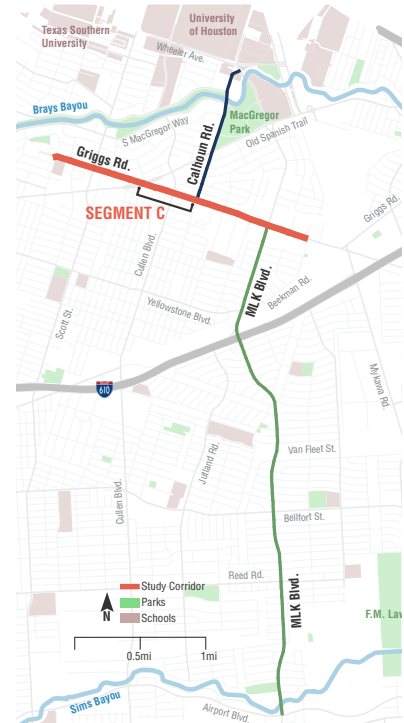
#### Existing



#### Recommended



#### Griggs Road Segment C



## RECOMMENDED IMPROVEMENTS

- Re-assign one vehicle lane in each direction to add a protected 7-foot bike lane with a 4-foot buffer.
- Extend bicycle lane markings across unsignalized intersections.
- Increase pedestrian safety by using the new bike lanes as a buffer between sidewalks and vehicle travel lanes.
- Retain the newly landscaped median and crossover turn lanes.
- Improve safety for pedestrians and bicyclists through the intersections of Old Spanish Trail, Cullen Boulevard and Calhoun Road. For detailed intersection improvements, see pages 53-55.
- Maintain two 11-foot vehicle lanes in each direction with one lane eastbound between Old Spanish Trail and Cullen Boulevard.
- Implement transit stop modifications to improve reliability, speed and transfers. For detailed transit recommendations, see pages 47-50.



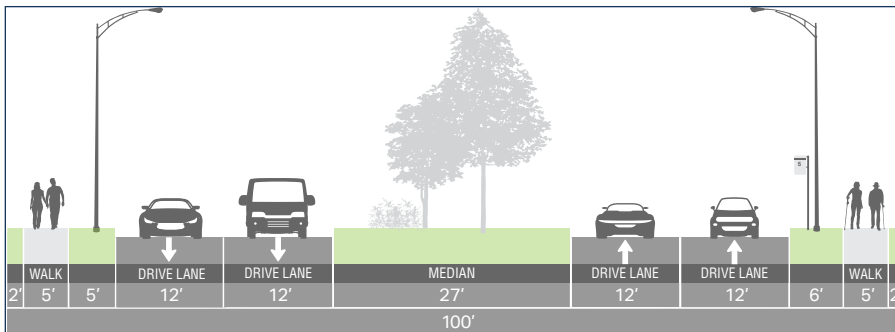
# GRIGGS ROAD

## SEGMENT D

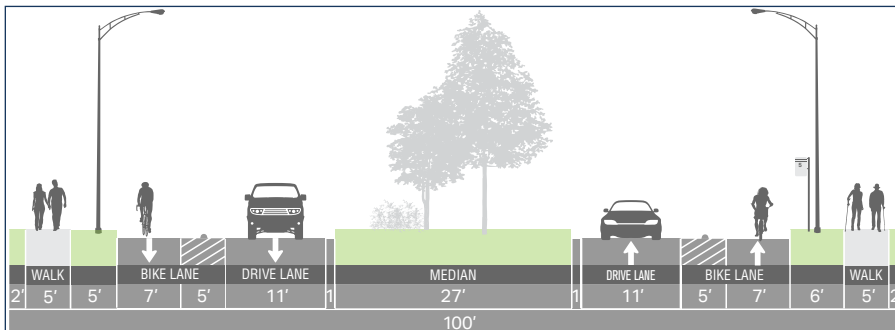
### CALHOUN ROAD TO MLK BOULEVARD

Griggs Road has four 12-foot vehicle lanes between Calhoun Road and MLK Boulevard with a large 27-foot median, new landscaping and crossover turn lanes. Both sides of the segment have 5-foot sidewalks buffered from the vehicle lanes, but no bicycle facilities. Most unsignalized crossings are unmarked except for a mid-block crossing with faded markings near Carol Lane. Three existing eastbound and two westbound bus stops serve the 5 Southmore Route. This portion of Griggs Road has a variety of land uses including single-family homes, gas stations, churches and parking lots as well as the Young Neighborhood Library and new apartments near MLK Boulevard.

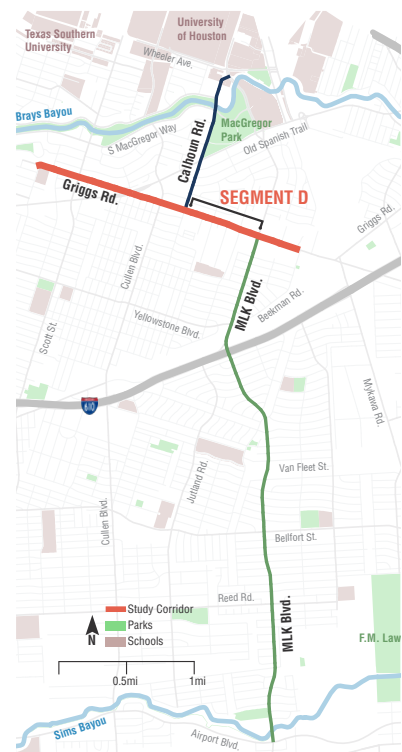
#### Existing



#### Recommended



#### Griggs Road Segment D



## RECOMMENDED IMPROVEMENTS

- Re-assign one vehicle lane in each direction to add a protected 7-foot bike lane with a 5-foot buffer.
- Extend bicycle lane markings across unsignalized intersections.
- Increase pedestrian safety by using the new bike lanes as a buffer between sidewalks and vehicle travel lanes.
- Re-stripe the mid-block crossing at Carol Lane.
- Improve safety for pedestrians and bicyclists through the intersections of Calhoun Road and MLK Boulevard. For detailed intersection improvements, see pages 53-55.
- Maintain one 12-foot vehicle lane in each direction and the newly landscaped median and crossover turn lanes.
- Implement transit stop modifications to improve reliability, speed and transfers. For detailed transit recommendations, see pages 47-50.
- Ensure safe turning movements at the intersection of Griggs Road and Milart Street for connectivity to the Houston Southeast Neighborhood Greenway.

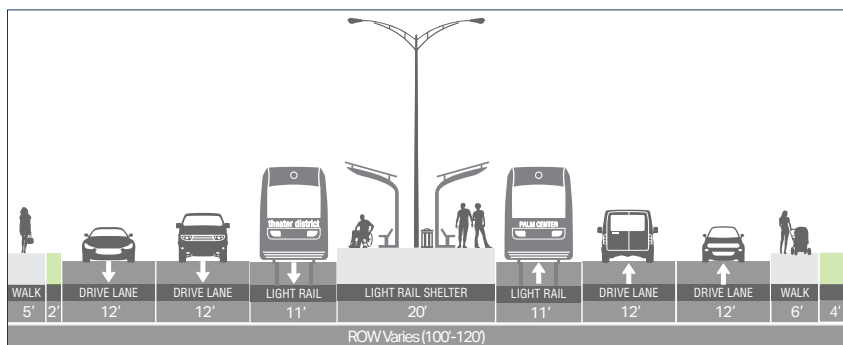
# GRIGGS ROAD

## SEGMENT E

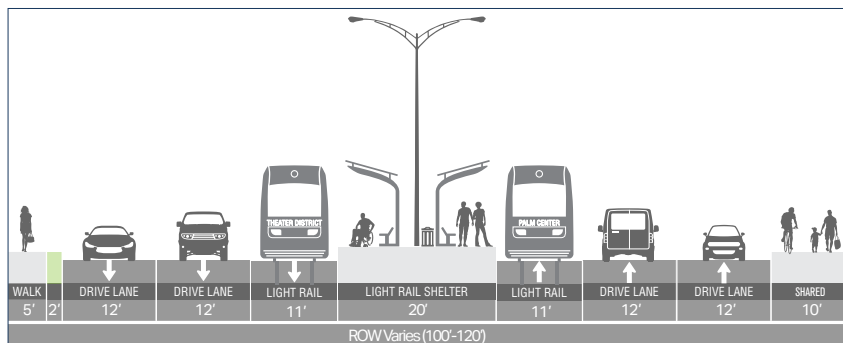
### MLK BOULEVARD TO BEEKMAN ROAD

Just east of MLK Boulevard, Griggs Road has two 12-foot eastbound vehicle lanes, three westbound 12-foot vehicle lanes, and a 16-foot median. Both sides of the street have sidewalks, but no bicycle facilities. The only opportunity to cross Griggs Road is at the far side of the Palm Center transit station. One eastbound and two westbound stops serve the 5 Southmore and 87 Sunnyside bus routes. The METRORail Purple line curves from north to east from MLK Boulevard to Griggs Road and runs in the median before stopping at the Palm Center Transit Center. This segment also serves the Houston Texans YMCA, apartment complexes and some light industrial land use.

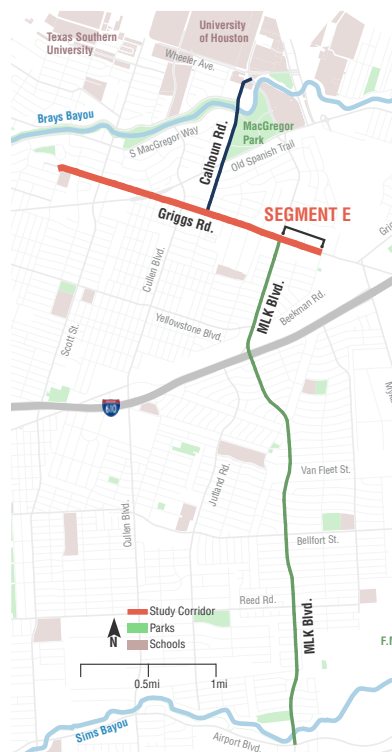
#### Existing



#### Recommended



#### Griggs Road Segment E



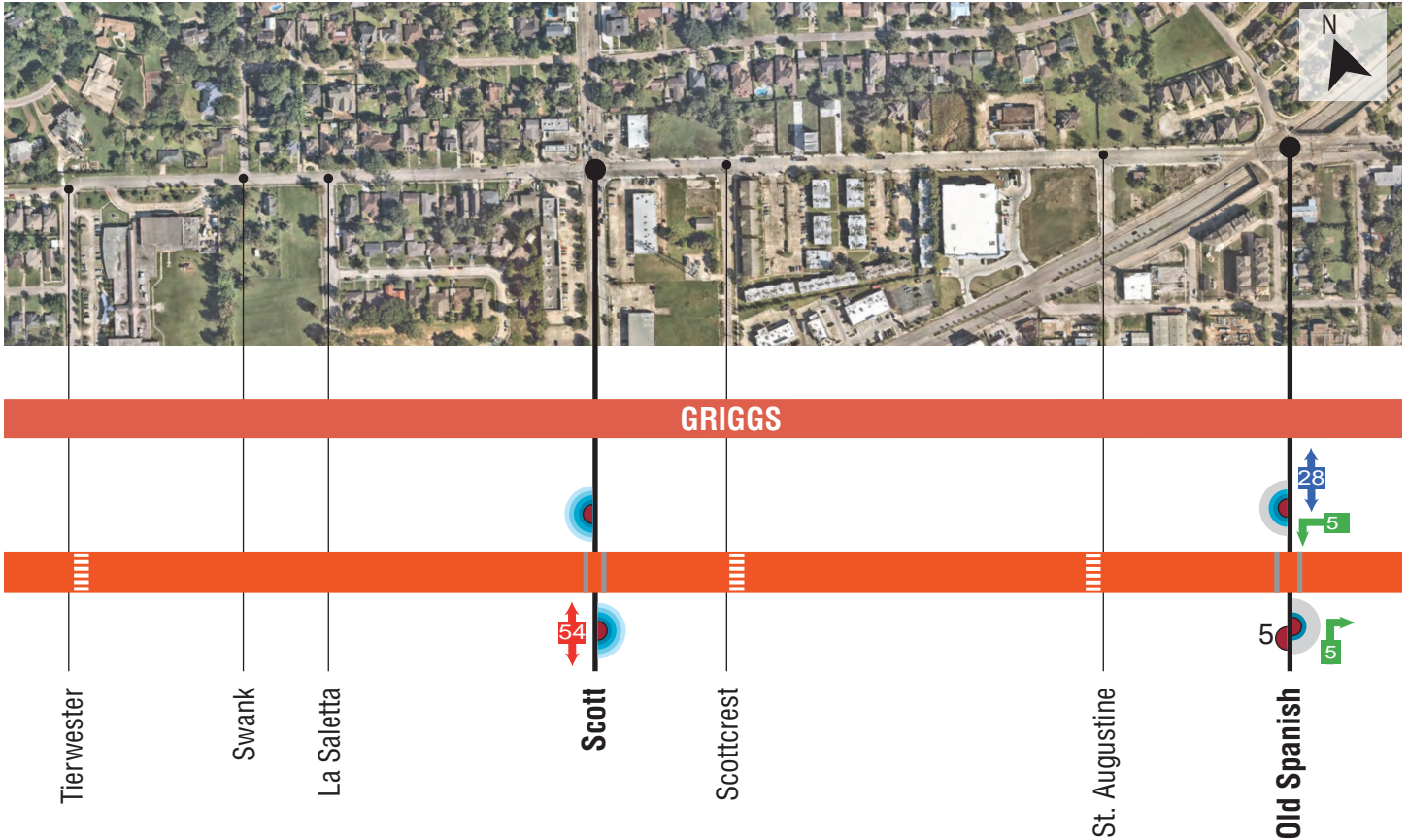
## RECOMMENDED IMPROVEMENTS

- Widen the existing sidewalk on the south side of Griggs Road east of MLK Boulevard to a 10-foot shared use path that can be used by both pedestrians and bicyclists. Initial phase would extend the shared-use path to the YMCA driveway. As the Palm Center redevelops, the path can be extended to the transit center and Beekman Road.
- Improve safety for pedestrians and bicyclists through the MLK Boulevard intersection. For detailed intersection improvements, see pages 53-55.
- Implement transit stop modifications to improve reliability, speed and transfers. For detailed transit recommendations, see pages 47-50.

# GRIGGS ROAD



## TRANSIT RECOMMENDATIONS (TIERWESTER STREET TO OLD SPANISH TRAIL)



### RECOMMENDED STOPS (NEW/RECONSTRUCTED)

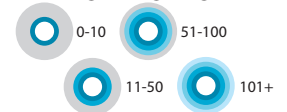
Key	Southbound Stop	Placement	Type	Bikeway	Route(s)
5	Griggs @ Old Spanish Trail	FS	Standard	NA	5, 28

### UNSIGNALIZED CROSSINGS

New crossings are recommended at the following locations:

- A pedestrian crossing of Griggs Road at Tierwester Street to provide a safer crossing for Thompson Elementary School
- A pedestrian crossing of Griggs Road at Scottcrest Drive to allow more direct access to Southeast Transit Center.
- A pedestrian crossing of Griggs Road at St. Augustine Street to provide an alternative to crossing at Old Spanish Trail.

Weekday Bus  
Boardings + Alightings



- Existing Stop to Remain
- Existing Stop to be Removed
- New Stop

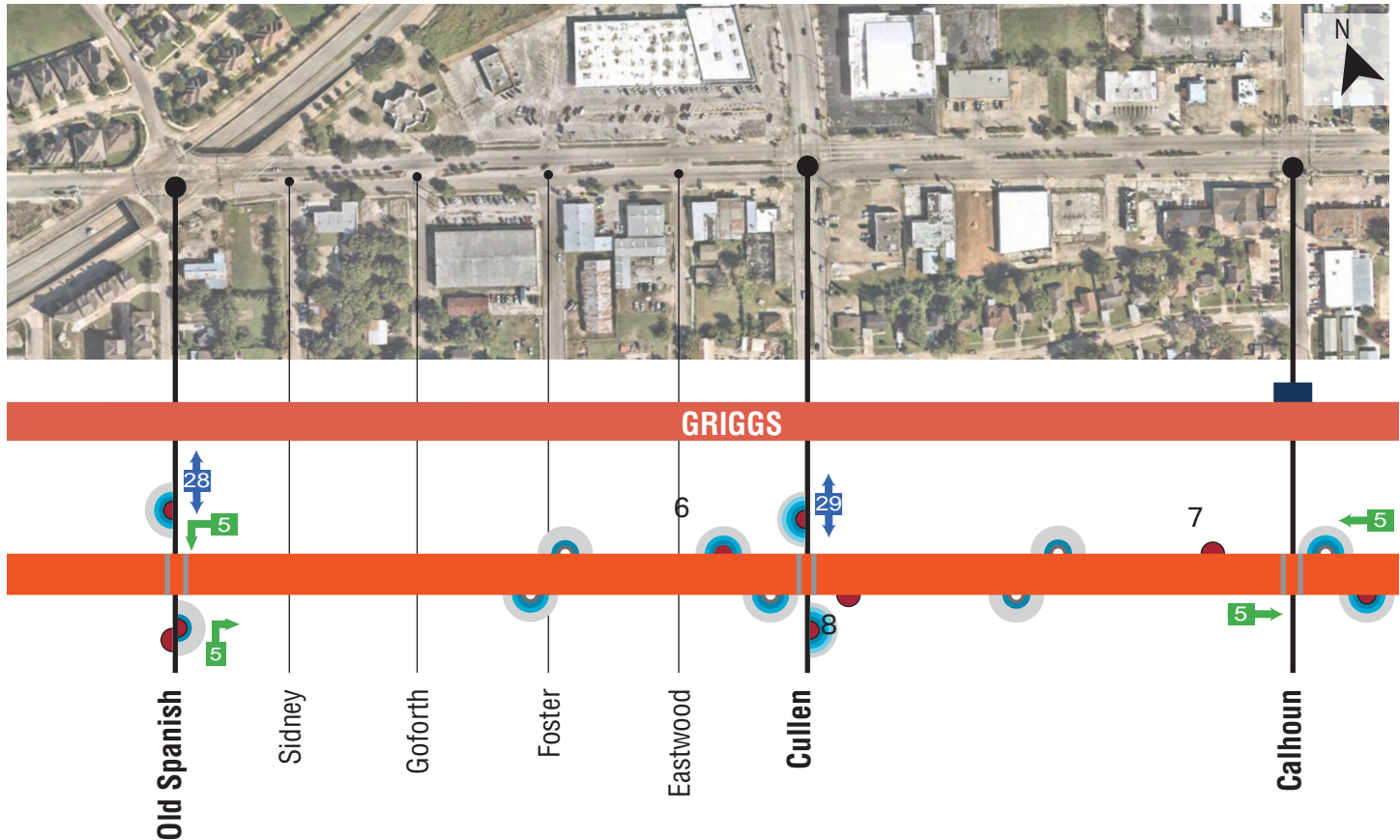
- Existing Crosswalk
- ||||| Proposed Crosswalk



# GRIGGS ROAD



## TRANSIT RECOMMENDATIONS (OLD SPANISH TRAIL TO CALHOUN ROAD)



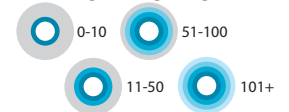
### RECOMMENDED STOPS (NEW/RECONSTRUCTED)

Key	Westbound Stop	Placement	Type	Bikeway	Route(s)
6	Griggs @ Cullen	FS	Standard	Shared Platform	5
7	Griggs @ Calhoun	FS	Standard	Floating Stop	5

Key	Eastbound Stop	Placement	Type	Bikeway	Route(s)
8	Griggs @ Cullen	FS	Standard	Floating Stop	5

Weekday Bus Boardings + Alightings



- Existing Stop to Remain
- Existing Stop to be Removed
- New Stop

- Existing Crosswalk
- Proposed Crosswalk

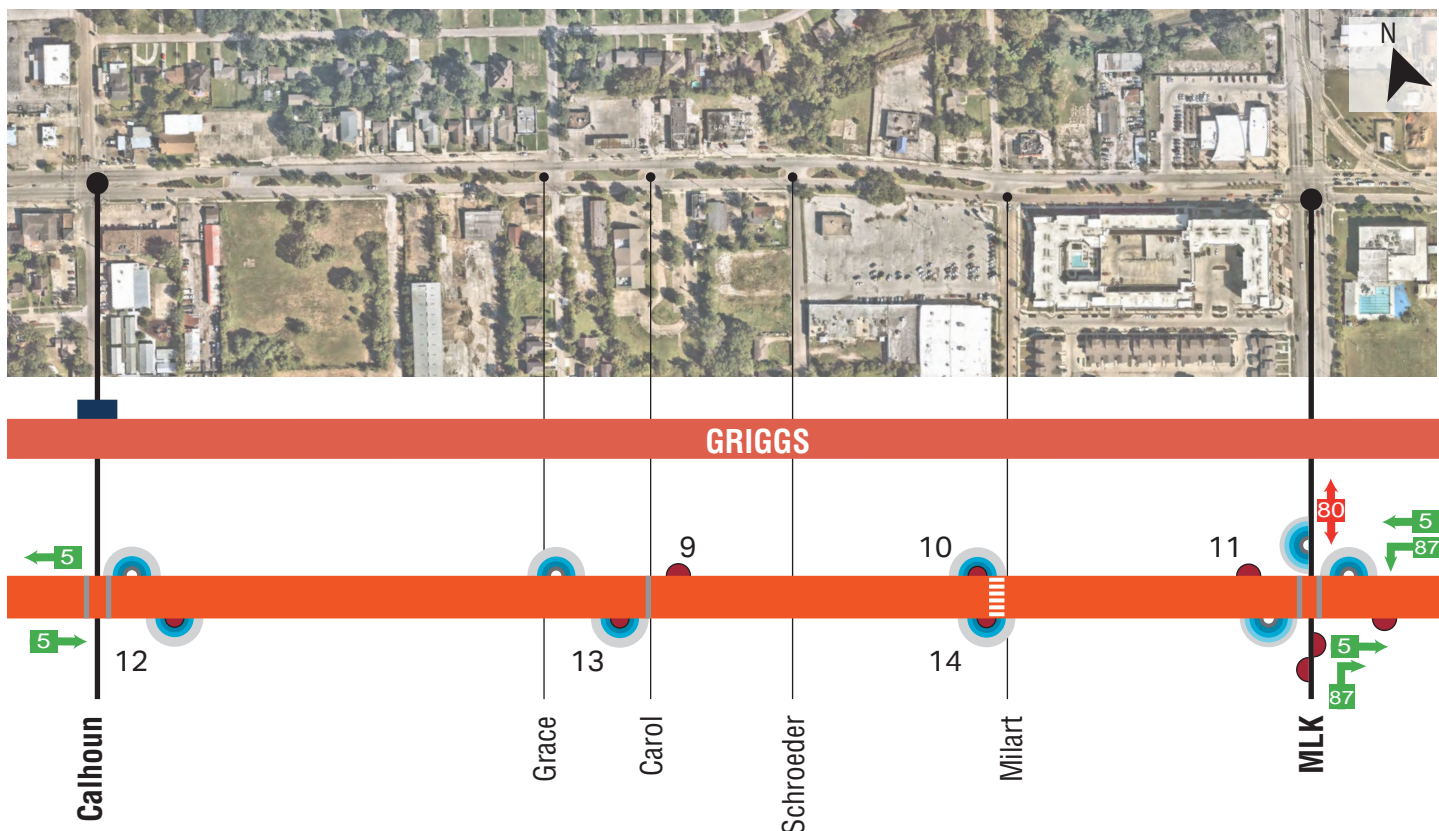
### UNSIGNALIZED CROSSINGS

No new crossings are recommended on this segment.

# GRIGGS ROAD



## TRANSIT RECOMMENDATIONS (CALHOUN ROAD TO MLK BOULEVARD)

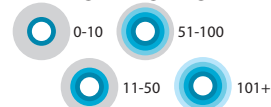


### RECOMMENDED STOPS (NEW/RECONSTRUCTED)

Key	Westbound Stop	Placement	Type	Bikeway	Route(s)
9	Griggs @ Carol	NS	Standard	Shared Platform	5
10	Griggs @ Milart	FS	Standard	Shared Platform	5
11	Griggs @ MLK	FS	Standard	Floating Stop	5

Key	Eastbound Stop	Placement	Type	Bikeway	Route(s)
12	Griggs @ Calhoun	FS	Standard	Shared Platform	5
13	Griggs @ Carol	NS	Standard	Shared Platform	5
14	Griggs @ Milart	NS	Standard	Shared Platform	5

#### Weekday Bus Boardings + Alightings



- Existing Stop to Remain
- Existing Stop to be Removed
- New Stop

- Existing Crosswalk
- Proposed Crosswalk

### UNSIGNALIZED CROSSINGS

New crossings are recommended at the following locations:

- An improved pedestrian crossing at the existing crossing of Griggs Road at Carol Lane to provide safe access to the bus stops.
- A new bike/ped crossing of Griggs Road at Milart Street to provide safe access to the bus stops and the proposed neighborhood greenway.

# GRIGGS ROAD



## TRANSIT RECOMMENDATIONS (MLK BOULEVARD TO BEEKMAN ROAD)



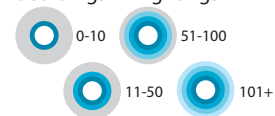
### RECOMMENDED STOPS (NEW/RECONSTRUCTED)

Key	Eastbound Stop	Placement	Type	Bikeway	Route(s)
15	Griggs @ MLK	FS	Standard	Shared-use path	5, 87

### UNSIGNALIZED CROSSINGS

No new crossings are recommended on this segment.

Weekday Bus Boardings + Alightings



- Existing Stop to Remain
- Existing Stop to be Removed
- New Stop

- Existing Crosswalk
- Proposed Crosswalk



# GRIGGS ROAD

## INTERSECTION ANALYSIS (SCOTT STREET TO CULLEN BOULEVARD)



The intersection capacity analysis indicates that the modifications to Griggs Road will increase the delay experienced at each intersection, although most intersections maintain overall intersection LOS. The changes at the intersection of Griggs Rd. and Old Spanish Trail does have impacts to various approaches that may impact operations and delay, particularly during the PM peak. Currently the OST NB approach operates with a right-on-red, and during the PM peak, a significant number of rights utilized this operation; under the proposed condition, this operation would be impacted due to the recuded turning radii at this corner and the introduction of a protected bike lane on Griggs Rd. The number of right-turns-on-red would be reduced causing delays to this movement. While this movement could experience slight impacts, the proposed removal of the English St. approach and phase allow for additional time to be utilized at more critical approaches. The LOS improvements at this intersection are due to signal optimization, reduction in intersection complexity, and improved safety for all users (vehicles, pedestrians, and bicycles).



# GRIGGS ROAD

## INTERSECTION ANALYSIS (CALHOUN ROAD TO MLK BOULEVARD)

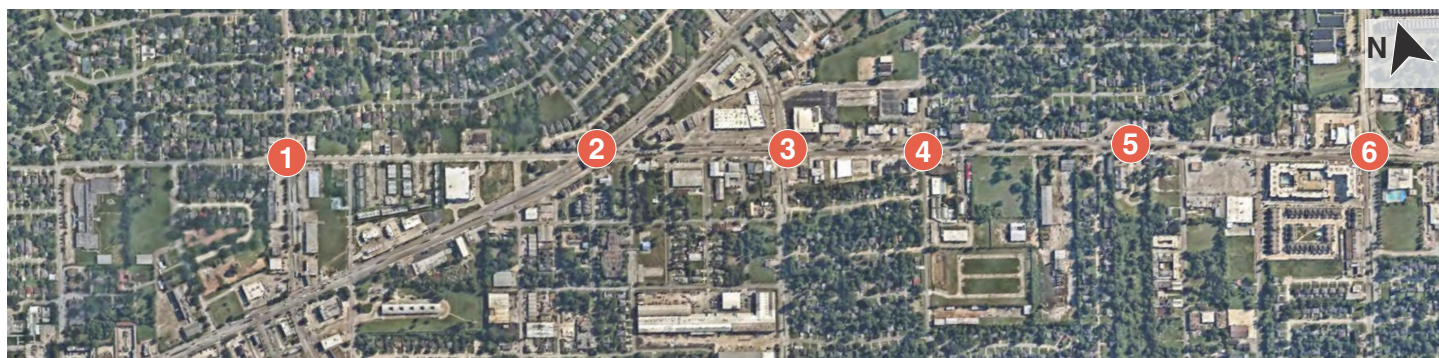


The modifications to Griggs Rd, with the conversion of one vehicle travel lane to a protected bike lane in each direction, does not cause significant reductions in delay at the major intersections. The overall intersection operations are an acceptable LOS D or better.

Note: The exact operations of the intersection of MLK Boulevard at Griggs Road could not be fully modeled using the Highway Capacity Manual without accurate light rail signal timings. As a result, the intersection likely operates worse when the train is passing through the intersection. Modifications made to the signal timings could help move vehicles through the intersection when the train is passing.

# GRIGGS ROAD

## INTERSECTION RECOMMENDATIONS

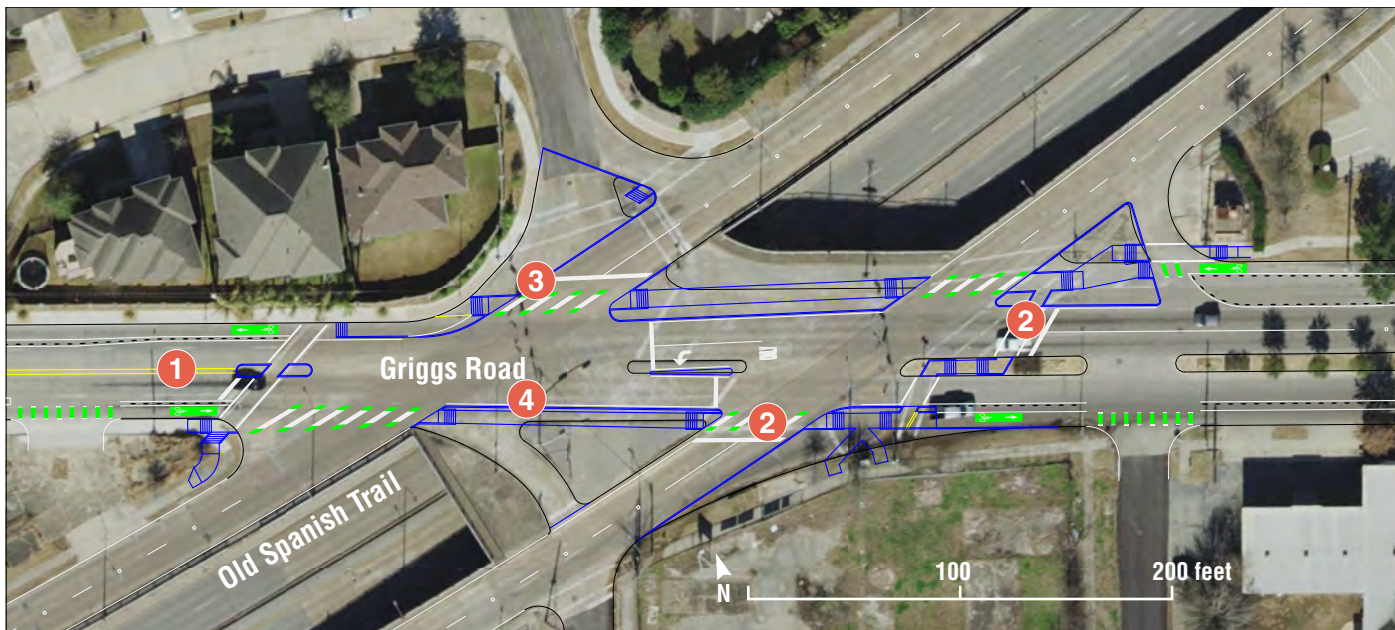


	Intersection	Existing Condition	Recommended Change	Justification
1	Scott Street	Signal	Bicycle signal face; Bicycle lane extension markings; Crosswalks	Increased visibility for bicyclists and pedestrians; Reduce right-turn conflicts
2	Old Spanish Trail	Signal	Bicycle signal face; Off-street infrastructure; Bicycle lane extension markings; Crosswalks	Increased visibility and protection for bicyclists and pedestrians; Reduce right-turn conflicts
3	Cullen Boulevard	Signal	Bicycle signal face; Bicycle lane extension markings; Crosswalks	Increased visibility for bicyclists and pedestrian; Reduce right-turn conflicts
4	Calhoun Road	Signal	Protected intersection; Bicycle signal face; Bicycle lane extension markings; Crosswalks	Increased visibility and protection for bicycles and pedestrians; Reduce right-turn conflict
5	Unsignalized intersections between Tierwester Road and Beekman Road	Stop on Side Street	Bicycle lane extension markings; Crosswalks	Increase visibility for bicyclists and pedestrians
6	MLK Boulevard	Signal	Protected intersection; Bicycle signal face; Bike lane extension markings; Crosswalks	Increased visibility and protection for bicycles and pedestrians; Reduce right-turn conflict



# GRIGGS ROAD

## OLD SPANISH TRAIL INTERSECTION RECOMMENDATIONS



### Existing Conditions

The Griggs Road and Old Spanish Trail intersection is signalized with marked, but faded crossings. Eastbound Griggs Road has two through-lanes while westbound Griggs Road has three through-lanes and a designated right turn lane. Old Spanish Trail is a grade-separated road with off ramps crossing Griggs Road with one left/through-lane and one right/through-lane at each approach. England Street has a north/south connection through the intersection.

A nearside westbound stop serves the 5 Southmore on Griggs Road. A nearside northbound stop serves 5 Southmore and 28 OST Wayside and a nearside southbound stop serves 28 on Old Spanish Trail.

### Level of Service

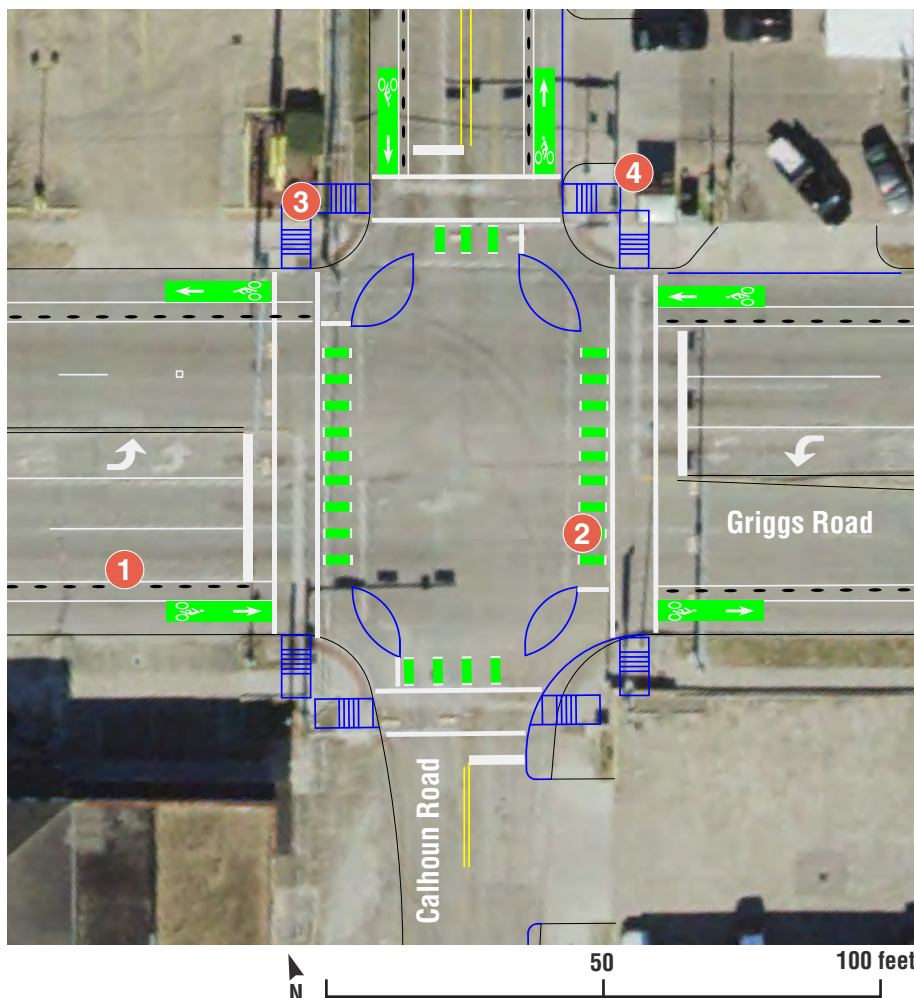
The Griggs Road existing level of service is C for both morning and evening and would remain unchanged with the recommended changes. For a detailed level of service analysis, see pages 51-52.

Recommended Change	Justification
1 Reduce Griggs Road vehicle through-lanes by one lane in each direction and add a protected bike lane	Implement an AAA bike lane; Reduce vehicle speeds to create safer environment for bicyclists and pedestrians
2 Extend the bike lane conflict markings through the intersection and re-align pedestrian crossing markings across Griggs Road	Increase visibility of bicyclists and pedestrians; Reduce crossing times for pedestrians
3 Modify curb geometry on all corners and close slip lane onto England Street	Improve signal operations by eliminating rarely-used turning movements; Use additional curb space to allow space for grade separated protection for bicyclists; Reduce turning radii at corners to increase safety and visibility for pedestrians
4 Add a bicycle signal face to the signal poles on Griggs Road	Increase visibility of bicyclists and predictability for both bicyclists and motorists; Reduce right-turn conflicts between bicyclists and motorists



# GRIGGS ROAD

## CALHOUN ROAD INTERSECTION RECOMMENDATIONS



### Existing Conditions

The Griggs Road and Calhoun Road intersection is signalized with marked, but faded crossings. Griggs Road has three through-lanes and a designated left turn lane in each direction. Calhoun Road has two through-lanes and a southbound right turn lane. The bike lane on Calhoun Road goes up to the intersection, but does not continue past Griggs Road.

A nearside westbound stop and farside eastbound stop serve the 5 Southmore on Griggs Road. Retail on all four corners present potential conflicts between pedestrians, bicyclists and motorists.

### Level of Service

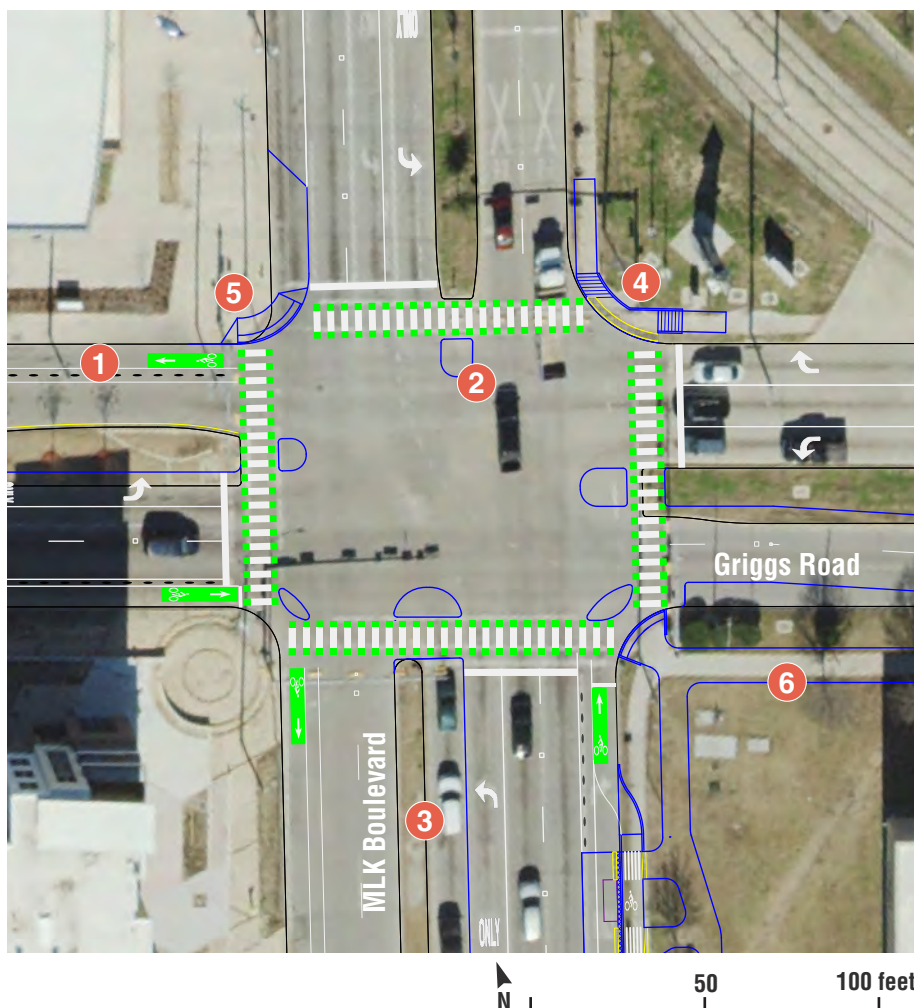
The Griggs Road existing level of service is C for both morning and evening and would remain unchanged with the recommended changes. For a detailed level of service analysis, see pages 51-52.

Recommended Change	Justification
1 Reduce Griggs Road vehicle through-lanes from three to two and add a protected bike lane	Implement an AAA bike lane; Reduce vehicle speeds to create safer environment for bicyclists and pedestrians
2 Extend the protected bike lane through the intersection with island protection	Increase visibility of bicyclists; Decrease pedestrian exposure to vehicles in the crosswalk; Reduce turning radii to slow vehicle speeds and reduce right turn conflicts
3 Replace the curb ramps on all corners	Improve ADA accessibility at corners; Increase safety and visibility for pedestrians entering the crosswalk, particularly visually impaired pedestrians
4 Add a bicycle signal face to the signal poles on Griggs Road	Increase visibility of bicyclists and predictability for both bicyclists and motorists; Reduce right-turn conflicts between bicyclists and motorists

# GRIGGS ROAD



## MLK BOULEVARD INTERSECTION RECOMMENDATIONS



### Existing Conditions

The Griggs Road and MLK Boulevard intersection is signalized with marked, but faded crossings. Griggs Road has four through-lanes and a designated left turn lane in each direction. Southbound MLK Boulevard has two dedicated left turn lanes and two through-lanes that expand to three south of Griggs Road. Northbound MLK Boulevard has two through-lanes, a designated right turn lane and two designated left turn lanes.

Nearside stops on Griggs Road and MLK Boulevard serve the 5 Southmore and 80 MLK/Lockwood routes respectively. The only driveway near the intersection is at the northwest corner.

### Level of Service

The Griggs Road existing level of service is C for both morning and evening and would change to D with the recommended changes. For a detailed level of service analysis, see pages 51-52.

Recommended Change	Justification
1 Add a protected bike lane on Griggs Road west of the intersection	Implement an AAA bike lane; Reduce vehicle speeds to create safer environment for bicyclists and pedestrians
2 Extend the protected bike lane through the intersection with island protection	Increase bicyclist visibility; Decrease pedestrian exposure to vehicles; Reduce turning speeds and right turn conflicts
3 Re-assign MLK Boulevard to 2 through-lanes; widen median south of Griggs Road; add protected bike lane	Implement an AAA bike lane; Reduce vehicle speeds to create safer environment for bicyclists and pedestrians
4 Replace the curb ramps on the northeast corner	Improve ADA accessibility; Increase safety and visibility for pedestrians entering the crosswalk
5 Add a bicycle signal face and coordinate with METRO and the City of Houston to improve signal timings	Increase visibility of bicyclists and predictability for both bicyclists and motorists; reduce intersection wait times
6 Widen southeast sidewalk along Griggs Road	Provide a wide shared-use path to extend the bike lanes to the Palm Center Transit Center

# MLK BOULEVARD

## GRIGGS ROAD TO AIRPORT BOULEVARD

### Chapter 7 MLK Healthy Connections Study

The portion of MLK Boulevard analyzed in this study extends south from Griggs Road past IH-610 to Sims Bayou and Airport Boulevard. For most of the boulevard, the recommended cross-section takes a vehicle travel lane to create a protected bike lane in both directions. The portion of the roadway south of Bellfort Street will utilize a wide median to create a separated bikeway.

The recommendations in this chapter provide detailed proposals for corridor cross-sections, transit improvements, and specific intersection modifications on MLK Boulevard with the goal to improve safety and accessibility for all road users.



*Bus stop on the 80 MLK/Lockwood route at Tarawa Street*



*Landscaped median on MLK Boulevard south of Bellfort Street*





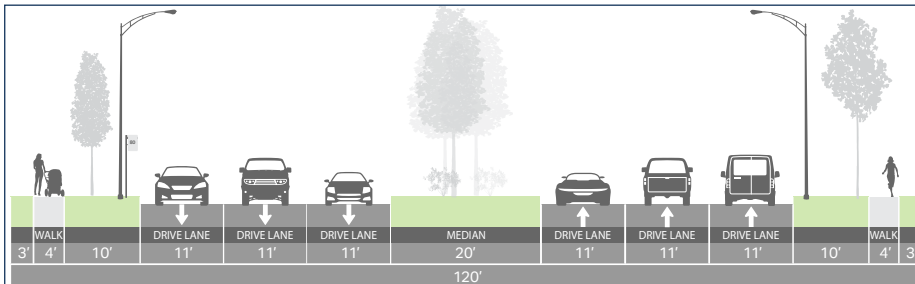
# MLK BOULEVARD

SEGMENT  
A

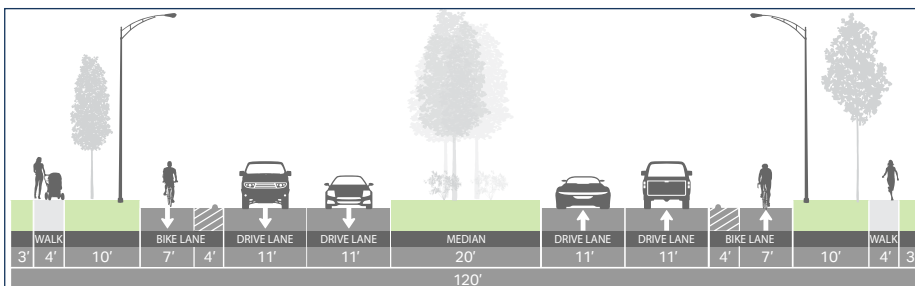
## GRIGGS ROAD TO IH-610

South of Griggs Road, MLK Boulevard has a wide right-of-way with six 11-foot travel lanes (three in both directions), a 20-foot median and median crossovers with some left turn bays. Although the existing sidewalks are only 4 feet wide, they are buffered from the travel lanes by 10 feet. The only existing marked crossings are at Perry Street, Yellowstone Boulevard/Beekman Road, and the IH-610 frontage road. Several north- and southbound transit stops serve the 80 MLK/Lockwood and 87 Sunnyside bus routes. Most of the surrounding land use is single-family residential, but the north and south ends of the segment have some apartments and retail.

### Existing



### Recommended



### MLK Boulevard Segment A



## RECOMMENDED IMPROVEMENTS

- Re-assign one vehicle lane in each direction to add a protected 7-foot bike lane with a 4-foot buffer.
- Extend bicycle lane marking across unsignalized intersections.
- Improve safety for pedestrians and bicyclists through the intersections at Griggs Road, Perry Road, Yellowstone Boulevard/Beekman Road, and the IH-610 service road. For intersection details, see pages 68-72.
- Increase pedestrian safety by using the new bike lanes as a buffer between sidewalks and vehicle travel lanes.
- Maintain two 11-foot vehicle lanes in each direction and the median and crossover turn lanes.
- Implement transit stop modifications to improve reliability, speed and transfers. For detailed transit recommendations, see pages 60-65.
- Ensure safe turning movements at the intersection of MLK Boulevard and Perry Street for connectivity to the Houston Southeast Neighborhood Greenway.

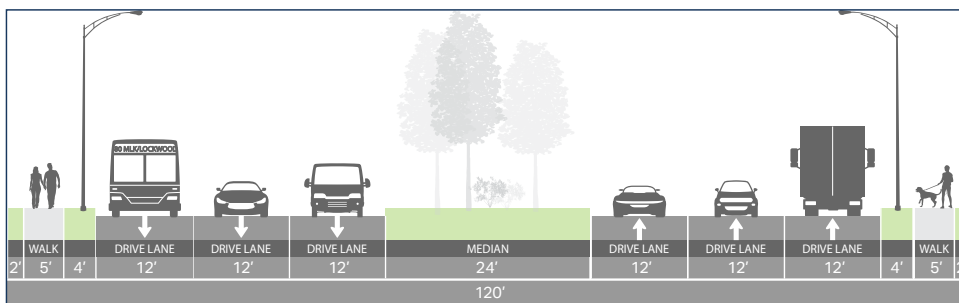
# MLK BOULEVARD

## SEGMENT B

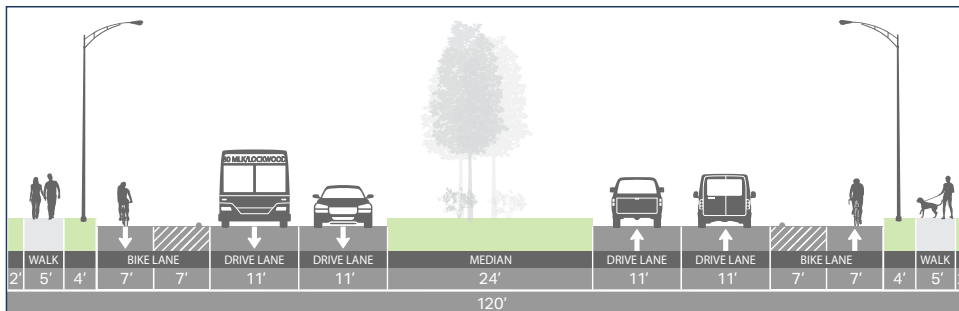
### IH-610 TO BELLFORT STREET

MLK Boulevard south IH-610 is has six travel lanes and a 24-foot median with crossovers. The vehicle lanes are 12 feet and sidewalks on both sides are 5 feet with a 4-foot buffer. Crossings are marked at the IH-610 Service Road, Southlea Street (near an early childhood center), Tarawa Road, St. Lo Road/Crestridge Street, Van Fleet Street, and Bellfort Street. Several north- and southbound transit stops serve the 80 MLK/Lockwood bus route. Most of the surrounding land use is single-family residential with some apartments and retail north of Doulton Drive.

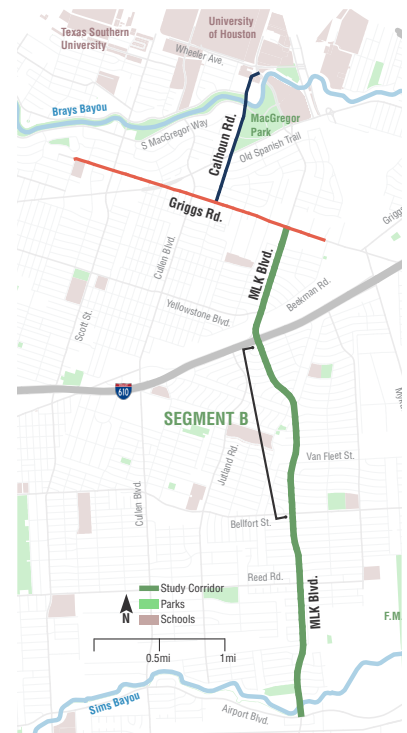
#### Existing



#### Recommended



#### MLK Boulevard Segment B



## RECOMMENDED IMPROVEMENTS

- Re-assign one vehicle lane in each direction to add a protected 7-foot bike lane with a 7-foot buffer.
- Extend bicycle lane marking across unsignalized intersections.
- Improve safety for pedestrians and bicyclists through the intersections at the IH-610 service road, St. Lo Road/Crestridge Street, Van Fleet Street, and Bellfort Street. For intersection details, see pages 68-72.
- Increase pedestrian safety by using the new bike lanes as a buffer between sidewalks and vehicle travel lanes.
- Maintain two 11-foot vehicle lanes in each direction and the median and crossover turn lanes.
- Implement transit stop modifications to improve reliability, speed and transfers. For detailed transit recommendations, see pages 60-65.

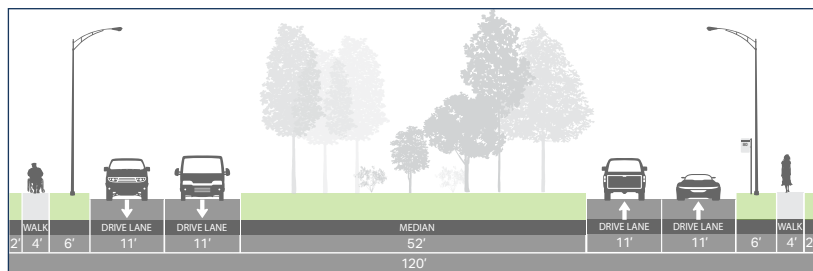
# MLK BOULEVARD

## SEGMENT C

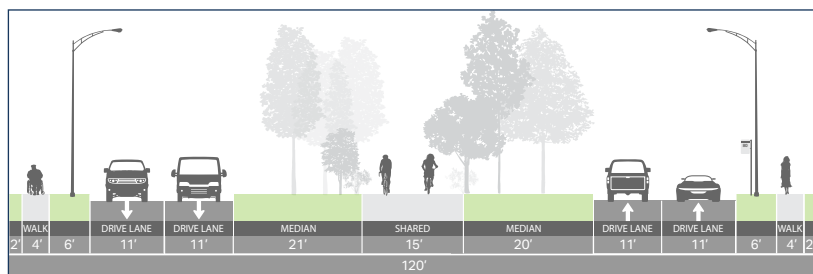
### BELLFORT STREET TO AIRPORT BOULEVARD

This segment of MLK Boulevard has four 11-foot travel lanes and a wide 52-foot median with regular crossovers. Both sides of the street have 4-foot buffered sidewalks but the segment lacks any bikeway facilities. Crossings are marked at the signalized intersections: Bellfort Street, Reed Road and Airport Boulevard. Several north- and southbound transit stops serve the 80 MLK/Lockwood bus route. Most of the surrounding land use is single-family residential with retail clustered near the major intersections. The sidewalk at the southern end of the corridor connects to the Sims Bayou Trail.

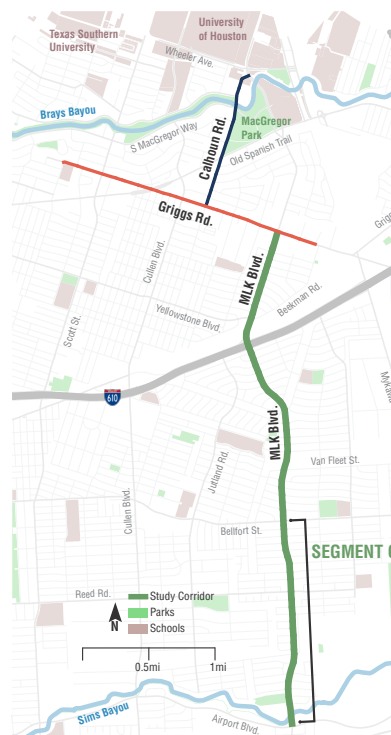
#### Existing



#### Recommended



#### MLK Boulevard Segment C



## RECOMMENDED IMPROVEMENTS

- Build a wide shared use path (minimum 15 feet) for pedestrians and bicyclists in the center of the median that may include separated concrete and decomposed granite trails.
- Extend safe crossings for pedestrians and bicyclists across the unsignalized median crossings.
- Improve safety for pedestrians and bicyclists through the intersections at Bellfort Street, Reed Road and Airport Boulevard. For intersection details, see pages 68-72.
- Maintain two 11-foot vehicle lanes in each direction and the median and crossover turn lanes.
- Implement transit stop modifications to improve reliability, speed and transfers. For detailed transit recommendations, see pages 60-65.



# MLK BOULEVARD



## TRANSIT RECOMMENDATIONS (GRIGGS ROAD TO COSBY STREET)

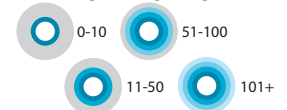


### RECOMMENDED STOPS (NEW/RECONSTRUCTED)

Key	Northbound Stop	Placement	Type	Bikeway	Route(s)
16	MLK @ Griggs	NS	BOOST	Floating Stop	80
17	MLK @ Kingsbury	FS	BOOST	Floating Stop	80, 87
18	MLK @ Perry	FS	BOOST	Floating Stop	80, 87

Key	Southbound Stop	Placement	Type	Bikeway	Route(s)
19	MLK @ Griggs	FS	BOOST	Floating Stop	80, 87
20	MLK @ Kingsbury	NS	BOOST	Floating Stop	80, 87
21	MLK @ Perry	FS	BOOST	Floating Stop	80, 87

Weekday Bus Boardings + Alightings



- Existing Stop to Remain
- Existing Stop to be Removed
- New Stop

- Existing Crosswalk
- Proposed Crosswalk

### UNSIGNALIZED CROSSINGS

A new pedestrian crossing location is recommended across MLK Boulevard at Kingsbury Street to provide access to the bus stops.

# MLK BOULEVARD



## TRANSIT RECOMMENDATIONS (ENYART STREET TO IH-610)

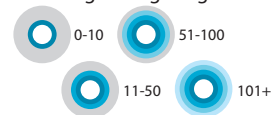


### RECOMMENDED STOPS (NEW/RECONSTRUCTED)

Key	Northbound Stop	Placement	Type	Bikeway	Route(s)
22	MLK @ Beekman	FS	BOOST	Floating Stop	80, 87
23	MLK @ IH 610	FS	BOOST	Floating Stop	80

Key	Southbound Stop	Placement	Type	Bikeway	Route(s)
24	MLK @ Yellowstone	NS	BOOST	Floating Stop	80, 87
25	MLK @ IH 610	NS	BOOST	Floating Stop	80

Weekday Bus Boardings + Alightings



- Existing Stop to Remain
- Existing Stop to be Removed
- New Stop

- Existing Crosswalk
- Proposed Crosswalk

### UNSIGNALIZED CROSSINGS

A new pedestrian crossing location is recommended across MLK Boulevard at Balkin Street to close a 1,600-foot gap between improved crossings.

# MLK BOULEVARD



## TRANSIT RECOMMENDATIONS (IH-610 TO DOOLITTLE BOULEVARD)

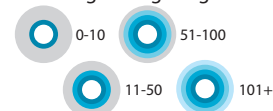


### RECOMMENDED STOPS (NEW/RECONSTRUCTED)

Key	Northbound Stop	Placement	Type	Bikeway	Route(s)
22	MLK @ Malmedy	NS	BOOST	Floating Stop	80
23	MLK @ Rapido	FS	BOOST	Floating Stop	80
24	MLK @ Crestridge	FS	BOOST	Floating Stop	80

Key	Southbound Stop	Placement	Type	Bikeway	Route(s)
25	MLK @ Malmedy	FS	BOOST	Floating Stop	80
26	MLK @ Rapido	FS	BOOST	Floating Stop	80
27	MLK @ St Lo	FS	BOOST	Floating Stop	80

Weekday Bus Boardings + Alightings



- Existing Stop to Remain
- Existing Stop to be Removed
- New Stop

- Existing Crosswalk
- Proposed Crosswalk

### UNSIGNALIZED CROSSINGS

A new pedestrian crossing location is recommended across MLK Boulevard at Rapido Road to provide access to the bus stops.

A new pedestrian crossing location is also recommended at or near Anzio Road to close a 1,500-foot gap between crossings.

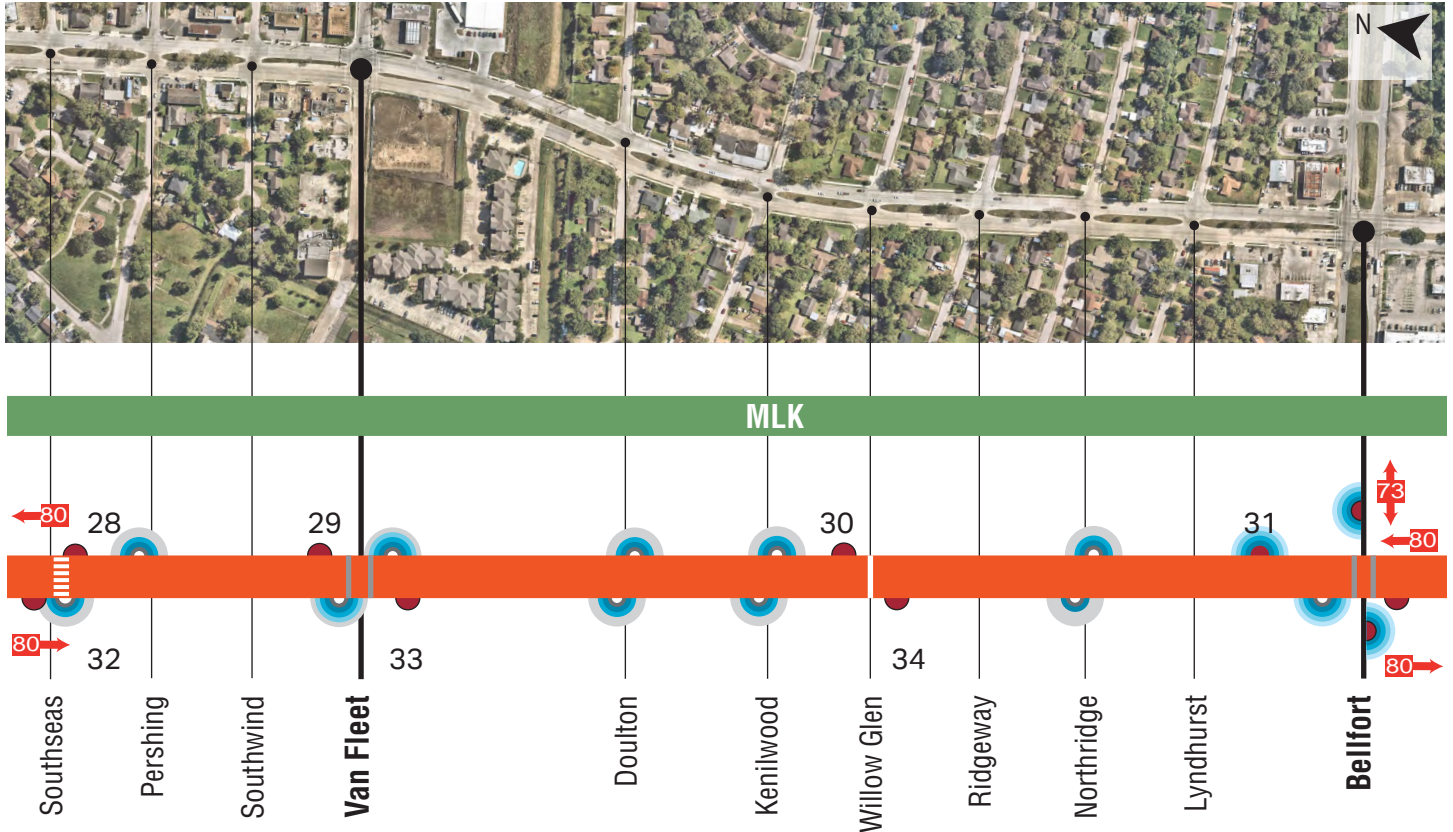
Improvements to the existing school crossing at Southlea Street are also recommended.



# MLK BOULEVARD



## TRANSIT RECOMMENDATIONS (SOUTHSEAS STREET TO BELLFORT STREET)

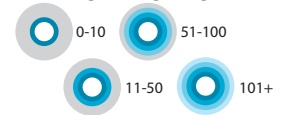


### RECOMMENDED STOPS (NEW/RECONSTRUCTED)

Key	Northbound Stop	Placement	Type	Bikeway	Route(s)
28	MLK @ Southseas	NS	BOOST	Floating Stop	80
29	MLK @ Van Fleet	FS	BOOST	Floating Stop	80
30	MLK @ Willow Glen	FS	BOOST	Floating Stop	80
31	MLK @ Bellfort	FS	BOOST	Floating Stop	80

Key	Southbound Stop	Placement	Type	Bikeway	Route(s)
32	MLK @ Southseas	NS	BOOST	Floating Stop	80
33	MLK @ Van Fleet	FS	BOOST	Floating Stop	80
34	MLK @ Willow Glen	FS	BOOST	Floating Stop	80

Weekday Bus Boardings + Alightings



- Existing Stop to Remain
- Existing Stop to be Removed
- New Stop

Existing Crosswalk

Proposed Crosswalk

### UNSIGNALIZED CROSSINGS

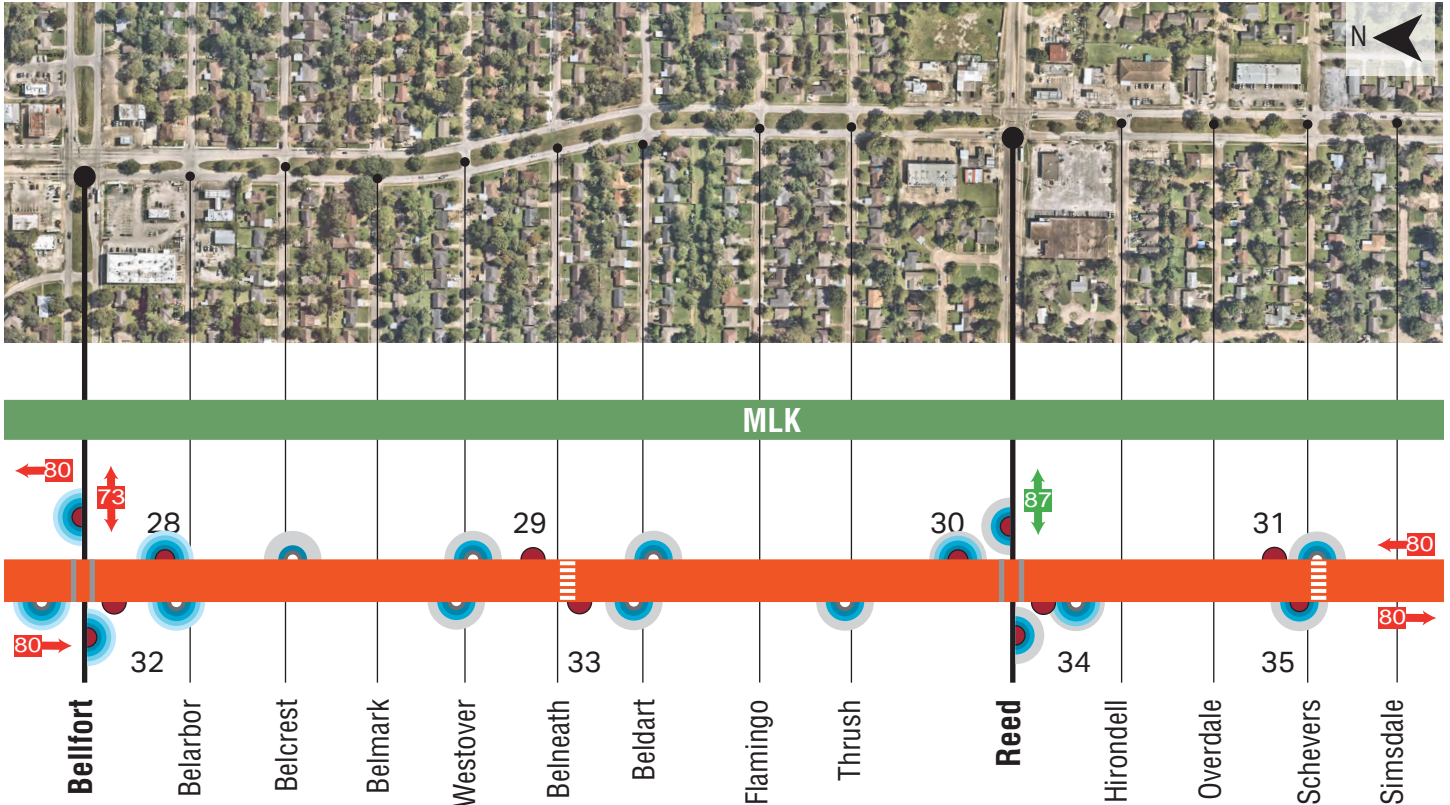
New pedestrian crossing locations are recommended at the following cross street to provide access to bus stops: Southseas Street and Willow Glen Drive.

A new pedestrian crossing is also recommended at Doulton Drive to close a 1,400-foot gap in crossings.

# MLK BOULEVARD



## TRANSIT RECOMMENDATIONS (BELLFORT STREET TO SOUTH SIMSDALE STREET)

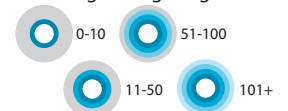


### RECOMMENDED STOPS (NEW/RECONSTRUCTED)

Key	Northbound Stop	Placement	Type	Bikeway	Route(s)
28	MLK @ Belfort	NS	BOOST	NA	80
29	MLK @ Belneath	FS	BOOST	NA	80
30	MLK @ Reed	FS	BOOST	NA	80
31	MLK @ Schevers	FS	BOOST	NA	80

Key	Southbound Stop	Placement	Type	Bikeway	Route(s)
32	MLK @ Belfort	NS	BOOST	NA	80
33	MLK @ Belneath	FS	BOOST	NA	80
34	MLK @ Reed	FS	BOOST	NA	80
35	MLK @ Schevers	NS	BOOST	NA	80

Weekday Bus Boardings + Alightings



● Existing Stop to Remain  
○ Existing Stop to be Removed  
● New Stop

Existing Crosswalk

Proposed Crosswalk

### UNSIGNALIZED CROSSINGS

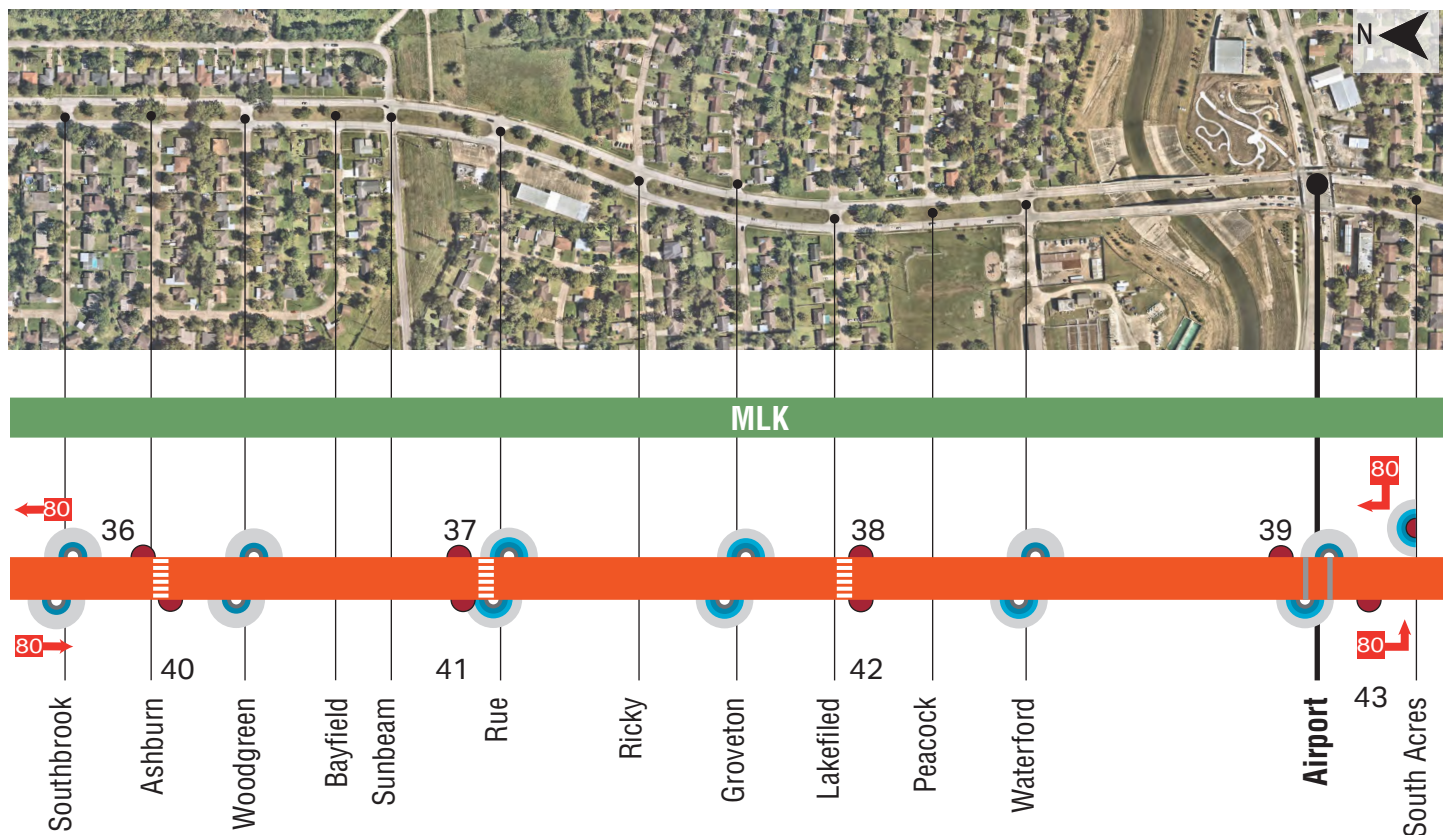
New bicycle and pedestrian crossings are recommended at the following cross street to provide access to bus stops and median trail: Belneath Street and Schevers Street.

Sidewalk connections and pedestrian crossings to the median trail should be provided at all cross streets with sidewalks.

# MLK BOULEVARD



## TRANSIT RECOMMENDATIONS (SOUTHBROOK DRIVE TO SOUTH ACRES DRIVE)

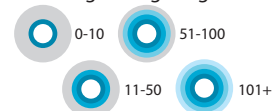


### RECOMMENDED STOPS (NEW/RECONSTRUCTED)

Key	Northbound Stop	Placement	Type	Bikeway	Route(s)
36	MLK @ Ashburn	FS	BOOST	NA	80
37	MLK @ Rue	FS	BOOST	NA	80
38	MLK @ Lakefield	NS	BOOST	NA	80
39	MLK @ Airport	FS	BOOST	NA	80

Key	Southbound Stop	Placement	Type	Bikeway	Route(s)
40	MLK @ Ashburn	FS	BOOST	NA	80
41	MLK @ Rue	NS	BOOST	NA	80
42	MLK @ Lakefield	FS	BOOST	NA	80
43	MLK @ Airport	FS	BOOST	NA	80

Weekday Bus Boardings + Alightings



● Existing Stop to Remain  
○ Existing Stop to be Removed  
● New Stop

Existing Crosswalk

Proposed Crosswalk

### UNSIGNALIZED CROSSINGS

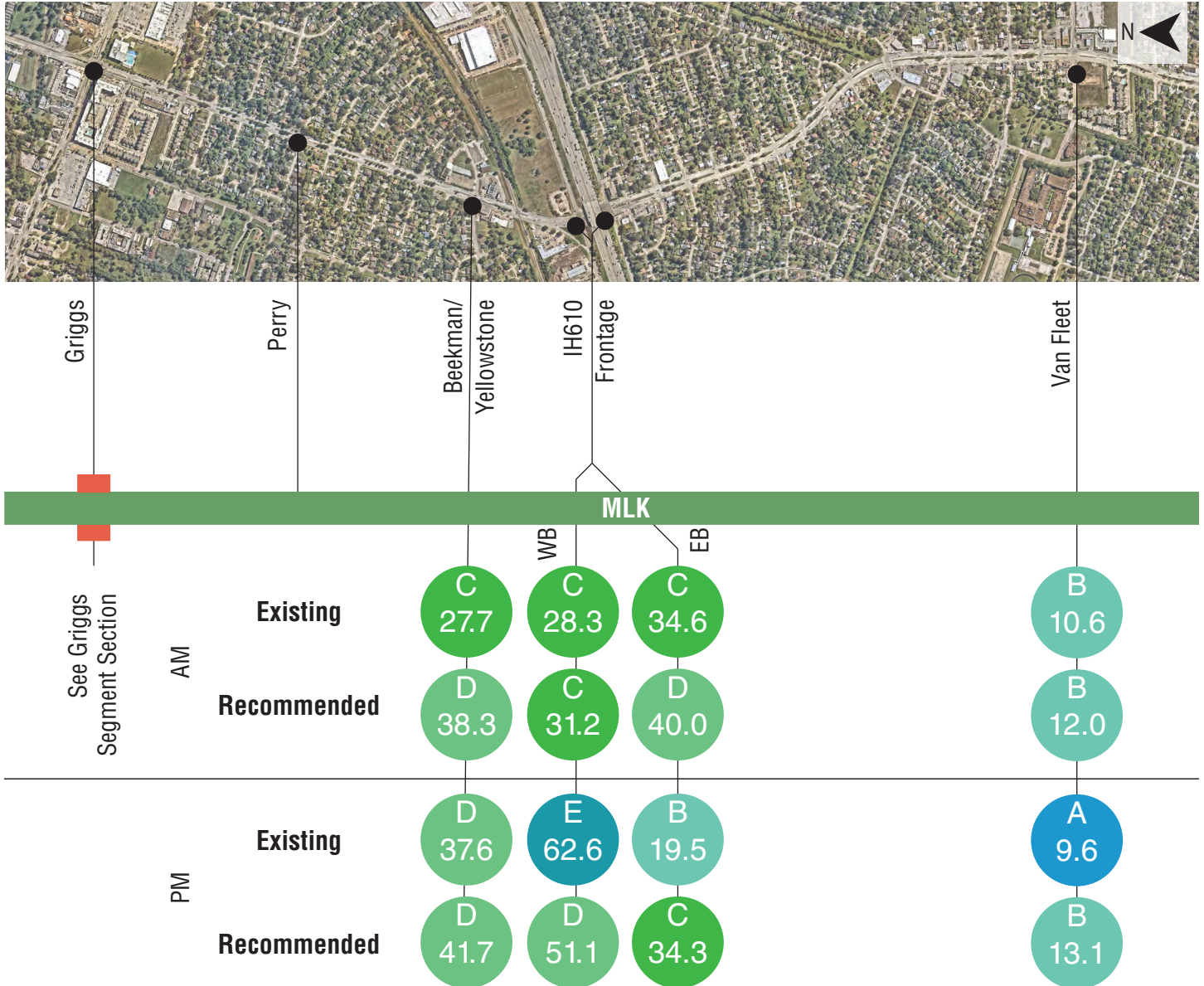
New bicycle and pedestrian crossings are recommended at the following cross street to provide access to bus stops and median trail: Ashburn Street, Rue Street, and Lakefield Drive.

Sidewalk connections and pedestrian crossings to the median trail should be provided at all cross streets with sidewalks.



# MLK BOULEVARD

## INTERSECTION ANALYSIS



The intersection capacity analysis shows that the re-allocation of a vehicular travel lane to a protected bicycle lane slightly increase vehicular delay at most signalized intersections and alters LOS at some intersections. The intersection most impacted by the lane change is the intersection of MLK Boulevard and the IH-610 east- and westbound frontage roads. The existing operations show the intersection LOS is most significantly impacted by the IH-610 frontage roads, particularly IH-610 WB frontage road in the PM Peak Hour. With the recommended change of one vehicle travel lane into a protected bicycle lane along MLK Boulevard, modifications to the signal timings should be optimized to provide more time to the critical movements (SB and WB) to balance operations at the intersection.

# MLK BOULEVARD

## INTERSECTION ANALYSIS



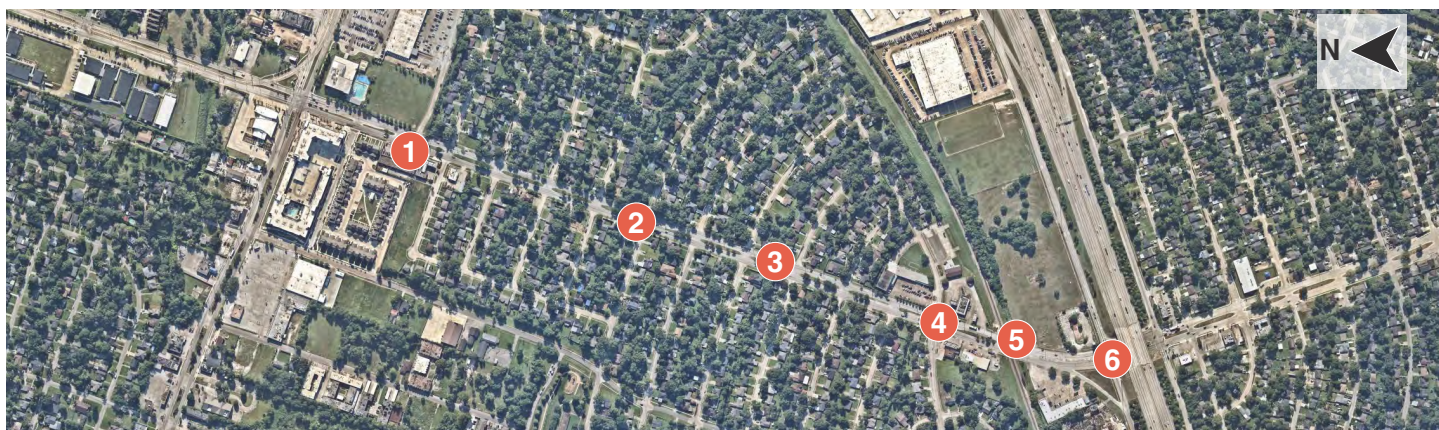
The intersection capacity analysis shows that the re-allocation of a vehicular travel lane to a protected bicycle lane, north of Bellfort St., slightly increases vehicular delay at signalized intersections, but does maintain an LOS D. Intersections south of Bellfort St. are not impacted due to the change from an on-street protected bike lane to a median shared use path. At the intersection of MLK Blvd. and Reed Rd, bicycles would move through the intersection concurrently at MLK Blvd. through/right movements; there is no left-turn vehicle conflict as these movements are phase separated.



# MLK BOULEVARD

## INTERSECTION RECOMMENDATIONS

SEGMENT  
**A**



	Intersection	Existing Condition	Recommended Change	Justification
1	Unsignalized intersections between Griggs Road and Perry Street	Stop on Side Street	Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclist and pedestrians
2	Perry Street	Signal	Turn box; Bicycle signal face; Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclist and pedestrians; Reduce right-turn conflict
3	Unsignalized intersections between Perry Street and Yellowstone Boulevard/Beekman Road	Stop on Side Street	Bicycle lane extension marking; Crosswalks	Increase visibility of bicyclist and pedestrians
4	Yellowstone Boulevard/Beekman Road	Signal	Bicycle box; Bicycle signal face; Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclist and pedestrians; Reduce right-turn conflict
5	Unsignalized intersections between Yellowstone Boulevard/Beekman Road and IH-610	Stop on Side Street	Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclist and pedestrians
6	IH-610 east- and westbound frontage roads	Signal	Bicycle box; Bicycle signal face; Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclist and pedestrians; Reduce right-turn conflict



# MLK BOULEVARD

## INTERSECTION RECOMMENDATIONS

SEGMENT  
**B**

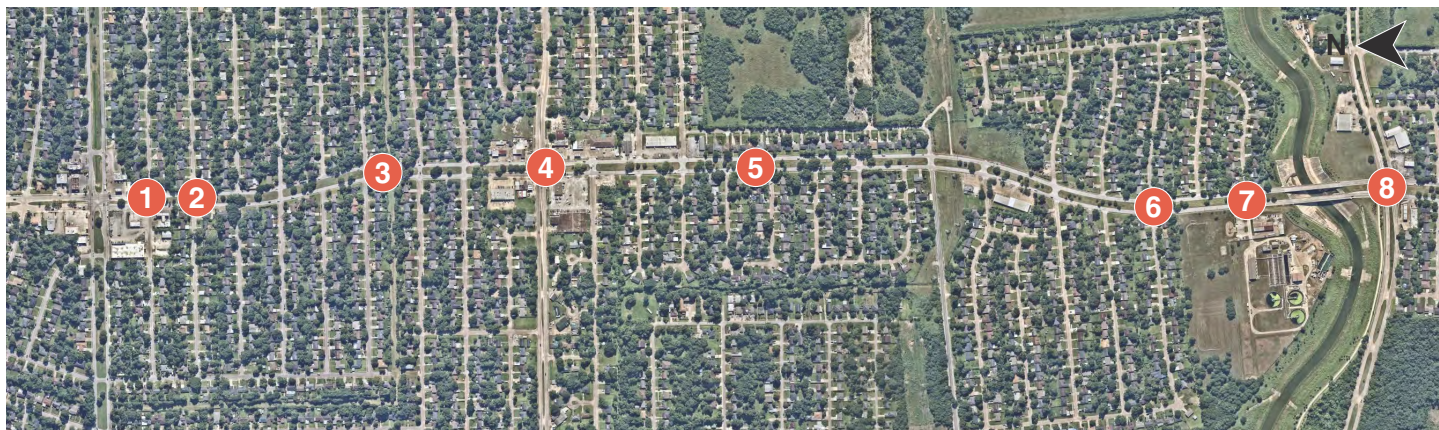


	Intersection	Existing Condition	Recommended Change	Justification
1	Unsignalized intersections between IH-610 and St Lo Road/Crestridge Street	Stop on Side Street	Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclist and pedestrians
2	St Lo Road/Crestridge Street	Signal	Bicycle box; Bicycle signal face; Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclist and pedestrians; Reduce right-turn conflict
3	Unsignalized intersections between St Lo Road/Crestridge Street and Van Fleet Street	Stop on Side Street	Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclist and pedestrians
4	Van Fleet Street	Signal	Bicycle box; Bicycle signal face; Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclist and pedestrians; Reduce right-turn conflict
5	Unsignalized intersections between Van Fleet Street and Bellfort Street	Stop on Side Street	Bicycle lane extension markings; Crosswalks	Increase visibility of bicyclist and pedestrians
6	Bellfort Street	Signal	Bicycle lane extension markings; Shared crossings; Crosswalks; Bicycel signal face	Increase visibility of bicyclist and pedestrians; Reduce right-turn conflict; Transition bike lane to a median shared-use trail

# MLK BOULEVARD

## INTERSECTION RECOMMENDATIONS

SEGMENT  
**C**



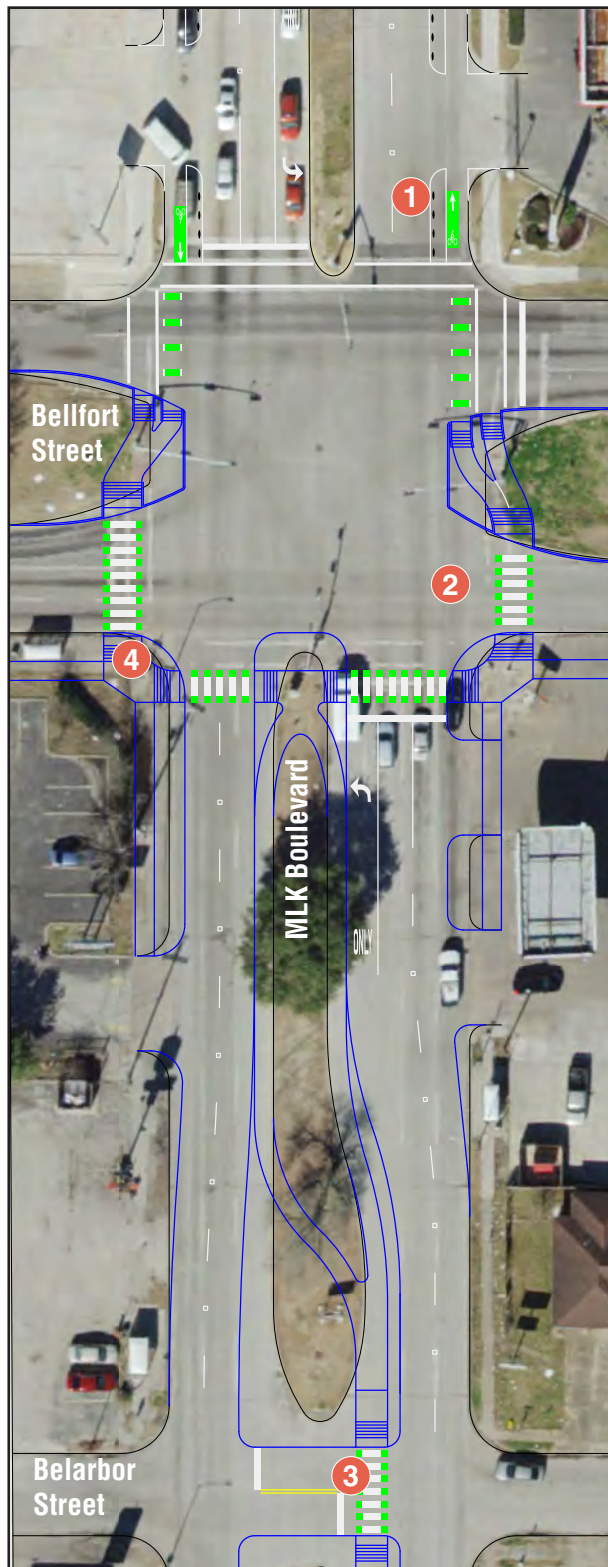
	Intersection	Existing Condition	Recommended Change	Justification
1	Belarbor Street	Stop on Belarbor	Median opening shared-use crossing	Increase visibility of bicyclist and pedestrians
2	Belcrest Street	Stop on Belcrest	Close median	Eliminate conflicts between median trail users and vehicles
3	Unsignalized intersections between Belcrest Street and Reed Road	Stop on Side Street	Median opening shared-use crossing; Side street crosswalks	Increase visibility of bicyclist and pedestrians
4	Reed Road	Signal	Median opening shared-use crossing; Crosswalks	Increase visibility of bicyclist and pedestrians; Reduce right-turn conflict
5	Unsignalized intersections between Reed Road and Lakefield Drive	Stop on Side Street	Median opening shared-use crossing; Side street crosswalks	Increase visibility of bicyclist and pedestrians
6	Lakefield Drive	Stop on Lakefield	Median opening shared-use crossing; Crosswalks	Transition from median trail to existing sidewalks on bridge
7	Waterford Drive	Stop on Waterford	Median opening shared-use crossing; Crosswalks	Transition from median trail to existing sidewalks on bridge
8	Airport Boulevard	Signal	Shared-use crossing	Connect bicyclists and pedestrians to Sims Bayou Trail



# MLK BOULEVARD



## BELLFORT STREET INTERSECTION RECOMMENDATIONS



### Existing Conditions

The Belfort Street and MLK Boulevard intersection is signalized with marked but faded crossings. Belfort Street has one left-turn lane and two through lanes in each direction. MLK Boulevard has one dedicated left-turn lane and three through-lanes in each direction. MLK Boulevard transitions to two through-lanes in each direction south of the intersection at Belarbor Street.

Near-side and far-side stops on Belfort Street and MLK Boulevard serve the 73 Belfort and 80 MLK/Lockwood routes, respectively. Existing driveways near the intersection are located on all corners.

### Level of Service

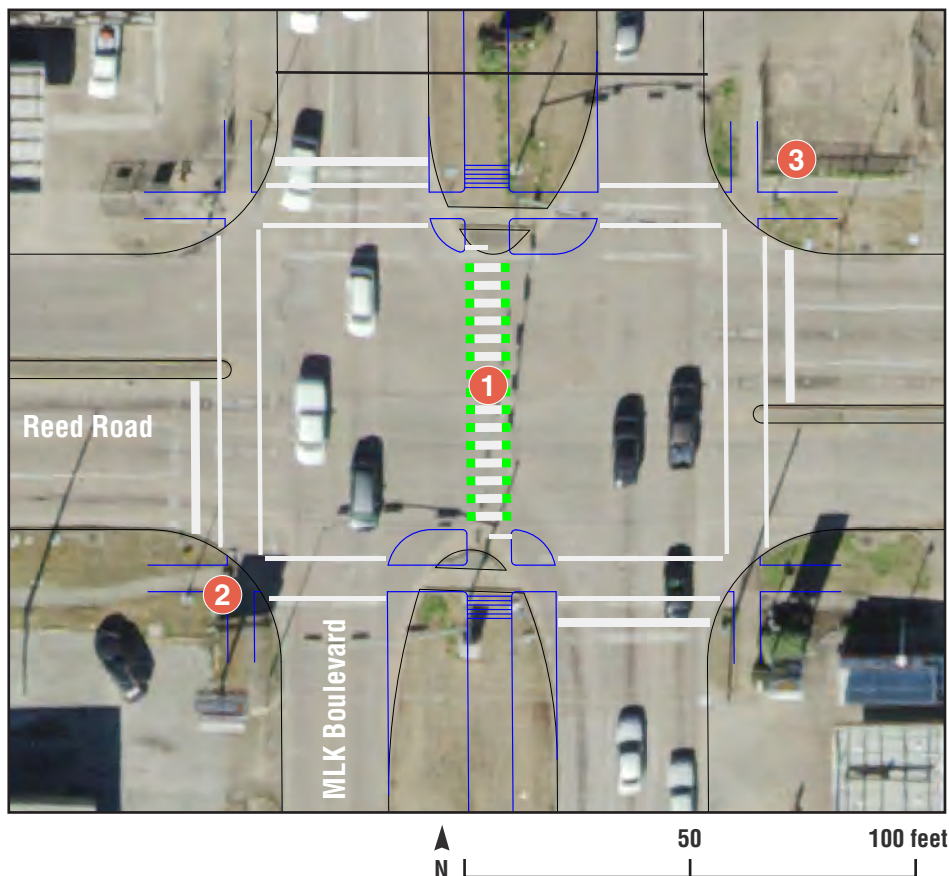
The existing level of service is D for both the morning and evening and would change to E in the morning and remain unchanged in the evening with the recommended changes. For a detailed level of service analysis, see pages 66-67.

Recommended Change	Justification
1 Reduce MLK Boulevard vehicle through-lanes from three to two and add a protected bike lane north of the intersection	Increase visibility of bicyclists; Reduce vehicle speeds to create safer environment for bicyclists and pedestrians
2 Extend the protected bike lane through the intersection	Increase visibility of bicyclists; Decrease pedestrian exposure to vehicles in the crosswalk; Reduce turning radii to slow vehicle speeds and reduce right turn conflicts
3 Direct bicyclists and pedestrains to median-running shared-use trail using marked crosswalks on the south side of the intersection	Increase visibility of bicyclists; Decrease pedestrian exposure to vehicles entering and exiting driveway
4 Add a bicycle signal face and coordinate with METRO and the City of Houston to improve signal timings	Increase visibility of bicyclists and predictability for both bicyclists and motorists; reduce intersection wait times



# MLK BOULEVARD

## REED ROAD INTERSECTION RECOMMENDATIONS



### Existing Conditions

The Reed Road and MLK Boulevard intersection is signalized with marked crossings. Reed Road has one dedicated left-turn lane and two through lanes in each direction. MLK Boulevard has one dedicated left-turn lanes and two through-lanes in each direction.

Nearside stops on Reed Road and MLK Boulevard serve the 87 Sunnyside and 80 MLK/Lockwood routes, respectively. Existing driveways near the intersection are located on all corners.

### Level of Service

The existing level of service is E for both the morning and evening and would remain unchanged with the recommended changes. For a detailed level of service analysis, see pages 66-67.

Recommended Change	Justification
1 Extend the shared-use trail through the intersection by adding pavement markings for a pedestrian/bike crossing to connect the north and south median trails	Increase visibility of bicyclists; decrease pedestrian exposure to vehicles in the crosswalk
2 Replace all curb ramps	Increase safety and visibility for pedestrians entering the crosswalk, particularly visually impaired pedestrians
3 Add a bicycle signal face and coordinate with METRO and the City of Houston to improve signal timings	Increase visibility of bicyclists and predictability for both bicyclists and motorists; reduce intersection wait times; provide protected signal phase for trail users to cross the intersection

# PLANNING LEVEL COST ESTIMATES

## Chapter 8 MLK Healthy Connections Study

A construction cost estimate has been developed based on the proposed segment cross-sections and intersection modifications for the approximately seven miles of pedestrian, bicycle and transit improvements. Table 10 provides the item, estimated unit cost, units and sub-total for the construction of the MLK Healthy Connections infrastructure. A description of each item is also provided.

Table 10 Recommendation Cost Estimates

Item	Estimated Unit Cost	Units	Cost
Protected Bike Lane	\$700,000 per mile	5.4 miles	\$3,780,000
Median Trail	\$650,000 per mile	1.5	\$975,000
Intersection Reconstruction	\$500,000	5 intersections	\$2,500,000
METRO Bus Stop	\$25,000	56 bus stops	\$1,400,000

**Total Estimated Construction Cost \$8,655,000**

**Protected Bike Lane** estimate is based on previous Bikeway Projects and includes roadway and bike lane striping, new signage, bike lane buffer (armadillo or concrete curb) as well as minor signal improvements to add bike signal heads where appropriate.

**Median Trail** estimate is based on other trail construction project in the County and includes a concrete biking trail with decomposed granite walking paths as well as ADA accessible ramps and appropriate roadway crossing signage and striping.

**Intersection Reconstruction** incorporates full depth reconstruction of the pavement and new signal equipment for the intersections of Calhoun Road and Griggs Road, Griggs Road at Old Spanish Trail, Griggs Road at MLK Boulevard, MLK Boulevard at Bellfort Street, and MLK Boulevard at Reed Road.

**METRO Bus Stop** estimate includes the construction of concrete bus stop pad approximately 50-feet in length. Additional bus stop amenities including the shelter would be an additional \$26,000 - \$41,000 per stop.

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### CALHOUN ROAD TRAFFIC VOLUMES - N MACGREGOR WAY TO OLD SPANISH TRAIL

#### City of Houston Traffic Management - Volume

Requested Address: 5320 CALHOUN												Incoming Radar Unit : R1042					
Segment: OLD SPANISH TRAIL TO N MACGREGOR												Outgoing Radar Unit : R1042					
												29-7087512 -95-342535					
												29-7087512 -95-342535					
												Incoming LAT, LONG :					
												Outgoing LAT, LONG:					
Hr:mm	Monday 5/13/2019		Tuesday 5/14/2019		Wednesday 5/15/2019		Thursday 5/16/2019		Friday 5/17/2019		Saturday 5/18/2019		Sunday 5/19/2019		Mon-Fri Average		7 Day Average
	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	
12:00 AM	0	0	0	0	0	0	41	46	29	37	0	0	0	0	35.0	41.5	41.5
1:00 AM	0	0	0	0	0	0	21	25	11	13	0	0	0	0	16.0	19.0	16.0
2:00 AM	0	0	0	0	0	0	13	20	14	11	0	0	0	0	13.5	15.5	13.5
3:00 AM	0	0	0	0	0	0	6	11	15	12	0	0	0	0	10.5	11.5	10.5
4:00 AM	0	0	0	0	0	0	3	8	6	8	0	0	0	0	4.5	8.0	8.0
5:00 AM	0	0	0	0	0	0	17	9	13	8	0	0	0	0	15.0	8.5	8.5
6:00 AM	0	0	0	0	0	0	43	30	48	31	0	0	0	0	45.5	30.5	30.5
7:00 AM	0	0	0	0	0	0	248	63	195	72	0	0	0	0	67.5	221.5	67.5
8:00 AM	0	0	0	0	0	0	212	82	178	97	0	0	0	0	195.0	89.5	89.5
9:00 AM	0	0	0	0	45	45	106	69	104	89	0	0	0	0	85.0	67.7	67.7
10:00 AM	0	0	0	0	99	102	65	103	18	24	0	0	0	0	60.7	76.3	76.3
11:00 AM	0	0	0	0	102	124	67	101	0	0	0	0	0	0	84.5	112.5	112.5
12:00 PM	0	0	0	0	96	110	88	119	0	0	0	0	0	0	92.0	114.5	114.5
1:00 PM	0	0	0	0	98	145	103	100	0	0	0	0	0	0	100.5	122.5	100.5
2:00 PM	0	0	0	0	111	156	99	149	0	0	0	0	0	0	105.0	152.5	105.0
3:00 PM	0	0	0	0	144	254	124	170	0	0	0	0	0	0	134.0	212.0	134.0
4:00 PM	0	0	0	0	134	245	129	227	0	0	0	0	0	0	131.5	236.0	131.5
5:00 PM	0	0	0	0	157	342	168	330	0	0	0	0	0	0	162.5	336.0	162.5
6:00 PM	0	0	0	0	190	210	142	197	0	0	0	0	0	0	166.0	203.5	166.0
7:00 PM	0	0	0	0	92	169	110	140	0	0	0	0	0	0	101.0	154.5	101.0
8:00 PM	0	0	0	0	81	137	71	106	0	0	0	0	0	0	76.0	121.5	76.0
9:00 PM	0	0	0	0	75	132	86	133	0	0	0	0	0	0	80.5	132.5	80.5
10:00 PM	0	0	0	0	66	69	56	70	0	0	0	0	0	0	61.0	69.5	61.0
11:00 PM	0	0	0	0	53	65	57	58	0	0	0	0	0	0	55.0	61.5	55.0
TOTALS	-	-	-	-	1543	2305	2075	2366	631	402	0	0	0	0	2051.7	2464.5	2051.7
COMBINED	0	0	0	0	3848	4441	4441	4441	1033	1033	0	0	0	0	4516.2	4516.2	4516.2
SPLIT (%)	0.0%	0.0%	0.0%	0.0%	40.1%	59.9%	46.7%	53.3%	61.1%	38.9%	0.0%	0.0%	0.0%	0.0%	45.4%	54.6%	45.4%
PEAK HOURS																	
12:00:00 AM -	-	-	-	-	11:00 AM	7:00 AM	7:00 AM	10:00 AM	7:00 AM	8:00 AM	-	-	-	-	7:00 AM	11:00 AM	11:00 AM
12:00:00 PM	-	-	-	-	102	124	248	103	195	97	-	-	-	-	222	113	113
Volume	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00:00 PM -	-	-	-	-	6:00 PM	5:00 PM	5:00 PM	5:00 PM	-	-	-	-	-	-	6:00 PM	5:00 PM	5:00 PM
12:00:00 AM	-	-	-	-	190	342	168	330	-	-	-	-	-	-	166	336	336
Volume	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### CALHOUN ROAD TRAFFIC MANAGEMENT - N MACGREGOR WAY TO OLD SPANISH TRAIL

#### City of Houston Traffic Management

Requested Address: 5320 CALHOUN  
Segment: OLD SPANISH TRAIL TO N MACGREGOR

Thursday  
5/16/2019

Radar Unit : R1042  
Radar Unit : R1042

NORTH					SOUTH					MERGED VEHICLE CLASS				
Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large
12:00 AM	1.9%	2	43	1	12:00 AM	2.0%	1	40	0	12:00 AM	2.0%	3	83	1
1:00 AM	1.1%	1	24	0	1:00 AM	1.0%	0	21	0	1:00 AM	1.0%	1	45	0
2:00 AM	0.8%	0	20	0	2:00 AM	0.6%	0	13	0	2:00 AM	0.7%	0	33	0
3:00 AM	0.5%	1	8	2	3:00 AM	0.3%	0	6	0	3:00 AM	0.4%	1	14	2
4:00 AM	0.3%	0	7	1	4:00 AM	0.1%	0	2	1	4:00 AM	0.2%	0	9	2
5:00 AM	0.4%	0	7	2	5:00 AM	0.8%	0	15	2	5:00 AM	0.6%	0	22	4
6:00 AM	1.3%	2	26	2	6:00 AM	2.1%	4	35	4	6:00 AM	1.6%	6	61	6
7:00 AM	2.7%	7	50	6	7:00 AM	12.0%	3	239	6	7:00 AM	7.0%	10	289	12
8:00 AM	3.5%	3	72	7	8:00 AM	10.2%	4	199	9	8:00 AM	6.6%	7	271	16
9:00 AM	2.9%	5	59	5	9:00 AM	5.1%	1	101	4	9:00 AM	3.9%	6	160	9
10:00 AM	4.4%	5	90	8	10:00 AM	3.1%	2	57	6	10:00 AM	3.8%	7	147	14
11:00 AM	4.3%	4	92	5	11:00 AM	3.2%	0	64	3	11:00 AM	3.8%	4	156	8
12:00 PM	5.0%	11	100	8	12:00 PM	4.2%	2	79	7	12:00 PM	4.7%	13	179	15
1:00 PM	4.2%	8	88	4	1:00 PM	5.0%	3	95	5	1:00 PM	4.6%	11	183	9
2:00 PM	6.3%	8	130	11	2:00 PM	4.8%	4	88	7	2:00 PM	5.6%	12	218	18
3:00 PM	7.2%	7	154	9	3:00 PM	6.0%	1	120	3	3:00 PM	6.6%	8	274	12
4:00 PM	9.6%	9	207	11	4:00 PM	6.2%	1	124	4	4:00 PM	8.0%	10	331	15
5:00 PM	13.9%	4	318	8	5:00 PM	8.1%	2	162	4	5:00 PM	11.2%	6	480	12
6:00 PM	8.3%	4	183	10	6:00 PM	6.8%	1	138	3	6:00 PM	7.6%	5	321	13
7:00 PM	5.9%	2	136	2	7:00 PM	5.3%	2	105	3	7:00 PM	5.6%	4	241	5
8:00 PM	4.5%	5	99	2	8:00 PM	3.4%	1	68	2	8:00 PM	4.0%	6	167	4
9:00 PM	5.6%	2	127	4	9:00 PM	4.1%	2	82	2	9:00 PM	4.9%	4	209	6
10:00 PM	3.0%	0	68	2	10:00 PM	2.7%	2	51	3	10:00 PM	2.8%	2	119	5
11:00 PM	2.5%	4	51	3	11:00 PM	2.7%	2	54	1	11:00 PM	2.6%	6	105	4
TOTAL	2366	94	2159	113	TOTAL	2075	38	1958	79	TOTAL	4441	132	4117	192
Percentile %		4.0%	91.3%	4.8%	Percentile %		1.8%	94.4%	3.8%	Percentile %		3.0%	92.7%	4.3%
Small Vehicle	less than 14ft													
Medium Vehicle	between 14ft and 20ft													
Large Vehicle	greater than 20ft													

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### GRIGGS ROAD TRAFFIC VOLUMES - TIERWESTER STREET TO SCOTT STREET

#### City of Houston Traffic Management - Volume

Requested Address: 3647 GRIGGS		Incoming Radar Unit : R1045																					
Segment: SCOTT TO TIERWESTER		Outgoing Radar Unit : R1045																					
		29-7056698 -95-361539				29-7056698 -95-361539				Incoming LAT, LONG :				Outgoing LAT, LONG :									
hr:mm	Monday 5/13/2019	Tuesday 5/14/2019	Wednesday 5/15/2019	Thursday 5/16/2019	Friday 5/17/2019	Saturday 5/18/2019	Sunday 5/19/2019	Mon-Fri Average	7Day Average														
	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST					
12:00 AM	0	0	0	0	14	11	14	13	0	0	0	0	14.0	12.0	14.0	12.0	14.0	12.0					
1:00 AM	0	0	0	0	1	2	3	3	0	0	0	0	2.5	8.0	2.5	8.0	2.5	8.0					
2:00 AM	0	0	0	0	3	2	6	3	0	0	0	0	4.5	2.5	4.5	2.5	4.5	2.5					
3:00 AM	0	0	0	0	1	5	6	4	0	0	0	0	3.5	4.5	3.5	4.5	3.5	4.5					
4:00 AM	0	0	0	0	4	4	4	2	0	0	0	0	4.0	3.0	4.0	3.0	4.0	3.0					
5:00 AM	0	0	0	0	3	19	4	9	0	0	0	0	3.5	14.0	3.5	14.0	3.5	14.0					
6:00 AM	0	0	0	0	13	51	18	48	0	0	0	0	15.5	49.5	15.5	49.5	15.5	49.5					
7:00 AM	0	0	0	0	135	199	128	185	0	0	0	0	131.5	192.0	131.5	192.0	131.5	192.0					
8:00 AM	0	0	0	0	51	86	54	89	0	0	0	0	52.5	87.5	52.5	87.5	52.5	87.5					
9:00 AM	0	0	0	0	40	51	55	64	0	0	0	0	33.7	40.7	33.7	40.7	33.7	40.7					
10:00 AM	0	0	0	0	38	43	3	2	0	0	0	0	26.3	38.7	26.3	38.7	26.3	38.7					
11:00 AM	0	0	0	0	53	56	34	50	0	0	0	0	43.5	53.0	43.5	53.0	43.5	53.0					
12:00 PM	0	0	0	0	74	77	61	68	0	0	0	0	67.5	72.5	67.5	72.5	67.5	72.5					
1:00 PM	0	0	0	0	45	66	55	68	0	0	0	0	50.0	67.0	50.0	67.0	50.0	67.0					
2:00 PM	0	0	0	0	61	82	72	75	0	0	0	0	66.5	78.5	66.5	78.5	66.5	78.5					
3:00 PM	0	0	0	0	119	97	132	97	0	0	0	0	125.5	97.0	125.5	97.0	125.5	97.0					
4:00 PM	0	0	0	0	108	140	119	125	0	0	0	0	113.5	132.5	113.5	132.5	113.5	132.5					
5:00 PM	0	0	0	0	121	151	145	154	0	0	0	0	133.0	152.5	133.0	152.5	133.0	152.5					
6:00 PM	0	0	0	0	70	112	88	100	0	0	0	0	79.0	106.0	79.0	106.0	79.0	106.0					
7:00 PM	0	0	0	0	67	61	56	69	0	0	0	0	61.5	65.0	61.5	65.0	61.5	65.0					
8:00 PM	0	0	0	0	55	51	36	46	0	0	0	0	45.5	48.5	45.5	48.5	45.5	48.5					
9:00 PM	0	0	0	0	33	41	31	49	0	0	0	0	32.0	45.0	32.0	45.0	32.0	45.0					
10:00 PM	0	0	0	0	20	35	14	27	0	0	0	0	17.0	31.0	17.0	31.0	17.0	31.0					
11:00 PM	0	0	0	0	16	21	16	18	0	0	0	0	16.0	19.5	16.0	19.5	16.0	19.5					
TOTALS	-	-	886	1068	1162	1430	296	422	0	0	0	0	1142.0	1420.3	1142.0	1420.3	1142.0	1420.3					
COMBINED	0	0	1954	2592	718	58.8%	0	0.0%	0	0.0%	0	0.0%	2562.3	2562.3	2562.3	2562.3	2562.3	2562.3					
SPLIT (%)	0.0%	0.0%	45.3%	54.7%	44.8%	55.2%	41.2%	58.8%	0.0%	0.0%	0.0%	0.0%	44.6%	55.4%	44.6%	55.4%	44.6%	55.4%					
PEAK HOURS																							
12:00:00 AM -	-	-	11:00 AM	10:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	-	-	-	-	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM					
12:00:00 PM	-	-	53	71	135	199	128	185	-	-	-	-	132	192	132	192	132	192					
12:00:00 PM -	-	-	5:00 PM	5:00 PM	5:00 PM	5:00 PM	-	-	-	-	-	-	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM					
12:00:00 AM	-	-	121	151	145	154	-	-	-	-	-	-	133	153	133	153	133	153					



# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### GRIGGS ROAD SPEED REPORT - TIERWESTER STREET TO SCOTT STREET

#### City of Houston Traffic Management - Speed Report

Requested Address: 3647 GRIGGS  
Segment: SCOTT TO TIERWESTER  
R1045 & R1045  
5/16/2019

DAILY COMBINED SPEED																Total Counts
Starting Hr:min	<15	15 to <20	20 to <25	25 to <30	30 to <35	35 to <40	40 to <45	45 to <50	50 to <55	55 to <60	60 to <65	65 to <70	70 to <75	75 to >100		
12:00 AM	1	2	5	12	3	2	0	0	0	0	0	0	0	0	25	
1:00 AM	0	2	4	4	2	1	1	0	0	0	0	0	0	0	14	
2:00 AM	0	0	1	2	2	0	0	0	0	0	0	0	0	0	5	
3:00 AM	0	1	3	2	0	0	0	0	0	0	0	0	0	0	6	
4:00 AM	0	2	3	1	2	0	0	0	0	0	0	0	0	0	8	
5:00 AM	2	2	3	10	2	3	0	0	0	0	0	0	0	0	22	
6:00 AM	4	9	15	23	11	0	2	0	0	0	0	0	0	0	64	
7:00 AM	6	90	121	82	31	2	2	0	0	0	0	0	0	0	334	
8:00 AM	7	14	50	43	18	2	3	0	0	0	0	0	0	0	137	
9:00 AM	5	11	32	25	16	1	1	0	0	0	0	0	0	0	91	
10:00 AM	4	11	23	27	15	1	0	0	0	0	0	0	0	0	81	
11:00 AM	2	18	15	33	14	2	0	0	0	0	0	0	0	0	84	
12:00 PM	2	12	49	49	12	3	2	0	0	0	0	0	0	0	129	
1:00 PM	0	20	41	33	24	5	0	0	0	0	0	0	0	0	123	
2:00 PM	5	28	50	44	18	2	0	0	0	0	0	0	0	0	147	
3:00 PM	3	25	93	70	30	7	1	0	0	0	0	0	0	0	229	
4:00 PM	5	21	65	97	40	14	2	0	0	0	0	0	0	0	244	
5:00 PM	7	37	94	106	45	9	1	0	0	0	0	0	0	0	299	
6:00 PM	10	22	53	68	26	6	2	0	0	0	0	0	0	0	188	
7:00 PM	3	12	45	39	20	6	0	0	0	0	0	0	0	0	125	
8:00 PM	4	9	29	21	15	3	0	1	0	0	0	0	0	0	82	
9:00 PM	4	12	27	19	10	7	1	0	0	0	0	0	0	0	80	
10:00 PM	4	5	10	12	6	4	0	0	0	0	0	0	0	0	41	
11:00 PM	0	5	10	14	3	2	0	0	0	0	0	0	0	0	34	
Totals	78	370	841	836	365	82	18	1	1	0	0	0	0	0	2592	
Percentile Speeds (mph)	10%	15%	50%	85%	90%											
	17.5	19.0	24.5	30.0	31.0											
Speeds Exceeded	25mph	35mph	45mph	55mph	65mph	75mph										
	1303	102	2	0	0	0										

**GRIGGS ROAD TRAFFIC MANAGEMENT - TIERWESTER STREET TO SCOTT STREET**

## Page 80 • MLK Healthy Connections Study

Requested Address: 3647 GRIGGS  
Segment: SCOTT TO TIERWESTER

Radar Unit:	R1045
Radar Unit:	R1045

Thursday  
5/16/2019

	EAST					WEST					MERGED VEHICLE CLASS				
	Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large
Small Vehicle Medium Vehicle Large Vehicle	12:00 AM	1.2%	0	14	0	12:00 AM	0.8%	0	11	0	12:00 AM	1.0%	0	25	0
	1:00 AM	0.1%	0	1	0	1:00 AM	0.9%	0	13	0	1:00 AM	0.5%	0	14	0
	2:00 AM	0.3%	0	3	0	2:00 AM	0.1%	0	2	0	2:00 AM	0.2%	0	5	0
	3:00 AM	0.1%	1	0	0	3:00 AM	0.3%	0	5	0	3:00 AM	0.2%	1	5	0
	4:00 AM	0.3%	0	4	0	4:00 AM	0.3%	0	4	0	4:00 AM	0.3%	0	8	0
	5:00 AM	0.3%	0	2	1	5:00 AM	1.3%	0	19	0	5:00 AM	0.8%	0	21	1
	6:00 AM	1.1%	0	12	1	6:00 AM	3.6%	2	45	4	6:00 AM	2.5%	2	57	5
	7:00 AM	11.6%	3	124	8	7:00 AM	13.9%	4	189	6	7:00 AM	12.9%	7	313	14
	8:00 AM	4.4%	3	48	0	8:00 AM	6.0%	3	80	3	8:00 AM	5.3%	6	128	3
	9:00 AM	3.4%	1	36	3	9:00 AM	3.6%	1	50	0	9:00 AM	3.5%	2	86	3
	10:00 AM	3.3%	0	37	1	10:00 AM	3.0%	1	39	3	10:00 AM	3.1%	1	76	4
	11:00 AM	2.9%	2	32	0	11:00 AM	3.5%	0	50	0	11:00 AM	3.2%	2	82	0
	12:00 PM	5.2%	0	60	1	12:00 PM	4.8%	0	66	2	12:00 PM	5.0%	0	126	3
	1:00 PM	4.7%	1	53	1	1:00 PM	4.8%	2	65	1	1:00 PM	4.7%	3	118	2
	2:00 PM	6.2%	2	67	3	2:00 PM	5.2%	0	72	3	2:00 PM	5.7%	2	139	6
	3:00 PM	11.4%	2	128	2	3:00 PM	6.8%	1	95	1	3:00 PM	8.8%	3	223	3
	4:00 PM	10.2%	2	111	6	4:00 PM	8.7%	1	116	8	4:00 PM	9.4%	3	227	14
5:00 PM	12.5%	5	134	6	5:00 PM	10.8%	2	149	3	5:00 PM	11.5%	7	283	9	
6:00 PM	7.6%	5	82	1	6:00 PM	7.0%	0	97	3	6:00 PM	7.3%	5	179	4	
7:00 PM	4.8%	3	53	0	7:00 PM	4.8%	0	68	1	7:00 PM	4.8%	3	121	1	
8:00 PM	3.1%	1	35	0	8:00 PM	3.2%	0	46	0	8:00 PM	3.2%	1	81	0	
9:00 PM	2.7%	0	31	0	9:00 PM	3.4%	0	48	1	9:00 PM	3.1%	0	79	1	
10:00 PM	1.2%	0	14	0	10:00 PM	1.9%	0	27	0	10:00 PM	1.6%	0	41	0	
11:00 PM	1.4%	0	16	0	11:00 PM	1.3%	0	17	1	11:00 PM	1.3%	0	33	1	
TOTAL		1162	31	1097	34		1430	17	1373	40	TOTAL	2592	48	2470	74
Percentile %			2.7%	94.4%	2.5%	Percentile %		1.2%	96.0%	2.8%	Percentile %		1.9%	95.3%	2.5%
Small Vehicle	less than 14ft														
Medium Vehicle	between 14ft and 20ft														
Large Vehicle	greater than 20ft														

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### GRIGGS ROAD TRAFFIC VOLUMES - SCOTT STREET TO OLD SPANISH TRAIL

#### City of Houston Traffic Management - Volume

Requested Address: 4019 GRIGGS		Incoming LAT, LONG :				29-7038363 -95-355183				Incoming Radar Unit : R1049								
Segment: SCOTT TO OLD SPANISH TRAIL		Outgoing LAT, LONG:				29-7038363 -95-355183				Outgoing Radar Unit : R1049								
hr:mm	Monday 5/13/2019		Tuesday 5/14/2019		Wednesday 5/15/2019		Thursday 5/16/2019		Friday 5/17/2019		Saturday 5/18/2019		Sunday 5/19/2019		Mon-Fri Average		7 Day Average	
	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST
12:00 AM	0	0	0	0	0	0	28	32	15	25	0	0	0	0	21.5	28.5	21.5	28.5
1:00 AM	0	0	0	0	0	0	12	12	9	16	0	0	0	0	10.5	14.0	10.5	14.0
2:00 AM	0	0	0	0	0	0	18	11	8	14	0	0	0	0	13.0	12.5	13.0	12.5
3:00 AM	0	0	0	0	0	0	4	10	10	11	0	0	0	0	7.0	10.5	7.0	10.5
4:00 AM	0	0	0	0	0	0	0	18	19	15	0	0	0	0	16.5	17.0	16.5	17.0
5:00 AM	0	0	0	0	0	0	15	21	32	23	0	0	0	0	23.5	22.0	23.5	22.0
6:00 AM	0	0	0	0	0	0	107	48	95	48	0	0	0	0	101.0	48.0	101.0	48.0
7:00 AM	0	0	0	0	0	0	422	155	352	131	0	0	0	0	387.0	143.0	387.0	143.0
8:00 AM	0	0	0	0	0	0	310	109	246	131	0	0	0	0	278.0	120.0	278.0	120.0
9:00 AM	0	0	0	0	0	0	181	109	144	120	0	0	0	0	162.5	114.5	162.5	114.5
10:00 AM	0	0	0	0	134	105	143	139	4	3	0	0	0	0	93.7	82.3	93.7	82.3
11:00 AM	0	0	0	0	154	142	124	118	0	0	0	0	0	0	139.0	130.0	139.0	130.0
12:00 PM	0	0	0	0	151	179	153	161	0	0	0	0	0	0	152.0	170.0	152.0	170.0
1:00 PM	0	0	0	0	147	129	133	122	0	0	0	0	0	0	140.0	125.5	140.0	125.5
2:00 PM	0	0	0	0	205	156	158	154	0	0	0	0	0	0	181.5	155.0	181.5	155.0
3:00 PM	0	0	0	0	180	210	207	246	0	0	0	0	0	0	193.5	228.0	193.5	228.0
4:00 PM	0	0	0	0	263	265	267	312	0	0	0	0	0	0	265.0	288.5	265.0	288.5
5:00 PM	0	0	0	0	249	327	240	384	0	0	0	0	0	0	244.5	355.5	244.5	355.5
6:00 PM	0	0	0	0	177	189	185	212	0	0	0	0	0	0	181.0	200.5	181.0	200.5
7:00 PM	0	0	0	0	102	135	130	148	0	0	0	0	0	0	116.0	141.5	116.0	141.5
8:00 PM	0	0	0	0	84	100	107	115	0	0	0	0	0	0	95.5	107.5	95.5	107.5
9:00 PM	0	0	0	0	90	110	56	86	0	0	0	0	0	0	73.0	98.0	73.0	98.0
10:00 PM	0	0	0	0	43	66	54	54	0	0	0	0	0	0	48.5	60.0	48.5	60.0
11:00 PM	0	0	0	0	31	42	37	47	0	0	0	0	0	0	34.0	44.5	34.0	44.5
TOTALS	-	-	-	-	2010	2155	3109	2824	930	537	0	0	0	0	2977.7	2716.8	2977.7	2716.8
COMBINED	0	0	0	0	4165	5933	5933	1467	63.4%	36.6%	0	0	0	0	5694.5	5694.5	5694.5	5694.5
SPLIT (%)	0.0%	0.0%	0.0%	0.0%	48.3%	51.7%	52.4%	47.6%	63.4%	36.6%	0.0%	0.0%	0.0%	0.0%	52.3%	47.7%	52.3%	47.7%
PEAK HOURS																		
12:00:00 AM -	-	-	-	-	11:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	-	-	-	-	7:00 AM	7:00 AM	7:00 AM	7:00 AM
12:00:00 PM -	-	-	-	-	154	142	422	155	352	131	-	-	-	-	387	143	387	143
12:00:00 AM -	-	-	-	-	4:00 PM	5:00 PM	4:00 PM	5:00 PM	-	-	-	-	-	-	4:00 PM	5:00 PM	4:00 PM	5:00 PM
12:00:00 PM -	-	-	-	-	263	327	267	384	-	-	-	-	-	-	265	356	265	356



# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### GRIGGS ROAD SPEED REPORT - SCOTT STREET TO OLD SPANISH TRAIL

#### City of Houston Traffic Management - Speed Report

R1049 & R1049  
5/16/2019

Requested Address: 4019 GRIGGS  
Segment: SCOTT TO OLD SPANISH TRAIL

Starting Hr:min	DAILY COMBINED SPEED																Total Counts		
	<15	15 to <20	20 to <25	25 to <30	30 to <35	35 to <40	40 to <45	45 to <50	50 to <55	55 to <60	60 to <65	65 to <70	70 to <75	75 to >100					
12:00 AM	0	1	6	7	14	22	7	3	0	0	0	0	0	0	60				
1:00 AM	0	1	1	1	8	7	6	0	0	0	0	0	0	0	24				
2:00 AM	0	0	2	0	6	9	8	3	0	1	0	0	0	0	29				
3:00 AM	0	0	0	3	0	6	3	2	0	0	0	0	0	0	14				
4:00 AM	0	0	3	4	10	11	6	2	1	0	0	0	0	0	37				
5:00 AM	0	0	1	0	14	10	6	5	0	0	0	0	0	0	36				
6:00 AM	0	1	2	9	24	52	45	13	6	2	0	1	0	0	155				
7:00 AM	0	1	2	19	80	201	49	13	1	2	0	0	0	0	577				
8:00 AM	0	0	6	29	82	160	94	34	10	4	0	0	0	0	419				
9:00 AM	1	1	5	22	67	99	69	19	6	1	0	0	0	0	290				
10:00 AM	1	0	6	22	82	92	56	17	6	0	0	0	0	0	282				
11:00 AM	0	1	7	19	64	87	47	15	2	0	0	0	0	0	242				
12:00 PM	1	0	5	25	90	114	55	14	7	3	0	0	0	0	314				
1:00 PM	0	3	7	22	65	81	54	18	3	1	1	0	0	0	255				
2:00 PM	0	0	7	20	73	117	69	21	4	1	0	0	0	0	312				
3:00 PM	0	2	5	19	109	185	87	34	9	2	1	0	0	0	453				
4:00 PM	0	1	5	24	119	254	119	44	8	3	2	0	0	0	579				
5:00 PM	3	5	6	49	216	212	100	27	4	1	0	1	0	0	624				
6:00 PM	1	0	5	45	110	140	74	16	2	2	1	1	0	0	397				
7:00 PM	0	1	4	19	69	119	52	13	1	0	0	0	0	0	278				
8:00 PM	0	1	1	20	61	80	35	18	5	1	0	0	0	0	222				
9:00 PM	0	0	2	13	53	42	25	6	0	0	0	0	1	0	142				
10:00 PM	0	0	2	5	33	34	24	7	0	2	1	0	0	0	108				
11:00 PM	0	0	0	10	18	36	16	3	1	0	0	0	0	0	84				
Totals	7	19	90	406	1467	2170	1266	383	88	25	8	3	1	0	5933				
Percentile Speeds (mph)	10%	15%	50%	85%	90%											Average (Mean)	Minimum (mph)	Maximum (mph)	
	30.0	31.5	37.0	42.0	44.0											30	12.0	70.0	
Speeds Exceeded	25mph 5817 98.0%	35mph 3944 66.5%	45mph 508 8.6%	55mph 37 0.6%	65mph 1 0.0%	75mph 0 0.0%													

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### GRIGGS ROAD TRAFFIC MANAGEMENT - SCOTT STREET TO OLD SPANISH TRAIL

#### City of Houston Traffic Management

Requested Address: 4019 GRIGGS  
Segment: SCOTT TO OLD SPANISH TRAIL

Thursday  
5/16/2019

Radar Unit : R1049  
Radar Unit : R1049

EAST					WEST					MERGED VEHICLE CLASS				
Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large
12:00 AM	0.9%	0	26	2	12:00 AM	1.1%	0	31	1	12:00 AM	1.0%	0	57	3
1:00 AM	0.4%	0	12	0	1:00 AM	0.4%	0	12	0	1:00 AM	0.4%	0	24	0
2:00 AM	0.6%	0	16	2	2:00 AM	0.4%	0	11	0	2:00 AM	0.5%	0	27	2
3:00 AM	0.1%	0	3	1	3:00 AM	0.4%	0	10	0	3:00 AM	0.2%	0	13	1
4:00 AM	0.6%	0	10	8	4:00 AM	0.7%	0	18	1	4:00 AM	0.6%	0	28	9
5:00 AM	0.5%	0	13	2	5:00 AM	0.7%	0	18	3	5:00 AM	0.6%	0	31	5
6:00 AM	3.4%	0	104	3	6:00 AM	1.7%	0	45	3	6:00 AM	2.6%	0	149	6
7:00 AM	13.6%	3	397	22	7:00 AM	5.5%	0	146	9	7:00 AM	9.7%	3	543	31
8:00 AM	10.0%	0	300	10	8:00 AM	3.9%	0	104	5	8:00 AM	7.1%	0	404	15
9:00 AM	5.8%	0	163	18	9:00 AM	3.9%	0	104	5	9:00 AM	4.9%	0	267	23
10:00 AM	4.6%	0	135	8	10:00 AM	4.9%	0	135	4	10:00 AM	4.8%	0	270	12
11:00 AM	4.0%	0	116	8	11:00 AM	4.2%	0	114	4	11:00 AM	4.1%	0	230	12
12:00 PM	4.9%	0	146	7	12:00 PM	5.7%	0	157	4	12:00 PM	5.3%	0	303	11
1:00 PM	4.3%	0	126	7	1:00 PM	4.3%	0	118	4	1:00 PM	4.3%	0	244	11
2:00 PM	5.1%	0	145	13	2:00 PM	5.5%	0	151	3	2:00 PM	5.3%	0	296	16
3:00 PM	6.7%	0	199	8	3:00 PM	8.7%	0	238	8	3:00 PM	7.6%	0	437	16
4:00 PM	8.6%	0	260	7	4:00 PM	11.0%	0	302	10	4:00 PM	9.8%	0	562	17
5:00 PM	7.7%	0	233	7	5:00 PM	13.6%	2	375	7	5:00 PM	10.5%	2	608	14
6:00 PM	6.0%	0	180	5	6:00 PM	7.5%	0	208	4	6:00 PM	6.7%	0	388	9
7:00 PM	4.2%	0	129	1	7:00 PM	5.2%	0	146	2	7:00 PM	4.7%	0	275	3
8:00 PM	3.4%	1	105	1	8:00 PM	4.1%	0	114	1	8:00 PM	3.7%	1	219	2
9:00 PM	1.8%	0	55	1	9:00 PM	3.0%	0	84	2	9:00 PM	2.4%	0	139	3
10:00 PM	1.7%	0	53	1	10:00 PM	1.9%	0	53	1	10:00 PM	1.8%	0	106	2
11:00 PM	1.2%	0	37	0	11:00 PM	1.7%	0	46	1	11:00 PM	1.4%	0	83	1
TOTAL	3109	4	2963	142	Percentile %	2824	2	2740	82	TOTAL	5933	6	5703	224
Percentile %		0.1%	95.3%	4.6%			0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft													
Medium Vehicle														
Large Vehicle														
Percentile %		0.1%	95.3%	4.6%	Percentile %		0.1%	97.0%	2.9%	Percentile %		0.1%	96.1%	3.8%
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Small Vehicle														

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### GRIGGS ROAD TRAFFIC VOLUMES - OLD SPANISH TRAIL TO CULLEN BOULEVARD

#### City of Houston Traffic Management - Volume

Requested Address: 4340 GRIGGS												Incoming Radar Unit : R1040						
Segment: OLD SPANISH TRAIL TO CULLEN												Outgoing Radar Unit : R1044						
29-7023544 -95.350812												29-7023763 -95.350116						
Incoming LAT, LONG :												Outgoing LAT, LONG :						
hr:mm	Monday 5/13/2019		Tuesday 5/14/2019		Wednesday 5/15/2019		Thursday 5/16/2019		Friday 5/17/2019		Saturday 5/18/2019		Sunday 5/19/2019		Mon-Fri Average		7 Day Average	
	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST
12:00 AM	0	0	0	0	0	0	64	47	65	34	0	0	0	0	64.5	40.5	64.5	40.5
1:00 AM	0	0	0	0	0	0	36	29	52	23	0	0	0	0	44.0	26.0	44.0	26.0
2:00 AM	0	0	0	0	0	0	28	25	32	22	0	0	0	0	30.0	23.5	30.0	23.5
3:00 AM	0	0	0	0	0	0	20	18	30	18	0	0	0	0	25.0	18.0	25.0	18.0
4:00 AM	0	0	0	0	0	0	36	29	34	39	0	0	0	0	35.0	34.0	35.0	34.0
5:00 AM	0	0	0	0	0	0	35	69	55	92	0	0	0	0	45.0	80.5	45.0	80.5
6:00 AM	0	0	0	0	0	0	85	248	86	251	0	0	0	0	85.5	249.5	85.5	249.5
7:00 AM	0	0	0	0	0	0	289	594	277	523	0	0	0	0	283.0	558.5	283.0	558.5
8:00 AM	0	0	0	0	0	0	249	495	266	446	0	0	0	0	257.5	470.5	257.5	470.5
9:00 AM	0	0	0	0	0	0	287	389	256	301	0	0	0	0	271.5	345.0	271.5	345.0
10:00 AM	0	0	0	0	178	232	345	310	0	0	0	0	0	0	261.5	271.0	261.5	271.0
11:00 AM	0	0	0	0	356	363	410	396	0	0	0	0	0	0	383.0	379.5	383.0	379.5
12:00 PM	0	0	0	0	452	373	423	428	0	0	0	0	0	0	437.5	400.5	437.5	400.5
1:00 PM	0	0	0	0	414	395	347	0	0	0	0	0	0	0	404.5	371.0	404.5	371.0
2:00 PM	0	0	0	0	453	396	420	357	0	0	0	0	0	0	436.5	376.5	436.5	376.5
3:00 PM	0	0	0	0	548	370	577	436	0	0	0	0	0	0	562.5	403.0	562.5	403.0
4:00 PM	0	0	0	0	696	584	712	514	0	0	0	0	0	0	704.0	549.0	704.0	549.0
5:00 PM	0	0	0	0	801	498	820	479	0	0	0	0	0	0	810.5	488.5	810.5	488.5
6:00 PM	0	0	0	0	529	360	532	399	0	0	0	0	0	0	530.5	379.5	530.5	379.5
7:00 PM	0	0	0	0	298	266	345	352	0	0	0	0	0	0	321.5	309.0	321.5	309.0
8:00 PM	0	0	0	0	240	246	267	262	0	0	0	0	0	0	253.5	254.0	253.5	254.0
9:00 PM	0	0	0	0	222	212	200	183	0	0	0	0	0	0	211.0	197.5	211.0	197.5
10:00 PM	0	0	0	0	173	112	136	119	0	0	0	0	0	0	154.5	115.5	154.5	115.5
11:00 PM	0	0	0	0	102	78	130	99	0	0	0	0	0	0	116.0	88.5	116.0	88.5
TOTALS	-	-	-	-	5462	4485	6841	6624	1153	1749	0	0	0	0	6728.0	6429.0	6728.0	6429.0
COMBINED	0	0	0	0	9947	13465	2902	0	39.7%	60.3%	0	0	0	0	13157.0	13157.0	13157.0	13157.0
SPLIT (%)	0.0%	0.0%	0.0%	0.0%	54.9%	45.1%	50.8%	49.2%	39.7%	60.3%	0.0%	0.0%	0.0%	0.0%	51.1%	48.9%	51.1%	48.9%
PEAK HOURS																		
12:00:00 AM -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00:00 PM	-	-	-	-	11:30 AM	11:00 AM	11:30 AM	7:00 AM	7:00 AM	7:00 AM	-	-	-	-	11:30 AM	7:00 AM	11:30 AM	7:00 AM
Volume	-	-	-	-	356	363	410	594	277	523	-	-	-	-	383	559	383	559
12:00:00 PM -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00:00 AM	-	-	-	-	5:00 PM	4:00 PM	5:00 PM	4:00 PM	-	-	-	-	-	-	5:00 PM	4:00 PM	5:00 PM	4:00 PM
Volume	-	-	-	-	801	584	820	514	-	-	-	-	-	-	811	549	811	549



# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### GRIGGS ROAD SPEED REPORT - OLD SPANISH TRAIL TO CULLEN BOULEVARD

#### City of Houston Traffic Management - Speed Report

Requested Address: 4340 GRIGGS  
Segment: OLD SPANISH TRAIL TO CULLEN

R1040 & R1044  
5/16/2019

DAILY COMBINED SPEED																
Starting Hr:min	<15	15 to <20	20 to <25	25 to <30	30 to <35	35 to <40	40 to <45	45 to <50	50 to <55	55 to <60	60 to <65	65 to <70	70 to <75	75 to >100	Total Counts	
12:00 AM	0	0	4	21	36	41	9	0	0	0	0	0	0	0	111	
1:00 AM	0	1	1	9	23	19	12	0	0	0	0	0	0	0	65	
2:00 AM	0	1	3	5	22	11	6	4	1	0	0	0	0	0	53	
3:00 AM	0	0	1	2	8	19	5	1	1	1	0	0	0	0	38	
4:00 AM	0	2	4	12	22	18	5	1	1	0	0	0	0	0	65	
5:00 AM	0	0	4	16	29	29	19	6	1	0	0	0	0	0	104	
6:00 AM	0	7	12	48	93	108	43	19	3	0	0	0	0	0	333	
7:00 AM	3	35	71	147	271	238	95	19	4	0	0	0	0	0	883	
8:00 AM	5	18	38	109	270	214	73	15	2	0	0	0	0	0	744	
9:00 AM	2	8	45	121	259	172	59	8	1	1	0	0	0	0	676	
10:00 AM	1	9	46	111	229	190	59	9	1	0	0	0	0	0	655	
11:00 AM	1	9	57	166	284	202	70	15	1	1	0	0	0	0	806	
12:00 PM	3	17	64	168	298	212	77	11	1	0	0	0	0	0	851	
1:00 PM	0	13	53	143	278	199	45	10	1	0	0	0	0	0	742	
2:00 PM	3	7	44	160	308	203	44	5	2	1	0	0	0	0	777	
3:00 PM	1	8	54	201	370	282	75	21	1	0	0	0	0	0	1013	
4:00 PM	0	11	52	197	443	387	107	26	2	1	0	0	0	0	1226	
5:00 PM	3	9	59	183	480	421	120	20	4	0	0	0	0	0	1299	
6:00 PM	1	9	42	120	362	281	91	19	4	2	0	0	0	0	931	
7:00 PM	0	6	37	123	247	204	62	13	3	2	0	0	0	0	697	
8:00 PM	1	5	34	90	199	150	37	11	2	0	0	0	0	0	529	
9:00 PM	0	5	15	41	144	128	34	13	1	2	0	0	0	0	383	
10:00 PM	0	0	7	25	102	79	32	8	1	1	0	0	0	0	255	
11:00 PM	0	0	6	33	75	79	31	5	0	0	0	0	0	0	229	
Totals	24	180	753	2251	4852	3886	1210	259	38	12	0	0	0	0	13465	
Percentile Speeds (mph)	10%	26.0	15%	27.5	50%	33.0	38.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	40.5	
Speeds Exceeded	25mph	12508	35mph	5405	45mph	309	55mph	12	65mph	0	75mph	0	0	0	0	

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### GRIGGS ROAD TRAFFIC MANAGEMENT - OLD SPANISH TRAIL TO CULLEN BOULEVARD

#### City of Houston Traffic Management

Requested Address: 4340 GRIGGS  
Segment: OLD SPANISH TRAIL TO CULLEN

Thursday  
5/16/2019

Radar Unit : R1040  
Radar Unit : R1044

EAST					WEST					MERGED VEHICLE CLASS																
Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large												
12:00 AM	0.9%	2	62	0	12:00 AM	0.7%	0	43	4	12:00 AM	0.8%	2	105	4												
1:00 AM	0.5%	2	32	2	1:00 AM	0.4%	1	27	1	1:00 AM	0.5%	3	59	3												
2:00 AM	0.4%	0	27	1	2:00 AM	0.4%	1	23	1	2:00 AM	0.4%	1	50	2												
3:00 AM	0.3%	2	17	1	3:00 AM	0.3%	0	17	1	3:00 AM	0.3%	2	34	2												
4:00 AM	0.5%	2	32	2	4:00 AM	0.4%	1	20	8	4:00 AM	0.5%	3	52	10												
5:00 AM	0.5%	1	30	4	5:00 AM	1.0%	1	65	3	5:00 AM	0.8%	2	95	7												
6:00 AM	1.2%	5	74	6	6:00 AM	3.7%	7	233	8	6:00 AM	2.5%	12	307	14												
7:00 AM	4.2%	13	265	11	7:00 AM	9.0%	26	529	39	7:00 AM	6.6%	39	794	50												
8:00 AM	3.6%	12	228	9	8:00 AM	7.5%	15	456	24	8:00 AM	5.5%	27	684	33												
9:00 AM	4.2%	7	267	13	9:00 AM	5.9%	11	347	31	9:00 AM	5.0%	18	614	44												
10:00 AM	5.0%	6	319	20	10:00 AM	4.7%	7	274	29	10:00 AM	4.9%	13	593	49												
11:00 AM	6.0%	11	382	17	11:00 AM	6.0%	16	358	22	11:00 AM	6.0%	27	740	39												
12:00 PM	6.2%	10	395	18	12:00 PM	6.5%	9	395	24	12:00 PM	6.3%	19	790	42												
1:00 PM	5.8%	10	364	21	1:00 PM	5.2%	7	328	12	1:00 PM	5.5%	17	692	33												
2:00 PM	6.1%	13	390	17	2:00 PM	5.4%	13	322	22	2:00 PM	5.8%	26	712	39												
3:00 PM	8.4%	9	548	20	3:00 PM	6.6%	11	408	17	3:00 PM	7.5%	20	956	37												
4:00 PM	10.4%	7	682	23	4:00 PM	7.8%	18	480	16	4:00 PM	9.1%	25	1162	39												
5:00 PM	12.0%	12	778	30	5:00 PM	7.2%	7	450	22	5:00 PM	9.6%	19	1228	52												
6:00 PM	7.8%	11	503	18	6:00 PM	6.0%	11	378	10	6:00 PM	6.9%	22	881	28												
7:00 PM	5.0%	5	328	12	7:00 PM	5.3%	7	331	14	7:00 PM	5.2%	12	659	26												
8:00 PM	3.9%	7	253	7	8:00 PM	4.0%	5	252	5	8:00 PM	3.9%	12	505	12												
9:00 PM	2.9%	5	193	2	9:00 PM	2.8%	6	172	5	9:00 PM	2.8%	11	365	7												
10:00 PM	2.0%	7	123	6	10:00 PM	1.8%	1	113	5	10:00 PM	1.9%	8	236	11												
11:00 PM	1.9%	4	122	4	11:00 PM	1.5%	3	90	6	11:00 PM	1.7%	7	212	10												
TOTAL	6841	163	6414	264	6624	184	6111	329	5.0%	TOTAL	13465	347	12525	593												
Percentile %	2.4%				93.8%	3.9%	Percentile %				2.8%				92.3%	5.0%	Percentile %				2.6%				93.0%	4.4%
Small Vehicle	less than 14ft between 14ft and 20ft greater than 20ft																									
Medium Vehicle																										
Large Vehicle																										

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### GRIGGS ROAD TRAFFIC VOLUMES - CALHOUN ROAD TO MLK BOULEVARD

#### City of Houston Traffic Management - Volume

Requested Address: 4915 GRIGGS												Incoming LAT, LONG : 29.6996034 -95.341238				Incoming Radar Unit : R1050			
Segment: CALHOUN TO MARTIN LUTHER KING												Outgoing LAT, LONG: 29.6996034 -95.341238				Outgoing Radar Unit : R1050			
hrrmm	Monday 5/13/2019		Tuesday 5/14/2019		Wednesday 5/15/2019		Thursday 5/16/2019		Friday 5/17/2019		Saturday 5/18/2019		Sunday 5/19/2019		Mon-Fri Average		7 Day Average		
	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	
12:00 AM	0	0	0	0	0	0	49	61	49	42	0	0	0	0	49.0	51.5	49.0	51.5	
1:00 AM	0	0	0	0	0	0	39	30	39	25	0	0	0	0	39.0	27.5	39.0	27.5	
2:00 AM	0	0	0	0	0	0	23	22	29	22	0	0	0	0	26.0	22.0	26.0	22.0	
3:00 AM	0	0	0	0	0	0	18	19	17	24	0	0	0	0	17.5	21.5	17.5	21.5	
4:00 AM	0	0	0	0	0	0	22	34	26	34	0	0	0	0	24.0	28.5	24.0	28.5	
5:00 AM	0	0	0	0	0	0	30	57	39	99	0	0	0	0	34.5	78.0	34.5	78.0	
6:00 AM	0	0	0	0	0	0	76	351	73	287	0	0	0	0	74.5	319.0	74.5	319.0	
7:00 AM	0	0	0	0	0	0	157	998	185	813	0	0	0	0	171.0	905.5	171.0	905.5	
8:00 AM	0	0	0	0	0	0	149	670	175	540	0	0	0	0	162.0	605.0	162.0	605.0	
9:00 AM	0	0	0	0	0	0	191	421	140	229	0	0	0	0	165.5	325.0	165.5	325.0	
10:00 AM	0	0	0	0	68	133	248	371	0	0	0	0	0	0	158.0	252.0	158.0	252.0	
11:00 AM	0	0	0	0	225	403	241	425	0	0	0	0	0	0	233.0	414.0	233.0	414.0	
12:00 PM	0	0	0	0	245	439	283	443	0	0	0	0	0	0	264.0	441.0	264.0	441.0	
1:00 PM	0	0	0	0	276	420	267	434	0	0	0	0	0	0	271.5	427.0	271.5	427.0	
2:00 PM	0	0	0	0	288	441	290	417	0	0	0	0	0	0	289.0	429.0	289.0	429.0	
3:00 PM	0	0	0	0	398	376	333	511	0	0	0	0	0	0	365.5	443.5	365.5	443.5	
4:00 PM	0	0	0	0	377	616	393	583	0	0	0	0	0	0	385.0	599.5	385.0	599.5	
5:00 PM	0	0	0	0	487	517	505	490	0	0	0	0	0	0	496.0	503.5	496.0	503.5	
6:00 PM	0	0	0	0	344	381	355	410	0	0	0	0	0	0	349.5	395.5	349.5	395.5	
7:00 PM	0	0	0	0	212	273	226	1	0	0	0	0	0	0	219.0	314.0	219.0	314.0	
8:00 PM	0	0	0	0	190	244	191	260	0	0	0	0	0	0	190.5	252.0	190.5	252.0	
9:00 PM	0	0	0	0	175	232	159	208	0	0	0	0	0	0	167.0	220.0	167.0	220.0	
10:00 PM	0	0	0	0	135	128	103	146	0	0	0	0	0	0	119.0	137.0	119.0	137.0	
11:00 PM	0	0	0	0	90	91	103	85	0	0	0	0	0	0	96.5	88.0	96.5	88.0	
TOTALS	-	-	-	-	3510	4694	4451	7790	772	2115	0	0	0	0	4366.5	7299.5	4366.5	7299.5	
COMBINED	0	0	0	0	8204	12241	12241	2887	2887	0	0	0	0	0	11666.0	11666.0	11666.0	11666.0	
SPLIT (%)	0.0%	0.0%	0.0%	0.0%	42.8%	57.2%	36.4%	63.6%	26.7%	73.3%	0.0%	0.0%	0.0%	0.0%	37.4%	62.6%	37.4%	62.6%	
PEAK HOURS																			
12:00:00 AM -	-	-	-	-	11:00 AM	11:00 AM	10:00 AM	7:00 AM	7:00 AM	-	-	-	-	-	11:00 AM	7:00 AM	11:00 AM	7:00 AM	
12:00:00 PM	-	-	-	-	225	403	248	998	185	813	-	-	-	-	233	906	233	906	
Volume	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12:00:00 PM -	-	-	-	-	5:00 PM	4:00 PM	5:00 PM	4:00 PM	4:00 PM	-	-	-	-	-	5:00 PM	4:00 PM	5:00 PM	4:00 PM	
12:00:00 AM	-	-	-	-	487	616	505	583	-	-	-	-	-	-	496	600	496	600	
Volume	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### GRIGGS ROAD SPEED REPORT - CALHOUN ROAD TO MLK BOULEVARD

#### City of Houston Traffic Management - Speed Report

Requested Address: 4915 GRIGGS  
Segment: CALHOUN TO MARTIN LUTHER KING  
R1050 & R1050  
5/16/2019

DAILY COMBINED SPEED																
Starting Hr:min	<15	15 to <20	20 to <25	25 to <30	30 to <35	35 to <40	40 to <45	45 to <50	50 to <55	55 to <60	60 to <65	65 to <70	70 to <75	75 to <100	Total Counts	
12:00 AM	2	4	12	20	29	21	14	6	2	0	0	0	0	0	110	
1:00 AM	0	1	5	14	13	17	14	3	1	1	0	0	0	0	69	
2:00 AM	0	3	1	2	6	14	10	5	3	1	0	0	0	0	45	
3:00 AM	1	0	2	6	2	8	10	5	3	0	0	0	0	0	37	
4:00 AM	0	1	4	5	11	11	7	5	1	0	0	0	0	0	45	
5:00 AM	2	1	5	7	18	20	25	7	2	0	0	0	0	0	87	
6:00 AM	1	5	10	21	41	121	133	61	28	5	1	0	0	0	427	
7:00 AM	2	11	20	53	178	378	367	120	23	2	1	0	0	0	1155	
8:00 AM	0	5	14	55	157	282	224	63	11	8	0	0	0	0	819	
9:00 AM	2	6	28	74	159	182	124	31	3	2	0	0	1	0	612	
10:00 AM	4	10	38	84	156	169	103	45	9	1	0	0	0	0	619	
11:00 AM	0	9	31	74	189	209	115	32	4	0	1	0	0	2	666	
12:00 PM	0	11	25	97	187	238	101	52	13	2	0	0	0	0	726	
1:00 PM	2	8	24	90	188	217	131	32	6	1	2	0	0	0	701	
2:00 PM	0	8	40	94	197	206	132	25	3	2	0	0	0	0	707	
3:00 PM	2	7	27	118	213	266	158	41	9	3	0	0	0	0	844	
4:00 PM	1	9	34	80	264	329	178	68	9	1	3	0	0	0	976	
5:00 PM	1	8	53	96	247	346	187	41	14	2	0	0	0	0	995	
6:00 PM	2	18	38	66	177	241	157	55	10	1	1	0	0	0	765	
7:00 PM	2	8	30	71	152	168	97	45	7	0	1	0	0	0	581	
8:00 PM	0	13	39	54	133	119	71	17	5	0	0	0	0	0	451	
9:00 PM	0	11	26	54	101	96	57	16	3	2	1	0	0	0	367	
10:00 PM	1	3	20	26	55	75	40	24	2	3	0	0	0	0	249	
11:00 PM	1	3	10	15	43	62	37	12	5	0	0	0	0	0	188	
Totals	25	163	536	1276	2916	3795	2492	811	176	37	11	0	1	2	12241	
Percentile Speeds (mph)	10%	27.0	15%	29.0	50%	35.5	43.5	90%	42.0	85%	42.0	43.5	43.5	43.5	43.5	
Speeds Exceeded	25mph	11517	35mph	7325	45mph	1038	65mph	3	75mph	2	35	Average (Mean)	Minimum (mph)	Maximum (mph)		



# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### GRIGGS ROAD TRAFFIC MANAGEMENT - CALHOUN ROAD TO MLK BOULEVARD

#### City of Houston Traffic Management

Requested Address: 4915 GRIGGS  
Segment: CALHOUN TO MARTIN LUTHER KING

Thursday  
5/16/2019

Radar Unit : R1050  
Radar Unit : R1050

EAST					WEST					MERGED VEHICLE CLASS					
Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large	
12:00 AM	1.1%	0	48	1	12:00 AM	0.8%	5	53	3	12:00 AM	0.9%	5	101	4	
1:00 AM	0.9%	0	38	1	1:00 AM	0.4%	2	26	2	1:00 AM	0.6%	2	64	3	
2:00 AM	0.5%	0	22	1	2:00 AM	0.3%	1	21	0	2:00 AM	0.4%	1	43	1	
3:00 AM	0.4%	0	17	1	3:00 AM	0.2%	0	18	1	3:00 AM	0.3%	0	35	2	
4:00 AM	0.5%	0	22	0	4:00 AM	0.3%	1	19	3	4:00 AM	0.4%	1	41	3	
5:00 AM	0.7%	0	28	2	5:00 AM	0.7%	1	55	1	5:00 AM	0.7%	1	83	3	
6:00 AM	1.7%	0	72	4	6:00 AM	4.5%	14	331	6	6:00 AM	3.5%	14	403	10	
7:00 AM	3.5%	0	147	10	7:00 AM	12.8%	41	931	26	7:00 AM	9.4%	41	1078	36	
8:00 AM	3.3%	0	140	9	8:00 AM	8.6%	22	605	43	8:00 AM	6.7%	22	745	52	
9:00 AM	4.3%	0	176	15	9:00 AM	5.4%	22	355	44	9:00 AM	5.0%	22	531	59	
10:00 AM	5.6%	0	231	17	10:00 AM	4.8%	22	327	22	10:00 AM	5.1%	22	558	39	
11:00 AM	5.4%	0	221	20	11:00 AM	5.5%	29	372	24	11:00 AM	5.4%	29	593	44	
12:00 PM	6.4%	0	270	13	12:00 PM	5.7%	32	385	26	12:00 PM	5.9%	32	655	39	
1:00 PM	6.0%	0	255	12	1:00 PM	5.6%	24	386	24	1:00 PM	5.7%	24	641	36	
2:00 PM	6.5%	0	275	15	2:00 PM	5.4%	23	377	17	2:00 PM	5.8%	23	652	32	
3:00 PM	7.5%	0	313	20	3:00 PM	6.6%	27	463	21	3:00 PM	6.9%	27	776	41	
4:00 PM	8.8%	0	376	17	4:00 PM	7.5%	29	530	24	4:00 PM	8.0%	29	906	41	
5:00 PM	11.3%	0	489	16	5:00 PM	6.3%	26	443	21	5:00 PM	8.1%	26	932	37	
6:00 PM	8.0%	0	341	14	6:00 PM	5.3%	24	377	9	6:00 PM	6.2%	24	718	23	
7:00 PM	5.1%	0	216	10	7:00 PM	4.6%	27	312	16	7:00 PM	4.7%	27	528	26	
8:00 PM	4.3%	0	183	8	8:00 PM	3.3%	22	227	11	8:00 PM	3.7%	22	410	19	
9:00 PM	3.6%	0	153	6	9:00 PM	2.7%	16	186	6	9:00 PM	3.0%	16	339	12	
10:00 PM	2.3%	0	100	3	10:00 PM	1.9%	11	129	6	10:00 PM	2.0%	11	229	9	
11:00 PM	2.3%	0	101	2	11:00 PM	1.1%	10	72	3	11:00 PM	1.5%	10	173	5	
TOTAL	4451	0	4234	217		7790	431	7000	359	TOTAL	12241	431	11234	576	
Percentile %		0.0%	95.1%	4.9%			5.5%	89.9%	4.6%			3.5%	91.8%	4.7%	
Small Vehicle	less than 14ft					less than 14ft					less than 14ft				
Medium Vehicle	between 14ft and 20ft					between 14ft and 20ft					between 14ft and 20ft				
Large Vehicle	greater than 20ft					greater than 20ft					greater than 20ft				

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### GRIGGS ROAD TRAFFIC VOLUMES - MLK BOULEVARD TO BEEKMAN ROAD

#### City of Houston Traffic Management - Volume

Requested Address: 5328 GRIGGS										29.6966986 -95.333469										Incoming Radar Unit : R1039									
Segment: MARTIN LUTHER KING TO BEEKMAN										29.6966714 -95.332580										Outgoing Radar Unit : R1048									
Incoming LAT, LONG :										Outgoing LAT, LONG :																			
hr:mm	Monday 5/13/2019		Tuesday 5/14/2019		Wednesday 5/15/2019		Thursday 5/16/2019		Friday 5/17/2019		Saturday 5/18/2019		Sunday 5/19/2019		Mon-Fri Average		7 Day Average												
	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST	EAST	WEST											
12:00 AM	0	0	0	0	0	0	58	82	64	74	0	0	0	0	61.0	78.0	61.0	78.0											
1:00 AM	0	0	0	0	0	0	26	35	45	38	0	0	0	0	35.5	36.5	35.5	36.5											
2:00 AM	0	0	0	0	0	0	30	20	21	26	0	0	0	0	25.5	23.0	25.5	23.0											
3:00 AM	0	0	0	0	0	0	17	26	29	29	0	0	0	0	23.0	27.5	23.0	27.5											
4:00 AM	0	0	0	0	0	0	27	41	35	60	0	0	0	0	31.0	50.5	31.0	50.5											
5:00 AM	0	0	0	0	0	0	44	116	51	131	0	0	0	0	47.5	123.5	47.5	123.5											
6:00 AM	0	0	0	0	0	0	96	522	117	378	0	0	0	0	106.5	450.0	106.5	450.0											
7:00 AM	0	0	0	0	0	0	269	971	287	699	0	0	0	0	278.0	835.0	278.0	835.0											
8:00 AM	0	0	0	0	0	0	269	774	288	570	0	0	0	0	278.5	672.0	278.5	672.0											
9:00 AM	0	0	0	0	0	0	335	553	126	124	0	0	0	0	230.5	328.5	230.5	328.5											
10:00 AM	0	0	0	0	0	0	412	469	0	0	0	0	0	0	412.0	469.0	412.0	469.0											
11:00 AM	0	0	0	0	402	446	394	484	0	0	0	0	0	0	398.0	465.0	398.0	465.0											
12:00 PM	0	0	0	0	473	563	446	519	0	0	0	0	0	0	459.5	541.0	459.5	541.0											
1:00 PM	0	0	0	0	480	566	436	464	0	0	0	0	0	0	458.0	515.0	458.0	515.0											
2:00 PM	0	0	0	0	470	518	489	553	0	0	0	0	0	0	479.5	535.5	479.5	535.5											
3:00 PM	0	0	0	0	564	573	564	599	0	0	0	0	0	0	564.0	586.0	564.0	586.0											
4:00 PM	0	0	0	0	683	647	667	679	0	0	0	0	0	0	675.0	663.0	675.0	663.0											
5:00 PM	0	0	0	0	723	683	737	638	0	0	0	0	0	0	730.0	660.5	730.0	660.5											
6:00 PM	0	0	0	0	479	471	501	482	0	0	0	0	0	0	490.0	476.5	490.0	476.5											
7:00 PM	0	0	0	0	332	412	379	416	0	0	0	0	0	0	355.5	414.0	355.5	414.0											
8:00 PM	0	0	0	0	265	274	262	267	0	0	0	0	0	0	263.5	270.5	263.5	270.5											
9:00 PM	0	0	0	0	224	254	253	245	0	0	0	0	0	0	238.5	249.5	238.5	249.5											
10:00 PM	0	0	0	0	157	169	141	191	0	0	0	0	0	0	149.0	180.0	149.0	180.0											
11:00 PM	0	0	0	0	94	104	122	107	0	0	0	0	0	0	108.0	105.5	108.0	105.5											
TOTALS	-	-	-	-	5346	5680	6974	9233	1063	2129	0	0	0	0	6897.5	8755.5	6897.5	8755.5											
COMBINED	0	0	0	0	11026	16207	16207	3192	3192	0	0	0	0	0	15653.0	15653.0	15653.0	15653.0											
SPLIT (%)	0.0%	0.0%	0.0%	0.0%	48.5%	51.5%	43.0%	57.0%	33.3%	66.7%	0.0%	0.0%	0.0%	0.0%	44.1%	55.9%	44.1%	55.9%											
PEAK HOURS																													
12:00:00 AM -	-	-	-	-	11:00 AM	10:00 AM	7:00 AM	5:00 AM	8:00 AM	7:00 AM	-	-	-	-	10:00 AM	10:00 AM	7:00 AM	7:00 AM											
12:00:00 PM	-	-	-	-	402	446	412	971	288	699	-	-	-	-	412	835	412	835											
Volume	-	-	-	-	723	683	737	679	-	-	-	-	-	-	730	663	730	663											
12:00:00 PM -	-	-	-	-	5:00 PM	5:00 PM	4:00 PM	4:00 PM	-	-	-	-	-	-	5:00 PM	4:00 PM	5:00 PM	4:00 PM											
12:00:00 AM	-	-	-	-	723	683	737	679	-	-	-	-	-	-	730	663	730	663											
Volume	-	-	-	-	723	683	737	679	-	-	-	-	-	-	730	663	730	663											

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### GRIGGS ROAD SPEED REPORT - MLK BOULEVARD TO BEEKMAN ROAD

#### City of Houston Traffic Management - Speed Report

Requested Address: 5328 GRIGGS  
Segment: MARTIN LUTHER KING TO BEEKMAN  
R1039 & R1048  
5/16/2019

DAILY COMBINED SPEED																
Starting Hr:min	<15	15 to <20	20 to <25	25 to <30	30 to <35	35 to <40	40 to <45	45 to <50	50 to <55	55 to <60	60 to <65	65 to <70	70 to <75	75 to <100	Total Counts	
12:00 AM	6	2	5	13	38	42	28	5	1	0	0	0	0	0	140	
1:00 AM	0	1	2	3	16	17	15	7	0	0	0	0	0	0	61	
2:00 AM	0	0	1	1	8	14	15	5	6	0	0	0	0	0	50	
3:00 AM	0	0	0	4	8	9	12	7	3	0	0	0	0	0	43	
4:00 AM	2	3	10	4	11	21	12	5	0	0	0	0	0	0	68	
5:00 AM	1	12	13	11	26	45	31	16	4	1	0	0	0	0	160	
6:00 AM	2	8	12	33	110	156	161	95	29	7	2	3	0	0	618	
7:00 AM	3	13	32	116	229	372	323	131	16	4	0	0	1	0	1240	
8:00 AM	2	10	50	82	227	368	220	67	11	2	1	1	2	0	1043	
9:00 AM	4	22	46	95	216	274	157	34	11	0	2	1	2	4	868	
10:00 AM	0	21	68	125	227	247	129	47	13	3	0	1	0	0	881	
11:00 AM	3	19	56	121	216	243	152	48	12	6	1	0	1	0	878	
12:00 PM	2	15	70	114	251	295	176	35	4	2	1	0	0	0	965	
1:00 PM	6	15	57	122	233	274	141	40	10	2	0	0	0	0	900	
2:00 PM	3	19	60	130	271	330	162	46	13	5	2	1	0	0	1042	
3:00 PM	1	14	63	120	284	396	215	56	14	0	0	0	0	0	1163	
4:00 PM	3	15	38	118	296	481	295	81	16	3	0	0	0	0	1346	
5:00 PM	3	8	25	104	291	542	300	81	15	3	1	2	0	0	1375	
6:00 PM	3	15	10	57	202	349	260	66	18	3	0	0	0	0	983	
7:00 PM	3	14	33	80	178	266	158	47	12	2	0	1	0	1	795	
8:00 PM	6	5	14	48	153	155	104	34	8	1	1	0	0	0	529	
9:00 PM	1	10	24	52	124	163	85	36	3	0	0	0	0	0	498	
10:00 PM	2	7	9	35	74	108	65	24	6	2	0	0	0	0	332	
11:00 PM	2	5	7	13	55	78	48	16	5	0	0	0	0	0	229	
Totals	58	253	705	1601	3744	5245	3264	1029	230	46	11	10	6	5	16207	
Percentile Speeds (mph)	10%	15%		50%	85%	90%						Average (Mean)	Minimum (mph)	Maximum (mph)		
	26.5	29.0		36.0	42.5	44.0						35.7	12.0	84.0		
Speeds Exceeded	25mph 15191	35mph 9846		45mph 1337	55mph 78	65mph 11	75mph 5									

**GRIGGS ROAD TRAFFIC MANAGEMENT - MLK BOULEVARD TO BEEKMAN ROAD**

## Page 92 • MLK Healthy Connections Study

Requested Address: 5328 GRIGGS  
Segment: MARTIN LUTHER KING TO BEEKMAN

R1039	Radar Unit :
R1048	Radar Unit :

EAST					WEST					MERGED VEHICLE CLASS					
Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large	
12:00 AM	0.8%	0	56	2	12:00 AM	0.9%	7	73	2	12:00 AM	0.9%	7	129	4	
1:00 AM	0.4%	0	26	0	1:00 AM	0.4%	2	32	1	1:00 AM	0.4%	2	58	1	
2:00 AM	0.4%	0	29	1	2:00 AM	0.2%	2	18	0	2:00 AM	0.3%	2	47	1	
3:00 AM	0.2%	1	14	2	3:00 AM	0.3%	3	19	4	3:00 AM	0.3%	4	33	6	
4:00 AM	0.4%	1	25	1	4:00 AM	0.4%	1	36	4	4:00 AM	0.4%	2	61	5	
5:00 AM	0.6%	1	41	2	5:00 AM	1.3%	10	95	11	5:00 AM	1.0%	11	136	13	
6:00 AM	1.4%	1	90	5	6:00 AM	5.7%	45	446	31	6:00 AM	3.8%	46	536	36	
7:00 AM	3.9%	4	258	7	7:00 AM	10.5%	55	858	58	7:00 AM	7.7%	59	1116	65	
8:00 AM	3.9%	4	251	14	8:00 AM	8.4%	49	682	43	8:00 AM	6.4%	53	933	57	
9:00 AM	4.8%	5	318	12	9:00 AM	5.8%	37	453	43	9:00 AM	5.4%	42	771	55	
10:00 AM	5.9%	13	372	27	10:00 AM	5.1%	44	388	37	10:00 AM	5.4%	57	760	64	
11:00 AM	5.6%	11	363	20	11:00 AM	5.2%	39	399	46	11:00 AM	5.4%	50	762	66	
12:00 PM	6.4%	6	426	14	12:00 PM	5.6%	36	442	41	12:00 PM	6.0%	42	868	55	
1:00 PM	6.3%	8	412	16	1:00 PM	5.0%	36	399	29	1:00 PM	5.6%	44	811	45	
2:00 PM	7.0%	6	464	17	2:00 PM	6.0%	50	456	47	2:00 PM	6.4%	56	920	66	
3:00 PM	8.1%	5	542	19	3:00 PM	6.5%	41	528	30	3:00 PM	7.2%	46	1070	47	
4:00 PM	9.6%	6	649	12	4:00 PM	7.4%	51	596	32	4:00 PM	8.3%	57	1245	44	
5:00 PM	10.6%	5	714	18	5:00 PM	6.9%	47	554	37	5:00 PM	8.5%	52	1268	55	
6:00 PM	7.2%	10	477	14	6:00 PM	5.2%	43	420	19	6:00 PM	6.1%	53	897	33	
7:00 PM	5.4%	2	366	11	7:00 PM	4.5%	40	350	26	7:00 PM	4.9%	42	716	37	
8:00 PM	3.8%	2	252	8	8:00 PM	2.9%	23	226	18	8:00 PM	3.3%	25	478	26	
9:00 PM	3.6%	4	246	3	9:00 PM	2.7%	25	205	15	9:00 PM	3.1%	29	451	18	
10:00 PM	2.0%	0	139	2	10:00 PM	2.1%	21	165	5	10:00 PM	2.0%	21	304	7	
11:00 PM	1.7%	1	118	3	11:00 PM	1.2%	12	89	6	11:00 PM	1.4%	13	207	9	
TOTAL		6974	96	6648	230		9233	719	7929	585	TOTAL	16207	815	14577	815
Percentile %			1.4%	95.3%	3.3%	Percentile %		7.8%	85.9%	6.3%	Percentile %		5.0%	89.9%	5.0%
Small Vehicle	less than 14ft														
Medium Vehicle	between 14ft and 20ft														
Large Vehicle	greater than 20ft														



# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD TRAFFIC VOLUMES - GRIGGS ROAD TO PERRY STREET

#### City of Houston Traffic Management - Volume

Requested Address: 5920 MLK		29.6948877, -95.3381309										LAT, LONG :		Incoming Radar Unit : R1011		Outgoing Radar Unit : R1024			
Segment: GRIGGS TO PERRY		Monday 5/13/2019		Tuesday 5/14/2019		Wednesday 5/15/2019		Thursday 5/16/2019		Friday 5/17/2019		Saturday 5/18/2019		Sunday 5/19/2019		Mon-Fri Average		7 Day Average	
hr:mm		NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH
12:00 AM		0	0	0	0	0	0	38	72	41	80	0	0	0	0	39.5	76.0	39.5	76.0
1:00 AM		0	0	0	0	0	0	33	70	15	62	0	0	0	0	24.0	66.0	24.0	66.0
2:00 AM		0	0	0	0	0	0	18	37	29	42	0	0	0	0	23.5	39.5	23.5	39.5
3:00 AM		0	0	0	0	0	0	44	33	37	34	0	0	0	0	40.5	33.5	40.5	33.5
4:00 AM		0	0	0	0	0	0	107	40	120	33	0	0	0	0	113.5	36.5	113.5	36.5
5:00 AM		0	0	0	0	0	0	352	75	309	80	0	0	0	0	330.5	77.5	330.5	77.5
6:00 AM		0	0	0	0	0	0	584	177	620	142	0	0	0	0	602.0	159.5	602.0	159.5
7:00 AM		0	0	0	0	0	0	390	452	470	0	0	0	0	0	437.5	461.0	437.5	461.0
8:00 AM		0	0	0	0	0	0	334	271	282	268	0	0	0	0	308.0	269.5	308.0	269.5
9:00 AM		0	0	0	0	150	0	312	232	311	256	0	0	0	0	257.7	244.0	257.7	244.0
10:00 AM		0	0	0	0	313	137	305	282	118	274	0	0	0	0	245.3	231.0	245.3	231.0
11:00 AM		0	0	0	0	321	317	327	313	0	125	0	0	0	0	324.0	251.7	324.0	251.7
12:00 PM		0	0	0	0	316	344	354	356	0	0	0	0	0	0	335.0	350.0	335.0	350.0
1:00 PM		0	0	0	0	346	336	399	319	0	0	0	0	0	0	372.5	327.5	372.5	327.5
2:00 PM		0	0	0	0	379	361	469	399	0	0	0	0	0	0	424.0	380.0	424.0	380.0
3:00 PM		0	0	0	0	478	562	525	555	0	0	0	0	0	0	501.5	558.5	501.5	558.5
4:00 PM		0	0	0	0	413	737	481	766	0	0	0	0	0	0	447.0	751.5	447.0	751.5
5:00 PM		0	0	0	0	321	749	366	788	0	0	0	0	0	0	343.5	768.5	343.5	768.5
6:00 PM		0	0	0	0	251	531	228	585	0	0	0	0	0	0	239.5	558.0	239.5	558.0
7:00 PM		0	0	0	0	206	351	210	400	0	0	0	0	0	0	208.0	375.5	208.0	375.5
8:00 PM		0	0	0	0	187	258	189	285	0	0	0	0	0	0	188.0	271.5	188.0	271.5
9:00 PM		0	0	0	0	157	276	152	218	0	0	0	0	0	0	154.5	247.0	154.5	247.0
10:00 PM		0	0	0	0	114	218	91	186	0	0	0	0	0	0	102.5	202.0	102.5	202.0
11:00 PM		0	0	0	0	53	143	62	124	0	0	0	0	0	0	57.5	133.5	57.5	133.5
TOTALS		-	-	-	-	4005	5320	6370	7035	2367	1866	0	0	0	0	6119.5	6869.2	6119.5	6869.2
COMBINED		0	0	0	0	9325	13405	4233	4233	55.9%	44.1%	0	0	0	0	12988.7	12988.7	12988.7	12988.7
SPLIT (%)		0.0%	0.0%	0.0%	0.0%	42.9%	57.1%	47.5%	52.5%	55.9%	44.1%	0.0%	0.0%	0.0%	0.0%	47.1%	52.9%	47.1%	52.9%
PEAK HOURS																			
12:00:00 AM - 12:00:00 PM		-	-	-	-	11:00 AM	11:00 AM	6:00 AM	7:00 AM	6:00 AM	7:00 AM	-	-	-	-	6:00 AM	7:00 AM	6:00 AM	7:00 AM
Volume		-	-	-	-	321	317	584	452	620	470	-	-	-	-	602	461	602	461
12:00:00 PM - 12:00:00 AM		-	-	-	-	3:00 PM	5:00 PM	3:00 PM	5:00 PM	-	-	-	-	-	-	3:00 PM	5:00 PM	3:00 PM	5:00 PM
Volume		-	-	-	-	478	749	525	788	-	-	-	-	-	-	502	769	502	769

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD TRAFFIC VOLUMES - GRIGGS ROAD TO PERRY STREET

#### City of Houston Traffic Management - Speed Report

Requested Address: 5920 MLK  
Segment: GRIGGS TO PERRY

DATE TESTED: 5/16/2019

Radars Unit : R1011 & R1024

##### DAILY COMBINED SPEED

Starting Hr:min	<15	15 to <20	20 to <25	25 to <30	30 to <35	35 to <40	40 to <45	45 to <50	50 to <55	55 to <60	60 to <65	65 to <70	70 to <75	75 to >100	Total Counts
12:00 AM	0	0	5	13	30	30	24	4	1	2	0	0	0	0	109
1:00 AM	0	1	5	12	35	25	17	7	0	0	1	0	0	0	103
2:00 AM	0	0	5	7	20	10	10	2	1	0	0	0	0	0	55
3:00 AM	0	1	4	9	19	27	14	1	2	1	0	0	0	0	78
4:00 AM	0	2	7	18	22	53	30	11	0	4	0	0	0	0	147
5:00 AM	0	4	16	30	90	146	95	37	7	1	0	0	0	0	426
6:00 AM	0	3	18	63	166	303	147	49	10	2	0	0	0	0	761
7:00 AM	0	7	24	53	228	320	162	36	9	2	1	0	0	0	842
8:00 AM	0	6	20	68	159	213	114	21	4	0	0	0	0	0	605
9:00 AM	1	10	24	74	129	177	103	21	5	0	1	0	0	0	545
10:00 AM	0	5	28	48	146	219	110	25	5	0	0	0	0	0	586
11:00 AM	0	4	14	61	169	233	116	36	5	2	0	0	0	0	640
12:00 PM	2	2	19	75	201	247	123	34	6	0	0	1	0	0	710
1:00 PM	0	6	22	75	195	239	129	43	7	2	0	0	0	0	718
2:00 PM	0	3	26	69	217	352	150	44	5	1	0	1	0	0	868
3:00 PM	1	9	26	73	285	400	211	63	12	1	0	0	0	0	1081
4:00 PM	0	7	31	96	334	468	223	73	12	2	0	0	0	0	1246
5:00 PM	3	6	15	70	260	465	254	62	14	4	0	2	0	0	1155
6:00 PM	1	4	17	74	205	309	146	48	7	1	0	0	0	0	812
7:00 PM	2	4	31	72	165	222	91	17	5	1	0	0	0	0	610
8:00 PM	0	3	24	55	135	168	68	16	5	0	0	1	0	0	475
9:00 PM	1	4	12	56	94	123	52	19	3	1	0	1	1	0	368
10:00 PM	0	4	10	21	101	92	42	4	2	0	0	0	0	1	277
11:00 PM	1	2	6	26	61	55	24	10	0	1	0	0	0	0	186
Totals	12	97	409	1218	3466	4896	2455	683	127	28	0	6	4	1	13403

Average (Mean) 35.8  
Minimum (mph) 12.0  
Maximum (mph) 78.5

Posted Speed 35  
90% 43.0  
85% 41.5  
50% 36.0  
15% 30.5  
10% 28.5

Speeds Exceeded 25mph 35mph 45mph 55mph 65mph 75mph

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD TRAFFIC MANAGEMENT - GRIGGS ROAD TO PERRY STREET

#### City of Houston Traffic Management

Requested Address: 5920 MLK  
Segment: GRIGGS TO PERRY

DATE TESTED: 5/16/2019

Radar Unit : R1011  
Radar Unit : R1024

NORTH					SOUTH					MERGED VEHICLE CLASS				
Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large
12:00 AM	0.6%	1	37	0	12:00 AM	1.0%	0	69	3	12:00 AM	0.8%	1	106	3
1:00 AM	0.5%	1	32	0	1:00 AM	1.0%	0	65	5	1:00 AM	0.8%	1	97	5
2:00 AM	0.3%	0	18	0	2:00 AM	0.5%	0	36	1	2:00 AM	0.4%	0	54	1
3:00 AM	0.7%	1	39	4	3:00 AM	0.5%	0	33	0	3:00 AM	0.6%	1	72	4
4:00 AM	1.7%	6	85	16	4:00 AM	0.6%	0	38	2	4:00 AM	1.1%	6	123	18
5:00 AM	5.5%	6	325	21	5:00 AM	1.1%	0	65	10	5:00 AM	3.2%	6	390	31
6:00 AM	9.2%	12	546	26	6:00 AM	2.5%	0	161	16	6:00 AM	5.7%	12	707	42
7:00 AM	6.1%	15	347	28	7:00 AM	6.4%	0	421	31	7:00 AM	6.3%	15	768	59
8:00 AM	5.2%	10	300	24	8:00 AM	3.9%	1	246	24	8:00 AM	4.5%	11	546	48
9:00 AM	4.9%	15	275	22	9:00 AM	3.3%	0	203	29	9:00 AM	4.1%	15	478	51
10:00 AM	4.8%	9	271	25	10:00 AM	4.0%	2	250	30	10:00 AM	4.4%	11	521	55
11:00 AM	5.1%	9	299	19	11:00 AM	4.4%	0	291	22	11:00 AM	4.8%	9	590	41
12:00 PM	5.6%	13	320	21	12:00 PM	5.1%	0	326	30	12:00 PM	5.3%	13	646	51
1:00 PM	6.3%	11	361	27	1:00 PM	4.5%	0	295	24	1:00 PM	5.4%	11	656	51
2:00 PM	7.4%	8	420	41	2:00 PM	5.7%	0	374	25	2:00 PM	6.5%	8	794	66
3:00 PM	8.2%	17	471	37	3:00 PM	7.9%	1	528	26	3:00 PM	8.1%	18	999	63
4:00 PM	7.6%	13	437	31	4:00 PM	10.9%	0	730	36	4:00 PM	9.3%	13	1167	67
5:00 PM	5.7%	15	326	25	5:00 PM	11.2%	1	745	42	5:00 PM	8.6%	16	1071	67
6:00 PM	3.6%	5	207	16	6:00 PM	8.3%	0	550	35	6:00 PM	6.1%	5	757	51
7:00 PM	3.3%	3	196	11	7:00 PM	5.7%	0	382	18	7:00 PM	4.6%	3	578	29
8:00 PM	3.0%	6	172	11	8:00 PM	4.1%	0	272	13	8:00 PM	3.5%	6	444	24
9:00 PM	2.4%	3	144	5	9:00 PM	3.1%	0	208	10	9:00 PM	2.8%	3	352	15
10:00 PM	1.4%	3	83	5	10:00 PM	2.6%	0	179	7	10:00 PM	2.1%	3	262	12
11:00 PM	1.0%	0	59	3	11:00 PM	1.8%	0	120	4	11:00 PM	1.4%	0	179	7
TOTAL	6370	182	5770	418	7035	5	6587	443	861	TOTAL	13405	187	12357	861
Percentile %	2.9%	90.6%	6.6%	0.1%	93.6%	6.3%	1.4%	92.2%	6.4%	Percentile %	1.4%	92.2%	6.4%	6.4%

Small Vehicle  
Medium Vehicle  
Large Vehicle

less than 14ft  
between 14ft and 20ft  
greater than 20ft

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD TRAFFIC VOLUMES - PERRY STREET TO YELLOWSTONE BOULEVARD

#### City of Houston Traffic Management - Volume

Requested Address: 6100 MARTIN LUTER KING  
Segment: PERRY TO YELLOWSTONE

29.6918405, -95.339256

LAT, LONG :

Incoming Radar Unit : R1009  
Outgoing Radar Unit : R1010

hr:mm	Monday 5/13/2019		Tuesday 5/14/2019		Wednesday 5/15/2019		Thursday 5/16/2019		Friday 5/17/2019		Saturday 5/18/2019		Sunday 5/19/2019		Mon-Fri Average		7 Day Average	
	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH
12:00 AM	0	0	0	0	0	0	38	66	44	70	0	0	0	0	41.0	68.0	41.0	68.0
1:00 AM	0	0	0	0	0	0	30	72	24	59	0	0	0	0	27.0	65.5	27.0	65.5
2:00 AM	0	0	0	0	0	0	17	39	30	42	0	0	0	0	23.5	40.5	23.5	40.5
3:00 AM	0	0	0	0	0	0	41	30	36	37	0	0	0	0	38.5	33.5	38.5	33.5
4:00 AM	0	0	0	0	0	0	107	41	117	40	0	0	0	0	112.0	40.5	112.0	40.5
5:00 AM	0	0	0	0	0	0	569	204	643	154	0	0	0	0	310.0	96.5	310.0	96.5
6:00 AM	0	0	0	0	0	0	396	409	481	419	0	0	0	0	438.5	179.0	606.0	179.0
7:00 AM	0	0	0	0	0	0	351	241	308	273	0	0	0	0	329.5	414.0	438.5	414.0
8:00 AM	0	0	0	0	0	0	333	231	311	246	0	0	0	0	259.0	257.0	329.5	257.0
9:00 AM	0	0	0	0	133	0	333	231	311	246	0	0	0	0	259.0	238.5	259.0	238.5
10:00 AM	0	0	0	0	307	95	326	258	75	280	0	0	0	0	236.0	211.0	236.0	211.0
11:00 AM	0	0	0	0	334	348	378	362	0	0	0	0	0	0	335.5	221.0	335.5	221.0
12:00 PM	0	0	0	0	360	325	439	317	0	0	0	0	0	0	356.0	355.0	356.0	355.0
1:00 PM	0	0	0	0	383	361	461	372	0	0	0	0	0	0	399.5	321.0	399.5	321.0
2:00 PM	0	0	0	0	503	484	521	524	0	0	0	0	0	0	422.0	366.5	422.0	366.5
3:00 PM	0	0	0	0	423	690	456	625	0	0	0	0	0	0	512.0	509.0	512.0	509.0
4:00 PM	0	0	0	0	331	691	360	709	0	0	0	0	0	0	439.5	657.5	439.5	657.5
5:00 PM	0	0	0	0	285	516	273	521	0	0	0	0	0	0	345.5	700.0	345.5	700.0
6:00 PM	0	0	0	0	197	307	226	401	0	0	0	0	0	0	279.0	518.5	279.0	518.5
7:00 PM	0	0	0	0	184	247	189	299	0	0	0	0	0	0	211.5	354.0	211.5	354.0
8:00 PM	0	0	0	0	175	257	153	223	0	0	0	0	0	0	186.5	273.0	186.5	273.0
9:00 PM	0	0	0	0	111	212	88	181	0	0	0	0	0	0	164.0	240.0	164.0	240.0
10:00 PM	0	0	0	0	59	138	64	121	0	0	0	0	0	0	99.5	196.5	99.5	196.5
11:00 PM	0	0	0	0	4120	4976	6482	6642	2359	1785	0	0	0	0	6233.0	6485.5	6233.0	6485.5
TOTALS	-	-	-	-	4120	4976	6482	6642	2359	1785	0	0	0	0	6233.0	6485.5	6233.0	6485.5
COMBINED	0	0	0	0	9096	13124	13124	4144	4144	4144	0	0	0	0	12718.5	12718.5	12718.5	12718.5
SPLIT (%)	0.0%	0.0%	0.0%	0.0%	45.3%	54.7%	49.4%	50.6%	56.9%	43.1%	0.0%	0.0%	0.0%	0.0%	49.0%	51.0%	49.0%	51.0%
PEAK HOURS																		
12:00:00 AM -	-	-	-	-	11:00 AM	6:00 AM	7:00 AM	7:00 AM	6:00 AM	7:00 AM	-	-	-	-	6:00 AM	7:00 AM	6:00 AM	7:00 AM
12:00:00 PM -	-	-	-	-	335	295	569	409	643	419	-	-	-	-	606	414	606	414
12:00:00 PM -	-	-	-	-	3:00 PM	5:00 PM	3:00 PM	5:00 PM	-	-	-	-	-	-	3:00 PM	5:00 PM	3:00 PM	5:00 PM
12:00:00 AM -	-	-	-	-	503	691	521	709	-	-	-	-	-	-	512	700	512	700



# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD SPEED REPORT - PERRY STREET TO YELLOWSTONE BOULEVARD

#### City of Houston Traffic Management - Speed Report

Requested Address: 6100 MARTIN LUTER KING  
Segment: PERRY TO YELLOWSTONE  
DATE TESTED: 5/16/2019  
Radar Unit : R1009 & R1010

DAILY COMBINED SPEED																
Starting Hr:min	<15	15 to <20	20 to <25	25 to <30	30 to <35	35 to <40	40 to <45	45 to <50	50 to <55	55 to <60	60 to <65	65 to <70	70 to <75	75 to >100	Total Counts	
12:00 AM	0	0	4	20	29	32	18	0	1	0	0	0	0	0	104	
1:00 AM	0	1	2	16	36	22	15	9	0	0	1	0	0	0	102	
2:00 AM	0	1	4	10	13	12	9	2	2	1	0	0	0	0	56	
3:00 AM	1	2	3	11	18	22	12	0	0	2	0	0	0	0	71	
4:00 AM	2	8	18	23	45	30	12	8	1	1	0	0	0	0	148	
5:00 AM	5	14	43	87	131	89	43	11	3	0	0	0	0	0	426	
6:00 AM	7	26	57	156	227	182	87	18	10	1	0	1	0	0	772	
7:00 AM	2	15	41	126	237	242	109	24	8	1	0	0	0	0	805	
8:00 AM	5	24	61	126	178	131	59	7	1	0	0	0	0	0	592	
9:00 AM	9	19	64	111	157	137	54	10	2	1	0	0	0	0	564	
10:00 AM	6	15	61	132	181	131	43	14	1	1	0	0	0	0	585	
11:00 AM	7	24	49	136	229	119	64	6	2	1	0	0	0	0	637	
12:00 PM	4	18	65	149	243	167	70	19	4	0	0	0	0	0	739	
1:00 PM	2	30	69	158	239	160	70	23	4	2	0	0	0	0	757	
2:00 PM	7	30	63	167	269	199	71	24	2	0	0	0	0	0	832	
3:00 PM	8	29	65	169	357	265	114	30	8	0	0	0	0	0	1045	
4:00 PM	4	17	62	150	329	331	136	45	8	0	0	0	0	0	1082	
5:00 PM	5	18	40	152	399	277	127	36	10	4	0	0	0	0	1068	
6:00 PM	6	18	53	139	249	193	111	22	2	1	0	0	0	0	794	
7:00 PM	3	28	38	116	204	149	69	16	4	0	0	0	0	0	627	
8:00 PM	4	16	35	87	169	117	44	13	2	0	1	0	0	0	488	
9:00 PM	1	8	18	57	138	97	44	9	2	2	0	0	0	0	376	
10:00 PM	1	7	8	42	94	65	41	9	1	1	0	0	0	0	269	
11:00 PM	1	2	10	33	67	55	11	4	1	1	0	0	0	0	185	
Totals	92	370	933	2373	4238	3224	1433	359	79	20	0	3	0	0	13124	

Percentile Speeds (mph)	10%	15%	50%	85%	90%	Posted Speed	Average (Mean)	Minimum (mph)	Maximum (mph)
	24.5	26.0	32.5	39.5	41.0	35	32.8	12.0	74.5

Speeds Exceeded 25mph 35mph 45mph 55mph 65mph 75mph

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD TRAFFIC MANAGEMENT - PERRY STREET TO YELLOWSTONE BOULEVARD

#### City of Houston Traffic Management

Requested Address: 6100 MARTIN LUTER KING  
Segment: PERRY TO YELLOWSTONE

DATE TESTED: 5/16/2019

Radar Unit : R1009  
Radar Unit : R1010

NORTH					SOUTH					MERGED VEHICLE CLASS				
Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large
12:00 AM	0.6%	0	37	1	12:00 AM	1.0%	0	63	3	12:00 AM	0.8%	0	100	4
1:00 AM	0.5%	0	29	1	1:00 AM	1.1%	0	70	2	1:00 AM	0.8%	0	99	3
2:00 AM	0.3%	0	17	0	2:00 AM	0.6%	0	36	3	2:00 AM	0.4%	0	53	3
3:00 AM	0.6%	0	36	5	3:00 AM	0.5%	0	29	1	3:00 AM	0.5%	0	65	6
4:00 AM	1.7%	0	101	6	4:00 AM	0.6%	0	40	1	4:00 AM	1.1%	0	141	7
5:00 AM	5.1%	2	313	15	5:00 AM	1.4%	0	86	9	5:00 AM	3.2%	2	399	24
6:00 AM	8.8%	8	535	26	6:00 AM	3.1%	0	187	17	6:00 AM	5.9%	8	722	43
7:00 AM	6.1%	9	363	24	7:00 AM	6.2%	2	382	25	7:00 AM	6.1%	11	745	49
8:00 AM	5.4%	5	319	27	8:00 AM	3.6%	0	227	14	8:00 AM	4.5%	5	546	41
9:00 AM	5.1%	2	308	23	9:00 AM	3.5%	0	213	18	9:00 AM	4.3%	2	521	41
10:00 AM	5.0%	1	303	22	10:00 AM	3.9%	2	235	21	10:00 AM	4.4%	3	538	43
11:00 AM	5.2%	2	316	18	11:00 AM	4.5%	0	286	15	11:00 AM	4.9%	2	602	33
12:00 PM	5.8%	4	342	32	12:00 PM	5.5%	0	344	18	12:00 PM	5.6%	4	686	50
1:00 PM	6.8%	2	416	21	1:00 PM	4.8%	0	297	20	1:00 PM	5.8%	2	713	41
2:00 PM	7.1%	6	426	29	2:00 PM	5.6%	1	353	18	2:00 PM	6.3%	7	779	47
3:00 PM	8.0%	6	483	32	3:00 PM	7.9%	1	502	21	3:00 PM	8.0%	7	985	53
4:00 PM	7.0%	6	420	30	4:00 PM	9.4%	1	596	28	4:00 PM	8.2%	7	1016	58
5:00 PM	5.6%	2	334	24	5:00 PM	10.7%	4	682	23	5:00 PM	8.1%	6	1016	47
6:00 PM	4.2%	2	252	19	6:00 PM	7.8%	2	496	23	6:00 PM	6.0%	4	748	42
7:00 PM	3.5%	2	211	13	7:00 PM	6.0%	0	391	10	7:00 PM	4.8%	2	602	23
8:00 PM	2.9%	1	175	13	8:00 PM	4.5%	0	289	10	8:00 PM	3.7%	1	464	23
9:00 PM	2.4%	1	143	9	9:00 PM	3.4%	0	214	9	9:00 PM	2.9%	1	357	18
10:00 PM	1.4%	0	83	5	10:00 PM	2.7%	0	176	5	10:00 PM	2.0%	0	259	10
11:00 PM	1.0%	0	62	2	11:00 PM	1.8%	0	119	2	11:00 PM	1.4%	0	181	4
TOTAL	6482	61	6024	397	6642	13	6313	316	713	TOTAL	13124	74	12337	713
Percentile %		0.9%	92.9%	6.1%	0.2%	95.0%	4.8%	0.6%	94.0%	Percentile %				5.4%

Small Vehicle  
Medium Vehicle  
Large Vehicle

less than 14ft  
between 14ft and 20ft  
greater than 20ft

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD TRAFFIC VOLUMES - YELLOWSTONE BOULEVARD TO IH-610

#### City of Houston Traffic Management - Volume

Requested Address: 6400 MARTIN LUTHER KING  
Segment: YELLOWSTONE TO SOUTH LOOP

29.6870297, -95.3412459

LAT, LONG :

Incoming Radar Unit : R1019  
Outgoing Radar Unit : R1016

Hr:mm	Monday 5/13/2019		Tuesday 5/14/2019		Wednesday 5/15/2019		Thursday 5/16/2019		Friday 5/17/2019		Saturday 5/18/2019		Sunday 5/19/2019		Mon-Fri Average		7 Day Average	
	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH
12:00 AM	0	0	0	0	0	0	93	95	111	115	0	0	0	0	102.0	105.0	102.0	105.0
1:00 AM	0	0	0	0	0	0	58	82	52	62	0	0	0	0	55.0	72.0	55.0	72.0
2:00 AM	0	0	0	0	0	0	42	54	23	42	0	0	0	0	32.5	48.0	32.5	48.0
3:00 AM	0	0	0	0	0	0	29	47	39	34	0	0	0	0	34.0	40.5	34.0	40.5
4:00 AM	0	0	0	0	0	0	64	66	50	50	0	0	0	0	57.0	58.0	57.0	58.0
5:00 AM	0	0	0	0	0	0	158	159	156	169	0	0	0	0	157.0	164.0	157.0	164.0
6:00 AM	0	0	0	0	0	0	518	291	438	254	0	0	0	0	478.0	272.5	478.0	272.5
7:00 AM	0	0	0	0	0	0	843	512	873	531	0	0	0	0	858.0	521.5	858.0	521.5
8:00 AM	0	0	0	0	0	0	530	323	705	374	0	0	0	0	617.5	348.5	617.5	348.5
9:00 AM	0	0	0	0	0	0	422	308	421	346	0	0	0	0	421.5	327.0	421.5	327.0
10:00 AM	0	0	0	0	85	103	394	353	452	412	0	0	0	0	310.3	289.3	310.3	289.3
11:00 AM	0	0	0	0	435	415	469	447	67	45	0	0	0	0	323.7	302.3	323.7	302.3
12:00 PM	0	0	0	0	489	486	475	467	0	0	0	0	0	0	482.0	476.5	482.0	476.5
1:00 PM	0	0	0	0	471	500	549	462	0	0	0	0	0	0	510.0	481.0	510.0	481.0
2:00 PM	0	0	0	0	417	364	520	489	0	0	0	0	0	0	468.5	426.5	468.5	426.5
3:00 PM	0	0	0	0	282	312	581	623	0	0	0	0	0	0	431.5	467.5	431.5	467.5
4:00 PM	0	0	0	0	659	768	646	717	0	0	0	0	0	0	652.5	742.5	652.5	742.5
5:00 PM	0	0	0	0	609	776	629	830	0	0	0	0	0	0	619.0	803.0	619.0	803.0
6:00 PM	0	0	0	0	444	539	505	622	0	0	0	0	0	0	474.5	580.5	474.5	580.5
7:00 PM	0	0	0	0	441	466	426	480	0	0	0	0	0	0	433.5	473.0	433.5	473.0
8:00 PM	0	0	0	0	331	364	352	421	0	0	0	0	0	0	341.5	392.5	341.5	392.5
9:00 PM	0	0	0	0	295	385	317	315	0	0	0	0	0	0	306.0	325.0	306.0	325.0
10:00 PM	0	0	0	0	227	257	236	254	0	0	0	0	0	0	231.5	255.5	231.5	255.5
11:00 PM	0	0	0	0	160	162	139	155	0	0	0	0	0	0	149.5	156.5	149.5	156.5
TOTALS	-	-	-	-	5345	5847	8995	8572	3387	2434	0	0	0	0	8546.5	8130.7	8546.5	8130.7
COMBINED	0	0	0	0	11192	17567	5821	5821	582.2	41.8%	0	0	0	0	16677.2	16677.2	16677.2	16677.2
SPLIT (%)	0.0%	0.0%	0.0%	0.0%	47.8%	52.2%	51.2%	48.8%	58.2%	41.8%	0.0%	0.0%	0.0%	0.0%	51.2%	48.8%	51.2%	48.8%
PEAK HOURS																		
12:00:00 AM -	-	-	-	-	11:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	-	-	-	-	7:00 AM	7:00 AM	7:00 AM	7:00 AM
Volume	-	-	-	-	435	843	843	512	873	531	-	-	-	-	858	522	858	522
12:00:00 PM -	-	-	-	-	4:00 PM	5:00 PM	4:00 PM	5:00 PM	-	-	-	-	-	-	4:00 PM	5:00 PM	4:00 PM	5:00 PM
Volume	-	-	-	-	659	776	646	830	-	-	-	-	-	-	653	803	653	803

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD SPEED REPORT - YELLOWSTONE BOULEVARD TO IH-610

#### City of Houston Traffic Management - Speed Report

Requested Address: 6400 MARTIN LUTHER KING DATE TESTED: 5/16/2019 Radar Unit : R1019 & R1016  
Segment: YELLOWSTONE TO SOUTH LOOP

DAILY COMBINED SPEED															
Starting Hr:min	<15	15 to <20	20 to <25	25 to <30	30 to <35	35 to <40	40 to <45	45 to <50	50 to <55	55 to <60	60 to <65	65 to <70	70 to <75	75 to >100	Total Counts
12:00 AM	0	14	39	88	39	7	0	0	0	0	0	0	0	0	187
1:00 AM	0	8	38	54	29	8	3	0	0	0	0	0	0	0	140
2:00 AM	0	6	22	41	21	4	2	0	0	0	0	0	0	0	96
3:00 AM	0	5	20	32	11	3	5	0	0	0	0	0	0	0	76
4:00 AM	0	9	29	56	31	4	1	0	0	0	0	0	0	0	130
5:00 AM	1	19	83	106	74	25	9	0	0	0	0	0	0	0	317
6:00 AM	2	54	159	250	225	94	23	2	0	0	0	0	0	0	809
7:00 AM	10	77	308	500	328	116	16	1	0	0	0	0	0	0	1356
8:00 AM	5	42	193	300	232	68	11	1	0	0	0	0	0	0	852
9:00 AM	6	63	186	268	159	43	5	0	0	0	0	0	0	0	730
10:00 AM	6	67	199	241	175	53	6	0	0	0	0	0	0	0	747
11:00 AM	3	49	225	352	213	60	12	0	2	0	0	0	0	0	916
12:00 PM	2	50	247	351	213	63	13	2	0	1	0	0	0	0	942
1:00 PM	8	55	240	395	237	67	7	1	0	1	0	0	0	0	1011
2:00 PM	8	59	272	362	247	54	5	2	0	0	0	0	0	0	1009
3:00 PM	8	67	325	426	279	88	10	1	0	0	0	0	0	0	1204
4:00 PM	10	92	447	485	263	59	8	0	0	0	0	0	0	0	1364
5:00 PM	10	118	443	500	296	76	14	1	0	0	0	0	0	0	1458
6:00 PM	13	101	345	368	237	54	7	1	0	1	0	0	0	0	1127
7:00 PM	4	57	247	309	207	62	19	1	0	0	0	0	0	0	906
8:00 PM	2	40	210	301	166	44	10	0	0	0	0	0	0	0	773
9:00 PM	4	35	168	249	134	36	6	0	0	0	0	0	0	0	632
10:00 PM	2	28	125	191	105	27	10	2	0	0	0	0	0	0	490
11:00 PM	2	24	71	109	65	20	3	0	0	0	0	0	0	0	294
Totals	106	1139	4641	6334	3986	1135	205	15	2	3	0	0	0	0	17566

Percentile Speeds (mph)	10%	15%	50%	85%	90%	Posted Speed	Average (Mean)	Minimum (mph)	Maximum (mph)
	21.0	22.5	27.0	31.0	32.5	35	26.9	12.0	53.0

Speeds Exceeded 25mph 35mph 45mph 55mph 65mph 75mph



# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD TRAFFIC MANAGEMENT - YELLOWSTONE BOULEVARD TO IH-610

#### City of Houston Traffic Management

Requested Address: 6400 MARTIN LUTHER KING  
Segment: YELLOWSTONE TO SOUTH LOOP

DATE TESTED: 5/16/2019

Radar Unit : R1019  
Radar Unit : R1016

NORTH					SOUTH					MERGED VEHICLE CLASS				
Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large
12:00 AM	1.0%	0	93	0	12:00 AM	1.1%	0	91	4	12:00 AM	1.1%	0	184	4
1:00 AM	0.6%	0	57	1	1:00 AM	1.0%	0	82	0	1:00 AM	0.8%	0	139	1
2:00 AM	0.5%	0	40	2	2:00 AM	0.6%	0	49	5	2:00 AM	0.5%	0	89	7
3:00 AM	0.3%	0	27	2	3:00 AM	0.5%	0	45	2	3:00 AM	0.4%	0	72	4
4:00 AM	0.7%	0	62	2	4:00 AM	0.8%	0	64	2	4:00 AM	0.7%	0	126	4
5:00 AM	1.8%	2	144	12	5:00 AM	1.9%	1	146	12	5:00 AM	1.8%	3	290	24
6:00 AM	5.8%	11	481	26	6:00 AM	3.4%	1	269	21	6:00 AM	4.6%	12	750	47
7:00 AM	9.4%	16	793	34	7:00 AM	6.0%	0	488	24	7:00 AM	7.7%	16	1281	58
8:00 AM	5.9%	14	495	21	8:00 AM	3.8%	1	298	24	8:00 AM	4.9%	15	793	45
9:00 AM	4.7%	18	382	22	9:00 AM	3.6%	0	281	27	9:00 AM	4.2%	18	663	49
10:00 AM	4.4%	15	356	23	10:00 AM	4.1%	0	327	26	10:00 AM	4.3%	15	683	49
11:00 AM	5.2%	8	433	28	11:00 AM	5.2%	1	424	22	11:00 AM	5.2%	9	857	50
12:00 PM	5.3%	7	443	25	12:00 PM	5.4%	0	445	22	12:00 PM	5.4%	7	888	47
1:00 PM	6.1%	15	498	36	1:00 PM	5.4%	0	438	24	1:00 PM	5.8%	15	936	60
2:00 PM	5.8%	14	469	37	2:00 PM	5.7%	1	463	25	2:00 PM	5.7%	15	932	62
3:00 PM	6.5%	24	529	28	3:00 PM	7.3%	1	592	30	3:00 PM	6.9%	25	1121	58
4:00 PM	7.2%	15	599	32	4:00 PM	8.4%	0	689	28	4:00 PM	7.8%	15	1288	60
5:00 PM	7.0%	18	586	25	5:00 PM	9.7%	0	807	23	5:00 PM	8.3%	18	1393	48
6:00 PM	5.6%	16	463	26	6:00 PM	7.3%	0	599	23	6:00 PM	6.4%	16	1062	49
7:00 PM	4.7%	9	401	16	7:00 PM	5.6%	1	466	13	7:00 PM	5.2%	10	867	29
8:00 PM	3.9%	5	331	16	8:00 PM	4.9%	1	407	13	8:00 PM	4.4%	6	738	29
9:00 PM	3.5%	6	302	9	9:00 PM	3.7%	0	308	7	9:00 PM	3.6%	6	610	16
10:00 PM	2.6%	7	220	9	10:00 PM	3.0%	0	246	8	10:00 PM	2.8%	7	466	17
11:00 PM	1.5%	1	132	6	11:00 PM	1.8%	0	151	4	11:00 PM	1.7%	1	283	10
<b>TOTAL</b>	<b>8995</b>	<b>221</b>	<b>8336</b>	<b>438</b>	<b>PERCENTILE %</b>	<b>8572</b>	<b>8</b>	<b>8175</b>	<b>389</b>	<b>TOTAL</b>	<b>17567</b>	<b>229</b>	<b>16511</b>	<b>827</b>
<b>Percentile %</b>		<b>2.5%</b>	<b>92.7%</b>	<b>4.9%</b>	<b>Percentile %</b>		<b>0.1%</b>	<b>95.4%</b>	<b>4.5%</b>	<b>Percentile %</b>		<b>1.3%</b>	<b>94.0%</b>	<b>4.7%</b>

Small Vehicle  
Medium Vehicle  
Large Vehicle

less than 14ft  
between 14ft and 20ft  
greater than 20ft

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD TRAFFIC VOLUMES - IH-610 TO BELLFORT STREET

#### City of Houston Traffic Management - Volume

Requested Address: **6917 MARTIN LUTHER KING**  
Segment: **SOUTH LOOP TO BELLFORT**

Incoming LAT, LONG: **29.5768997 -95.336371**  
Outgoing LAT, LONG: **29.6770395 -95.336685**

Incoming Radar Unit: **R1038**  
Outgoing Radar Unit: **R1041**

Hrmm	Monday 5/27/2019		Tuesday 5/28/2019		Wednesday 5/29/2019		Thursday 5/30/2019		Friday 5/31/2019		Saturday 6/1/2019		Sunday 6/2/2019		Mon-Fri Average		7 Day Average	
	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH
12:00 AM	0	0	0	0	0	0	105	129	101	125	0	0	0	0	103.0	127.0	103.0	127.0
1:00 AM	0	0	0	0	0	0	77	78	74	83	0	0	0	0	75.5	80.5	75.5	80.5
2:00 AM	0	0	0	0	0	0	49	52	70	56	0	0	0	0	59.5	54.0	59.5	54.0
3:00 AM	0	0	0	0	0	0	53	43	54	46	0	0	0	0	53.5	44.5	53.5	44.5
4:00 AM	0	0	0	0	0	0	100	32	113	45	0	0	0	0	106.5	38.5	106.5	38.5
5:00 AM	0	0	0	0	0	0	329	101	356	91	0	0	0	0	342.5	96.0	342.5	96.0
6:00 AM	0	0	0	0	0	0	568	286	533	293	0	0	0	0	550.5	289.5	550.5	289.5
7:00 AM	0	0	0	0	0	0	1002	526	983	532	0	0	0	0	992.5	529.0	992.5	529.0
8:00 AM	0	0	0	0	0	0	659	510	655	437	0	0	0	0	657.0	473.5	657.0	473.5
9:00 AM	0	0	0	0	0	0	485	431	538	448	0	0	0	0	511.5	438.5	511.5	439.5
10:00 AM	0	0	0	0	0	0	529	183	195	183	0	0	0	0	362.0	309.0	362.0	309.0
11:00 AM	0	0	0	0	0	0	505	502	0	0	0	0	0	0	505.0	502.0	505.0	502.0
12:00 PM	0	0	0	0	512	440	686	579	0	0	0	0	0	0	599.0	509.5	599.0	509.5
1:00 PM	0	0	0	0	642	589	614	586	0	0	0	0	0	0	628.0	587.5	628.0	587.5
2:00 PM	0	0	0	0	647	646	619	638	0	0	0	0	0	0	633.0	642.0	633.0	642.0
3:00 PM	0	0	0	0	587	804	588	823	0	0	0	0	0	0	587.5	813.5	587.5	813.5
4:00 PM	0	0	0	0	639	1033	602	1034	0	0	0	0	0	0	620.5	1033.5	620.5	1033.5
5:00 PM	0	0	0	0	669	1043	622	1210	0	0	0	0	0	0	645.5	1126.5	645.5	1126.5
6:00 PM	0	0	0	0	668	917	631	899	0	0	0	0	0	0	649.5	908.0	649.5	908.0
7:00 PM	0	0	0	0	559	633	521	666	0	0	0	0	0	0	540.0	649.5	540.0	649.5
8:00 PM	0	0	0	0	508	565	423	491	0	0	0	0	0	0	465.5	528.0	465.5	528.0
9:00 PM	0	0	0	0	424	480	312	353	0	0	0	0	0	0	368.0	396.5	368.0	396.5
10:00 PM	0	0	0	0	231	353	288	282	0	0	0	0	0	0	259.5	317.5	259.5	317.5
11:00 PM	0	0	0	0	137	239	159	201	0	0	0	0	0	0	148.0	220.0	148.0	220.0
TOTALS	-	-	-	-	6223	7722	10526	10867	3672	2339	0	0	0	0	10463.0	10715.0	10463.0	10715.0
COMBINED	0	0	0	0	13945	21393	6011	6011	0	0	0	0	0	0	21178.0	21178.0	21178.0	21178.0
SPLIT (%)	0.0%	0.0%	0.0%	0.0%	44.6%	55.4%	49.2%	50.8%	61.1%	38.9%	0.0%	0.0%	0.0%	0.0%	49.4%	50.6%	49.4%	50.6%
PEAK HOURS																		
12:00:00 AM - 12:00:00 PM	-	-	-	-	-	-	7:00 AM	7:00 AM	7:00 AM	7:00 AM	-	-	-	-	7:00 AM	7:00 AM	7:00 AM	7:00 AM
Volume	-	-	-	-	-	-	1002	526	983	532	-	-	-	-	993	529	993	529
12:00:00 PM - 12:00:00 AM	-	-	-	-	5:00 PM	5:00 PM	12:00 PM	5:00 PM	-	-	-	-	-	-	6:00 PM	5:00 PM	6:00 PM	5:00 PM
Volume	-	-	-	-	669	1043	686	1210	-	-	-	-	-	-	650	1127	650	1127

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD SPEED REPORT - IH-610 TO BELLFORT STREET

#### City of Houston Traffic Management - Speed Report

Requested Address: 6917 MARTIN LUTHER KING  
Segment: SOUTH LOOP TO BELLFORT

R1038 & R1041  
5/30/2019

DAILY COMBINED SPEED																Total Counts		
Starting Hr:min	<15	15 to <20	20 to <25	25 to <30	30 to <35	35 to <40	40 to <45	45 to <50	50 to <55	55 to <60	60 to <65	65 to <70	70 to <75	75 to >100				
12:00 AM	1	0	10	6	25	68	68	35	16	4	0	0	1	0	234			
1:00 AM	3	3	6	16	17	42	42	16	6	3	1	0	0	0	155			
2:00 AM	0	2	6	6	10	32	22	13	8	2	0	0	0	0	101			
3:00 AM	1	2	4	3	13	20	28	13	7	3	0	1	1	0	96			
4:00 AM	0	0	4	3	10	22	37	30	15	9	2	0	0	0	132			
5:00 AM	0	5	17	13	14	73	130	113	41	19	2	3	0	0	430			
6:00 AM	1	3	26	34	69	183	244	186	78	25	5	0	0	0	854			
7:00 AM	3	6	38	63	171	466	509	185	61	24	2	0	0	0	1528			
8:00 AM	2	14	44	60	125	278	370	205	52	17	2	0	0	0	1169			
9:00 AM	3	16	50	54	116	278	245	102	42	8	1	1	0	0	916			
10:00 AM	1	12	46	62	150	362	224	81	18	3	3	1	1	0	964			
11:00 AM	2	10	46	73	172	339	250	88	18	8	1	0	0	0	1007			
12:00 PM	1	14	50	106	227	394	328	105	33	5	1	0	1	0	1265			
1:00 PM	4	13	59	103	228	420	262	91	15	4	1	0	0	0	1200			
2:00 PM	0	8	68	116	266	434	269	74	20	2	0	0	0	0	1257			
3:00 PM	6	15	75	100	258	486	330	106	31	3	1	0	0	0	1411			
4:00 PM	4	8	73	98	320	558	395	142	25	10	3	0	0	0	1636			
5:00 PM	2	14	83	141	348	658	421	119	35	9	2	0	0	0	1832			
6:00 PM	5	13	77	124	280	514	370	115	24	7	1	0	0	0	1530			
7:00 PM	1	16	66	87	155	376	319	120	38	9	0	0	0	0	1187			
8:00 PM	2	14	53	79	138	284	249	67	23	5	0	0	0	0	914			
9:00 PM	1	8	28	44	93	195	194	62	18	0	1	0	1	0	645			
10:00 PM	1	4	20	38	62	169	173	71	20	10	1	1	0	0	570			
11:00 PM	0	3	21	21	38	88	112	52	18	4	3	0	0	0	360			
Totals	44	203	970	1450	3305	6739	5591	2191	662	193	33	7	5	0	21393			
Percentile Speeds (mph)	10%	15%	50%	85%		90%						Posted Speed	Average (Mean)	Minimum (mph)	Maximum (mph)			
	28.0	30.5	38.5	44.5		46.5						35	37.9	12.0	73.0			
Speeds Exceeded	25mph 20176	35mph 15421	45mph 3091	55mph 238	65mph 5	75mph 0												

## VOLUME AND SPEED DATA

## MLK Healthy Connections Study

# MLK BOULEVARD TRAFFIC MANAGEMENT - IH-610 TO BELLEFORT STREET

# City of Houston Traffic Management

**Requested Address:** 6917 MARTIN LUTHER KING  
**Segment:** SOUTH LOOP TO BELLFORT

Thursday  
5/30/2019

Radar Unit :	R1038
Radar Unit :	R1041

NORTH					SOUTH					MERGED VEHICLE CLASS				
Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large
12:00 AM	1.0%	0	99	6	12:00 AM	1.2%	1	117	11	12:00 AM	1.1%	1	216	17
1:00 AM	0.7%	0	70	7	1:00 AM	0.7%	1	73	4	1:00 AM	0.7%	1	143	11
2:00 AM	0.5%	0	46	3	2:00 AM	0.5%	1	45	6	2:00 AM	0.5%	1	91	9
3:00 AM	0.5%	0	52	1	3:00 AM	0.4%	1	38	4	3:00 AM	0.4%	1	90	5
4:00 AM	1.0%	0	94	6	4:00 AM	0.3%	0	30	2	4:00 AM	0.6%	0	124	8
5:00 AM	3.1%	1	308	20	5:00 AM	0.9%	2	90	9	5:00 AM	2.0%	3	398	29
6:00 AM	5.4%	2	538	28	6:00 AM	2.6%	4	250	32	6:00 AM	4.0%	6	788	60
7:00 AM	9.5%	5	956	41	7:00 AM	4.8%	16	468	42	7:00 AM	7.1%	21	1424	83
8:00 AM	6.3%	2	612	45	8:00 AM	4.7%	11	459	40	8:00 AM	5.5%	13	1071	85
9:00 AM	4.6%	4	449	32	9:00 AM	4.0%	9	388	34	9:00 AM	4.3%	13	837	66
10:00 AM	5.0%	4	501	24	10:00 AM	4.0%	14	390	31	10:00 AM	4.5%	18	891	55
11:00 AM	4.8%	0	477	28	11:00 AM	4.6%	6	459	37	11:00 AM	4.7%	6	936	65
12:00 PM	6.5%	4	642	40	12:00 PM	5.3%	12	536	31	12:00 PM	5.9%	16	1178	71
1:00 PM	5.8%	3	574	37	1:00 PM	5.4%	8	536	42	1:00 PM	5.6%	11	1110	79
2:00 PM	5.9%	1	577	41	2:00 PM	5.9%	19	572	47	2:00 PM	5.9%	20	1149	88
3:00 PM	5.6%	3	553	32	3:00 PM	7.6%	17	761	45	3:00 PM	6.6%	20	1314	77
4:00 PM	5.7%	0	570	32	4:00 PM	9.5%	22	963	49	4:00 PM	7.6%	22	1533	81
5:00 PM	5.9%	4	589	29	5:00 PM	11.1%	17	1144	49	5:00 PM	8.6%	21	1733	78
6:00 PM	6.0%	3	602	26	6:00 PM	8.3%	33	836	30	6:00 PM	7.2%	36	1438	56
7:00 PM	4.9%	1	502	18	7:00 PM	6.1%	11	626	29	7:00 PM	5.5%	12	1128	47
8:00 PM	4.0%	0	406	17	8:00 PM	4.5%	12	450	29	8:00 PM	4.3%	12	856	46
9:00 PM	3.0%	0	303	9	9:00 PM	3.1%	3	317	13	9:00 PM	3.0%	3	620	22
10:00 PM	2.7%	1	273	14	10:00 PM	2.6%	4	266	12	10:00 PM	2.7%	5	539	26
11:00 PM	1.5%	0	150	9	11:00 PM	1.8%	4	188	9	11:00 PM	1.7%	4	338	18
TOTAL	10526	38	9943	545	10867	228	10002	637	TOTAL	21393	266	19945	1182	5.5%
Percentile %	0.4%				Percentile %	2.1%				Percentile %	1.2%			
Small Vehicle	less than 14ft				Small Vehicle	less than 14ft				Small Vehicle	less than 14ft			
Medium Vehicle	between 14ft and 20ft				Medium Vehicle	between 14ft and 20ft				Medium Vehicle	between 14ft and 20ft			
Large Vehicle	greater than 20ft				Large Vehicle	greater than 20ft				Large Vehicle	greater than 20ft			



# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD TRAFFIC VOLUMES - BELLFORT STREET TO REED ROAD

#### City of Houston Traffic Management - Volume

Requested Address: 8300 MARTIN LUTHER KING  
Segment: BELLFORT TO REED RD

Incoming LAT, LONG : 29.6619266 -95.336670  
Outgoing LAT, LONG : 29.6619007 -95.336720

Incoming Radar Unit : R1019  
Outgoing Radar Unit : R1024

Item	Monday 5/27/2019		Tuesday 5/28/2019		Wednesday 5/29/2019		Thursday 5/30/2019		Friday 5/31/2019		Saturday 6/1/2019		Sunday 6/2/2019		Mon-Fri Average		7 Day Average	
	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH
12:00 AM - 1:00 AM	0	0	0	0	0	0	0	51	58	82	0	0	0	0	75.5	102.5	75.5	102.5
1:00 AM - 2:00 AM	0	0	0	0	0	0	0	44	42	41	0	0	0	0	42.5	41.0	42.5	41.0
2:00 AM - 3:00 AM	0	0	0	0	0	0	0	32	27	40	0	0	0	0	36.0	36.0	36.0	36.0
3:00 AM - 4:00 AM	0	0	0	0	0	0	0	70	31	71	0	0	0	0	70.5	34.0	70.5	34.0
4:00 AM - 5:00 AM	0	0	0	0	0	0	0	221	101	220	0	0	0	0	220.5	92.0	220.5	92.0
5:00 AM - 6:00 AM	0	0	0	0	0	0	0	345	268	305	0	0	0	0	325.0	259.0	325.0	259.0
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	631	459	654	0	0	0	0	642.5	461.5	642.5	461.5
7:00 AM - 8:00 AM	0	0	0	0	0	0	0	450	410	465	0	0	0	0	457.5	398.5	457.5	398.5
8:00 AM - 9:00 AM	0	0	0	0	0	0	0	357	397	370	0	0	0	0	363.5	394.5	363.5	394.5
9:00 AM - 10:00 AM	0	0	0	0	0	0	0	349	381	263	0	0	0	0	306.0	334.0	306.0	334.0
10:00 AM - 11:00 AM	0	0	0	0	0	0	0	339	418	0	0	0	0	0	339.0	418.0	339.0	418.0
11:00 AM - 12:00 PM	0	0	0	0	231	298	438	481	0	0	0	0	0	0	334.5	389.5	334.5	389.5
12:00 PM - 1:00 PM	0	0	0	0	345	454	393	456	0	0	0	0	0	0	369.0	455.0	369.0	455.0
1:00 PM - 2:00 PM	0	0	0	0	413	490	367	471	0	0	0	0	0	0	390.0	480.5	390.0	480.5
2:00 PM - 3:00 PM	0	0	0	0	422	625	441	665	0	0	0	0	0	0	431.5	645.0	431.5	645.0
3:00 PM - 4:00 PM	0	0	0	0	467	803	451	802	0	0	0	0	0	0	459.0	802.5	459.0	802.5
4:00 PM - 5:00 PM	0	0	0	0	442	887	483	971	0	0	0	0	0	0	462.5	929.0	462.5	929.0
5:00 PM - 6:00 PM	0	0	0	0	446	794	418	744	0	0	0	0	0	0	432.0	769.0	432.0	769.0
6:00 PM - 7:00 PM	0	0	0	0	383	525	373	518	0	0	0	0	0	0	378.0	521.5	378.0	521.5
7:00 PM - 8:00 PM	0	0	0	0	357	443	290	425	0	0	0	0	0	0	323.5	434.0	323.5	434.0
8:00 PM - 9:00 PM	0	0	0	0	301	365	213	284	0	0	0	0	0	0	257.0	324.5	257.0	324.5
9:00 PM - 10:00 PM	0	0	0	0	173	257	197	199	0	0	0	0	0	0	185.0	228.0	185.0	228.0
10:00 PM - 11:00 PM	0	0	0	0	101	161	107	149	0	0	0	0	0	0	104.0	155.0	104.0	155.0
11:00 PM - 12:00 AM	0	0	0	0	4081	6102	7133	8864	2570	2165	0	0	0	0	7061.5	8774.5	7061.5	8774.5
TOTALS	-	-	-	-	4081	6102	7133	8864	15997	4735	0	0	0	0	15836.0	15836.0	15836.0	15836.0
COMBINED SPLIT (%)	0.0%	0.0%	0.0%	0.0%	40.1%	59.9%	44.6%	55.4%	54.3%	45.7%	0.0%	0.0%	0.0%	0.0%	44.6%	55.4%	44.6%	55.4%
PEAK HOURS																		
12:00:00 AM - 12:00:00 PM	-	-	-	-	-	-	7:00 AM	7:00 AM	-	-	-	-	-	-	7:00 AM	7:00 AM	7:00 AM	7:00 AM
Volume	-	-	-	-	-	-	631	459	654	464	-	-	-	-	643	462	643	462
12:00:00 PM - 12:00:00 AM	-	-	-	-	4:00 PM	5:00 PM	5:00 PM	5:00 PM	-	-	-	-	-	-	5:00 PM	5:00 PM	5:00 PM	5:00 PM
Volume	-	-	-	-	467	887	483	971	-	-	-	-	-	-	463	929	463	929

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD SPEED REPORT - BELLFORT STREET TO REED ROAD

#### City of Houston Traffic Management - Speed Report

Requested Address: 8300 MARTIN LUTHER KING  
Segment: BELLFORT TO REED RD

R1019 & R1024  
5/30/2019

DAILY COMBINED SPEED																
Starting Hr:min	<15	15 to <20	20 to <25	25 to <30	30 to <35	35 to <40	40 to <45	45 to <50	50 to <55	55 to <60	60 to <65	65 to <70	70 to <75	75 to >100	Total Counts	
12:00 AM	1	2	7	6	43	70	30	15	5	1	0	0	0	0	180	
1:00 AM	0	1	3	6	23	41	27	5	3	0	0	0	0	0	109	
2:00 AM	1	1	5	5	20	36	13	4	1	0	0	0	0	0	86	
3:00 AM	0	1	1	0	16	23	10	7	1	0	0	0	0	0	59	
4:00 AM	1	1	2	10	16	28	24	14	4	0	1	0	0	0	101	
5:00 AM	1	7	7	17	39	109	83	45	13	1	0	0	0	0	322	
6:00 AM	2	5	9	25	92	205	187	74	12	2	0	0	0	0	613	
7:00 AM	1	14	19	60	217	407	283	70	13	4	1	1	0	0	1090	
8:00 AM	0	8	16	40	174	319	230	60	11	2	0	0	0	0	860	
9:00 AM	3	6	19	65	186	274	142	48	8	3	0	0	0	0	754	
10:00 AM	1	4	17	43	165	292	157	39	9	1	1	1	0	0	730	
11:00 AM	4	10	24	55	179	295	138	39	11	0	2	0	0	0	757	
12:00 PM	1	13	20	56	189	372	220	41	4	1	1	1	0	0	919	
1:00 PM	1	8	26	69	255	307	131	45	4	0	3	0	0	0	849	
2:00 PM	1	6	26	112	282	275	118	16	2	0	0	0	0	0	838	
3:00 PM	1	7	20	69	298	446	206	54	4	1	0	0	0	0	1106	
4:00 PM	4	11	15	87	339	488	229	64	12	3	0	0	1	0	1253	
5:00 PM	6	21	50	140	389	558	227	44	15	3	1	0	0	0	1454	
6:00 PM	2	6	34	77	256	479	216	78	12	1	1	0	0	0	1162	
7:00 PM	0	10	14	56	191	346	201	60	10	1	1	0	1	0	891	
8:00 PM	0	11	33	55	190	246	146	28	5	1	0	0	0	0	715	
9:00 PM	1	1	16	41	119	180	114	18	7	0	0	0	0	0	497	
10:00 PM	1	6	10	32	94	148	76	21	5	3	0	0	0	0	396	
11:00 PM	1	5	8	20	46	97	53	20	4	2	0	0	0	0	256	
Totals	34	165	401	1146	3818	6041	3261	909	175	30	12	3	2	0	15997	
Percentile Speeds (mph)	10%	15%	15%	50%	85%	90%						Average (Mean)	Minimum (mph)	Maximum (mph)		
	29.0	31.5	31.5	36.5	42.0	43.5						36.4	12.0	74.0		
Speeds Exceeded	25mph 15397	35mph 10433	45mph 1131	55mph 47	65mph 2	75mph 0										

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD TRAFFIC MANAGEMENT - BELLFORT STREET TO REED ROAD

#### City of Houston Traffic Management

Requested Address: 8300 MARTIN LUTHER KING  
Segment: BELLFORT TO REED RD

Thursday  
5/30/2019

Radar Unit : R1019  
Radar Unit : R1024

Merged Vehicle Class									
NORTH					SOUTH				
Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large
12:00 AM	1.0%	0	68	5	12:00 AM	1.2%	1	101	5
1:00 AM	0.7%	0	51	0	1:00 AM	0.7%	0	56	2
2:00 AM	0.6%	0	42	2	2:00 AM	0.5%	0	37	5
3:00 AM	0.4%	0	32	0	3:00 AM	0.3%	0	26	1
4:00 AM	1.0%	0	63	7	4:00 AM	0.3%	0	30	1
5:00 AM	3.1%	0	213	8	5:00 AM	1.1%	4	86	11
6:00 AM	4.8%	0	323	22	6:00 AM	3.0%	4	248	16
7:00 AM	8.8%	0	593	38	7:00 AM	5.2%	4	422	33
8:00 AM	6.3%	0	430	20	8:00 AM	4.6%	5	384	21
9:00 AM	5.0%	0	340	17	9:00 AM	4.5%	4	362	31
10:00 AM	4.9%	0	332	17	10:00 AM	4.3%	2	361	18
11:00 AM	4.8%	0	324	15	11:00 AM	4.7%	3	394	21
12:00 PM	6.1%	0	420	18	12:00 PM	5.4%	4	454	23
1:00 PM	5.5%	0	371	22	1:00 PM	5.1%	7	421	28
2:00 PM	5.1%	0	340	27	2:00 PM	5.3%	4	439	28
3:00 PM	6.2%	0	424	17	3:00 PM	7.5%	8	625	32
4:00 PM	6.3%	0	434	17	4:00 PM	9.0%	13	747	42
5:00 PM	6.8%	0	466	17	5:00 PM	11.0%	14	935	22
6:00 PM	5.9%	0	401	17	6:00 PM	8.4%	8	715	21
7:00 PM	5.2%	0	364	9	7:00 PM	5.8%	6	501	11
8:00 PM	4.1%	0	284	6	8:00 PM	4.8%	5	408	12
9:00 PM	3.0%	0	209	4	9:00 PM	3.2%	3	273	8
10:00 PM	2.8%	0	190	7	10:00 PM	2.2%	6	187	6
11:00 PM	1.5%	0	102	5	11:00 PM	1.7%	1	145	3
TOTAL	7133	0	6816	317	8864	106	8357	401	401
Percentile %	0.0%	95.6%	4.4%	Percentile %	1.2%	94.3%	4.5%	Percentile %	0.7%
Small Vehicle	less than 14ft								
Medium Vehicle	between 14ft and 20ft								
Large Vehicle	greater than 20ft								

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD TRAFFIC VOLUMES - REED ROAD TO AIRPORT BOULEVARD

#### City of Houston Traffic Management - Volume

Requested Address: 9027 MARTIN LUTHER KING  
Segment: REED TO AIRPORT

29.6519802, -95.3165884

LAT, LONG :

Incoming Radar Unit : R1021  
Outgoing Radar Unit : R1033

hr:mm	Monday 5/13/2019		Tuesday 5/14/2019		Wednesday 5/15/2019		Thursday 5/16/2019		Friday 5/17/2019		Saturday 5/18/2019		Sunday 5/19/2019		Mon-Fri Average		7 Day Average	
	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH
12:00 AM	0	0	0	0	0	0	90	48	89	87	0	0	0	0	89.5	93.0	89.5	93.0
1:00 AM	0	0	0	0	0	0	26	48	51	57	0	0	0	0	49.5	52.5	49.5	52.5
2:00 AM	0	0	0	0	0	0	29	35	35	33	0	0	0	0	30.5	31.0	30.5	31.0
3:00 AM	0	0	0	0	0	0	29	32	37	39	0	0	0	0	33.0	35.5	33.0	35.5
4:00 AM	0	0	0	0	0	0	71	40	73	36	0	0	0	0	72.0	38.0	72.0	38.0
5:00 AM	0	0	0	0	0	0	200	75	204	74	0	0	0	0	202.0	74.5	202.0	74.5
6:00 AM	0	0	0	0	0	0	517	290	461	248	0	0	0	0	489.0	269.0	489.0	269.0
7:00 AM	0	0	0	0	0	0	1107	547	991	517	0	0	0	0	1049.0	532.0	1049.0	532.0
8:00 AM	0	0	0	0	0	0	615	422	549	433	0	0	0	0	582.0	427.5	582.0	427.5
9:00 AM	0	0	0	0	0	0	370	316	412	329	0	0	0	0	391.0	322.5	391.0	322.5
10:00 AM	0	0	0	0	0	0	346	321	306	273	0	0	0	0	326.0	297.0	326.0	297.0
11:00 AM	0	0	0	0	0	0	213	200	391	349	0	0	0	0	302.0	274.5	302.0	274.5
12:00 PM	0	0	0	0	0	0	388	406	430	399	0	0	0	0	409.0	402.5	409.0	402.5
1:00 PM	0	0	0	0	0	0	424	429	420	409	0	0	0	0	422.0	419.0	422.0	419.0
2:00 PM	0	0	0	0	0	0	461	442	483	511	0	0	0	0	472.0	476.5	472.0	476.5
3:00 PM	0	0	0	0	0	0	517	648	507	698	0	0	0	0	512.0	673.0	512.0	673.0
4:00 PM	0	0	0	0	0	0	589	934	577	919	0	0	0	0	563.0	926.5	563.0	926.5
5:00 PM	0	0	0	0	0	0	613	1040	558	1061	0	0	0	0	585.5	1050.5	585.5	1050.5
6:00 PM	0	0	0	0	0	0	538	804	524	877	0	0	0	0	531.0	840.5	531.0	840.5
7:00 PM	0	0	0	0	0	0	431	616	410	566	0	0	0	0	420.5	591.0	420.5	591.0
8:00 PM	0	0	0	0	0	0	389	435	400	480	0	0	0	0	394.5	457.5	394.5	457.5
9:00 PM	0	0	0	0	0	0	286	322	302	320	0	0	0	0	294.0	321.0	294.0	321.0
10:00 PM	0	0	0	0	0	0	203	217	209	221	0	0	0	0	206.0	219.0	206.0	219.0
11:00 PM	0	0	0	0	0	0	114	128	155	159	0	0	0	0	134.5	143.5	134.5	143.5
<b>TOTALS</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5166</b>	<b>6621</b>	<b>8785</b>	<b>9188</b>	<b>3208</b>	<b>2126</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8579.5</b>	<b>8967.5</b>	<b>8579.5</b>	<b>8967.5</b>
<b>COMBINED</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11787</b>	<b>17973</b>	<b>17973</b>	<b>5334</b>	<b>5334</b>	<b>5334</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>17547.0</b>	<b>17547.0</b>	<b>17547.0</b>	<b>17547.0</b>
<b>SPLIT (%)</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>43.8%</b>	<b>56.2%</b>	<b>48.9%</b>	<b>51.1%</b>	<b>60.1%</b>	<b>39.9%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>48.9%</b>	<b>51.1%</b>	<b>48.9%</b>	<b>51.1%</b>
<b>PEAK HOURS</b>																		
12:00:00 AM -	-	-	-	-	11:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	-	-	-	-	7:00 AM	7:00 AM	7:00 AM	7:00 AM
12:00:00 PM -	-	-	-	-	213	200	1107	547	991	517	-	-	-	-	1049	532	1049	532
12:00:00 PM -	-	-	-	-	5:00 PM	5:00 PM	4:00 PM	5:00 PM	-	-	-	-	-	-	5:00 PM	5:00 PM	5:00 PM	5:00 PM
12:00:00 AM -	-	-	-	-	613	1040	577	1061	-	-	-	-	-	-	586	1051	586	1051



# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD SPEED REPORT - REED ROAD TO AIRPORT BOULEVARD

#### City of Houston Traffic Management - Speed Report

Requested Address: 9027 MARTIN LUTHER KING  
Segment: REED TO AIRPORT  
DATE TESTED: 5/16/2019  
Radar Unit : R1021 & R1033

DAILY COMBINED SPEED															
Starting Hr:min	<15	15 to <20	20 to <25	25 to <30	30 to <35	35 to <40	40 to <45	45 to <50	50 to <55	55 to <60	60 to <65	65 to <70	70 to <75	75 to >100	Total Counts
12:00 AM	0	4	2	10	21	58	64	24	5	0	0	0	1	0	189
1:00 AM	1	1	1	1	11	36	33	8	3	0	0	1	0	0	96
2:00 AM	0	2	1	3	6	14	20	5	3	1	0	0	0	0	55
3:00 AM	0	1	1	4	6	19	13	14	2	1	0	0	0	0	61
4:00 AM	1	1	1	5	6	34	40	14	6	2	0	1	0	0	111
5:00 AM	0	1	8	5	22	55	93	55	27	7	0	2	0	0	275
6:00 AM	0	7	15	20	69	187	272	163	54	17	0	4	0	0	808
7:00 AM	1	3	10	43	124	430	636	300	89	14	0	2	1	0	1653
8:00 AM	1	8	18	29	108	348	327	144	37	11	0	5	1	0	1037
9:00 AM	1	8	18	32	85	199	235	73	27	4	0	2	1	0	685
10:00 AM	2	7	9	35	80	210	214	79	26	2	0	1	2	0	667
11:00 AM	0	10	13	33	112	255	205	77	24	8	0	0	2	1	740
12:00 PM	0	7	15	23	99	291	266	99	21	5	0	1	0	2	829
1:00 PM	3	9	23	26	112	293	262	79	18	1	0	3	0	0	829
2:00 PM	0	7	13	26	140	288	358	120	35	7	0	0	0	0	994
3:00 PM	1	11	12	29	116	384	442	147	47	12	0	0	0	0	1205
4:00 PM	1	12	26	45	167	479	525	180	52	9	0	2	0	1	1499
5:00 PM	0	5	16	47	150	524	609	209	50	6	0	1	0	0	1617
6:00 PM	0	8	23	45	137	401	527	200	38	15	0	4	1	0	1400
7:00 PM	0	8	19	46	114	331	298	119	32	7	0	2	0	0	976
8:00 PM	2	11	21	42	137	300	257	87	19	3	0	0	0	1	880
9:00 PM	1	6	8	21	104	237	180	47	14	2	0	2	0	0	622
10:00 PM	0	4	13	27	61	150	115	40	16	2	0	1	0	1	430
11:00 PM	0	6	5	10	45	110	95	33	5	1	0	0	1	2	314
Totals	15	147	291	607	2032	5633	6086	2316	650	137	0	36	8	12	2

Percentile Speeds (mph)	10%	15%	50%	85%	90%	Average (Mean) (mph)	Minimum (mph)	Maximum (mph)
	32.0	34.0	40.0	45.0	47.0	39.4	12.5	80.5

Speeds Exceeded  
25mph 35mph 45mph 55mph 65mph 75mph

# APPENDIX A VOLUME AND SPEED DATA

## MLK Healthy Connections Study

### MLK BOULEVARD TRAFFIC MANAGEMENT - REED ROAD TO AIRPORT BOULEVARD

#### City of Houston Traffic Management

Requested Address: 9027 MARTIN LUTHER KING  
Segment: REED TO AIRPORT

DATE TESTED: 5/16/2019  
Radar Unit : R1021  
Radar Unit : R1033

NORTH					SOUTH					MERGED VEHICLE CLASS				
Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large	Time	Percentile	Small	Medium	Large
12:00 AM	1.0%	3	84	3	12:00 AM	1.1%	0	97	2	12:00 AM	1.1%	3	181	5
1:00 AM	0.5%	1	43	4	1:00 AM	0.5%	0	44	4	1:00 AM	0.5%	1	87	8
2:00 AM	0.3%	0	26	0	2:00 AM	0.3%	0	27	2	2:00 AM	0.3%	0	53	2
3:00 AM	0.3%	0	28	1	3:00 AM	0.3%	0	31	1	3:00 AM	0.3%	0	59	2
4:00 AM	0.8%	2	64	5	4:00 AM	0.4%	0	33	7	4:00 AM	0.6%	2	97	12
5:00 AM	2.3%	4	185	11	5:00 AM	0.8%	0	67	8	5:00 AM	1.5%	4	252	19
6:00 AM	5.9%	15	470	32	6:00 AM	3.2%	0	266	24	6:00 AM	4.5%	15	736	56
7:00 AM	12.6%	23	1036	48	7:00 AM	6.0%	1	512	34	7:00 AM	9.2%	24	1548	82
8:00 AM	7.0%	15	566	34	8:00 AM	4.6%	0	399	23	8:00 AM	5.8%	15	965	57
9:00 AM	4.2%	14	326	30	9:00 AM	3.4%	2	280	34	9:00 AM	3.8%	16	606	64
10:00 AM	3.9%	9	313	24	10:00 AM	3.5%	1	297	23	10:00 AM	3.7%	10	610	47
11:00 AM	4.5%	16	347	28	11:00 AM	3.8%	1	320	28	11:00 AM	4.1%	17	667	56
12:00 PM	4.9%	11	394	25	12:00 PM	4.3%	1	369	29	12:00 PM	4.6%	12	763	54
1:00 PM	4.8%	19	373	28	1:00 PM	4.5%	0	394	15	1:00 PM	4.6%	19	767	43
2:00 PM	5.5%	19	443	21	2:00 PM	5.6%	2	478	31	2:00 PM	5.5%	21	921	52
3:00 PM	5.8%	16	464	27	3:00 PM	7.6%	3	639	56	3:00 PM	6.7%	19	1103	83
4:00 PM	6.6%	14	532	31	4:00 PM	10.0%	1	872	46	4:00 PM	8.3%	15	1404	77
5:00 PM	6.4%	17	517	24	5:00 PM	11.5%	3	1022	36	5:00 PM	9.0%	20	1539	60
6:00 PM	6.0%	12	491	21	6:00 PM	9.5%	0	847	30	6:00 PM	7.8%	12	1338	51
7:00 PM	4.7%	8	393	9	7:00 PM	6.2%	1	547	18	7:00 PM	5.4%	9	940	27
8:00 PM	4.6%	9	379	12	8:00 PM	5.2%	0	468	12	8:00 PM	4.9%	9	847	24
9:00 PM	3.4%	7	287	8	9:00 PM	3.5%	0	303	17	9:00 PM	3.5%	7	590	25
10:00 PM	2.4%	2	201	6	10:00 PM	2.4%	0	213	8	10:00 PM	2.4%	2	414	14
11:00 PM	1.8%	4	147	4	11:00 PM	1.7%	0	149	10	11:00 PM	1.7%	4	296	14
TOTAL	8785	240	8109	436	9188	16	8674	498	934	TOTAL	17973	256	16783	934
Percentile %		2.7%	92.3%	5.0%	Percentile %		0.2%	94.4%	5.4%	Percentile %		1.4%	93.4%	5.2%

Small Vehicle  
Medium Vehicle  
Large Vehicle

less than 14ft  
between 14ft and 20ft  
greater than 20ft

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Calhoun St at S Mac Gregor Way - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692198, Location: 29.711385, -95.341624



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Calhoun Rd Northbound						Calhoun Rd Southbound						S Mac Gregor Way Eastbound						S Mac Gregor Way Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:00AM	14	195	8	0	217	1	6	48	4	0	58	13	25	5	16	0	46	10	2	7	20	0	29	12	350
8:00AM	18	306	6	0	330	0	5	62	9	0	76	9	56	7	21	0	84	24	6	8	17	0	31	8	521
4:00PM	11	125	6	0	142	1	4	247	58	0	309	2	26	2	60	0	88	22	14	7	21	0	42	6	581
5:00PM	10	155	13	0	178	1	9	239	64	0	312	10	30	5	97	0	132	19	5	7	23	0	35	12	657
<b>Total</b>	53	781	33	0	867	3	24	596	135	0	755	34	137	19	194	0	350	75	27	29	81	0	137	38	2109
<b>% Approach</b>	6.1%	90.1%	3.8%	0%	-	-	3.2%	78.9%	17.9%	0%	-	-	39.1%	5.4%	55.4%	0%	-	-	19.7%	21.2%	59.1%	0%	-	-	-
<b>% Total</b>	2.5%	37.0%	1.6%	0%	4.1%	-	1.1%	28.3%	6.4%	0%	35.8%	-	6.5%	0.9%	9.2%	0%	16.6%	-	1.3%	1.4%	3.8%	0%	6.5%	-	-
<b>Lights</b>	53	762	33	0	848	-	23	581	134	0	738	-	136	18	192	0	346	-	27	29	80	0	136	-	2068
<b>% Lights</b>	100%	97.6%	100%	0%	97.8%	-	95.8%	97.5%	99.3%	0%	97.7%	-	99.3%	94.7%	99.0%	0%	98.9%	-	100%	100%	98.8%	0%	99.3%	-	98.1%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	1	0	1	-	1
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	1.2%	0%	0.7%	-	0%
<b>Buses and Single-Unit Trucks</b>	0	17	0	0	17	-	1	14	1	0	16	-	1	1	2	0	4	-	0	0	0	0	0	-	37
<b>% Buses and Single-Unit Trucks</b>	0%	2.2%	0%	0%	2.0%	-	4.2%	2.3%	0.7%	0%	2.1%	-	0.7%	5.3%	1.0%	0%	1.1%	-	0%	0%	0%	0%	0%	-	1.8%
<b>Bicycles on Road</b>	0	2	0	0	2	-	0	1	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	3
<b>% Bicycles on Road</b>	0%	0.3%	0%	0%	0.2%	-	0%	0.2%	0%	0%	0.1%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.1%
<b>Pedestrians</b>	-	-	-	-	-	2	-	-	-	-	-	23	-	-	-	-	-	71	-	-	-	-	-	34	-
<b>% Pedestrians</b>	-	-	-	-	-	66.7%	-	-	-	-	-	67.6%	-	-	-	-	-	94.7%	-	-	-	-	-	89.5%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	1	-	-	-	-	-	11	-	-	-	-	-	4	-	-	-	-	-	4	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	33.3%	-	-	-	-	-	32.4%	-	-	-	-	-	5.3%	-	-	-	-	-	10.5%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Calhoun St at S Mac Gregor Way - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

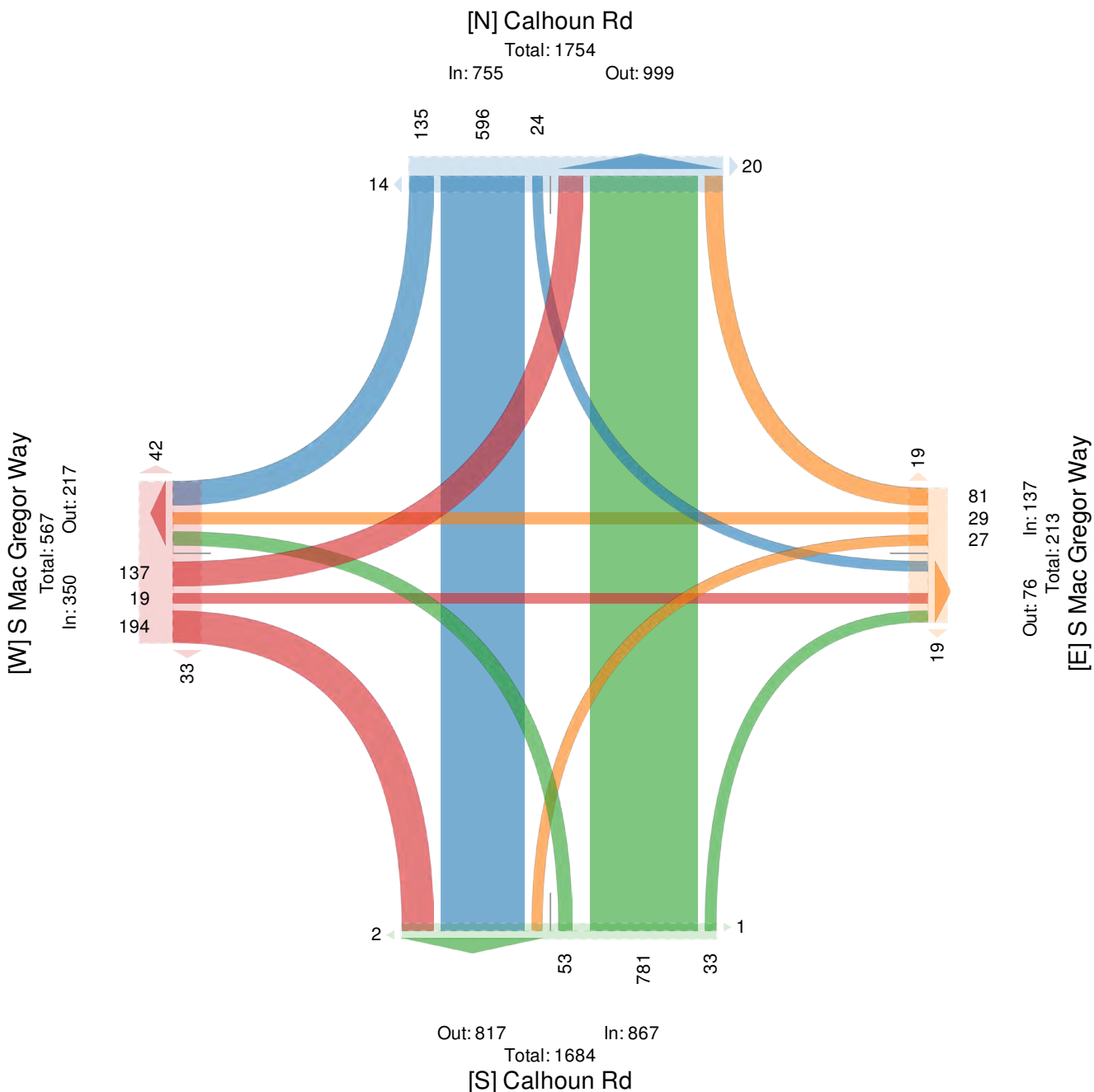
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692198, Location: 29.711385, -95.341624



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Calhoun St at S Mac Gregor Way - TMC

Wed Sep 11, 2019

AM Peak (8 AM - 9 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692198, Location: 29.711385, -95.341624



Provided by: C. J. Hensch & Associates  
Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Calhoun Rd Northbound						Calhoun Rd Southbound						S Mac Gregor Way Eastbound						S Mac Gregor Way Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 8:00AM	5	74	2	0	81	0	0	12	4	0	16	4	15	1	7	0	23	4	1	3	4	0	8	2	128
8:15AM	5	81	1	0	87	0	1	17	2	0	20	2	19	0	7	0	26	8	1	2	5	0	8	1	141
8:30AM	4	82	2	0	88	0	2	19	1	0	22	3	11	1	5	0	17	9	2	1	4	0	7	1	134
8:45AM	4	69	1	0	74	0	2	14	2	0	18	0	11	5	2	0	18	3	2	2	4	0	8	4	118
Total	18	306	6	0	330	0	5	62	9	0	76	9	56	7	21	0	84	24	6	8	17	0	31	8	521
% Approach	5.5%	92.7%	1.8%	0%	-	-	6.6%	81.6%	11.8%	0%	-	-	66.7%	8.3%	25.0%	0%	-	-	19.4%	25.8%	54.8%	0%	-	-	-
% Total	3.5%	58.7%	1.2%	0%	63.3%	-	1.0%	11.9%	1.7%	0%	14.6%	-	10.7%	1.3%	4.0%	0%	16.1%	-	1.2%	1.5%	3.3%	0%	6.0%	-	-
PHF	0.900	0.933	0.750	-	0.938	-	0.625	0.816	0.563	-	0.864	-	0.737	0.350	0.750	-	0.808	-	0.750	0.667	0.850	-	0.969	-	0.924
Lights	18	303	6	0	327	-	5	59	9	0	73	-	56	7	21	0	84	-	6	8	17	0	31	-	515
% Lights	100%	99.0%	100%	0%	99.1%	-	100%	95.2%	100%	0%	96.1%	-	100%	100%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	98.8%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Buses and Single-Unit Trucks	0	3	0	0	3	-	0	3	0	0	3	-	0	0	0	0	0	-	0	0	0	0	0	-	6
% Buses and Single-Unit Trucks	0%	1.0%	0%	0%	0.9%	-	0%	4.8%	0%	0%	3.9%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	1.2%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	6	-	-	-	-	-	21	-	-	-	-	-	5	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	66.7%	-	-	-	-	-	87.5%	-	-	-	-	-	62.5%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	3	-	-	-	-	-	3	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	33.3%	-	-	-	-	-	12.5%	-	-	-	-	-	37.5%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Calhoun St at S Mac Gregor Way - TMC

Wed Sep 11, 2019

AM Peak (8 AM - 9 AM)

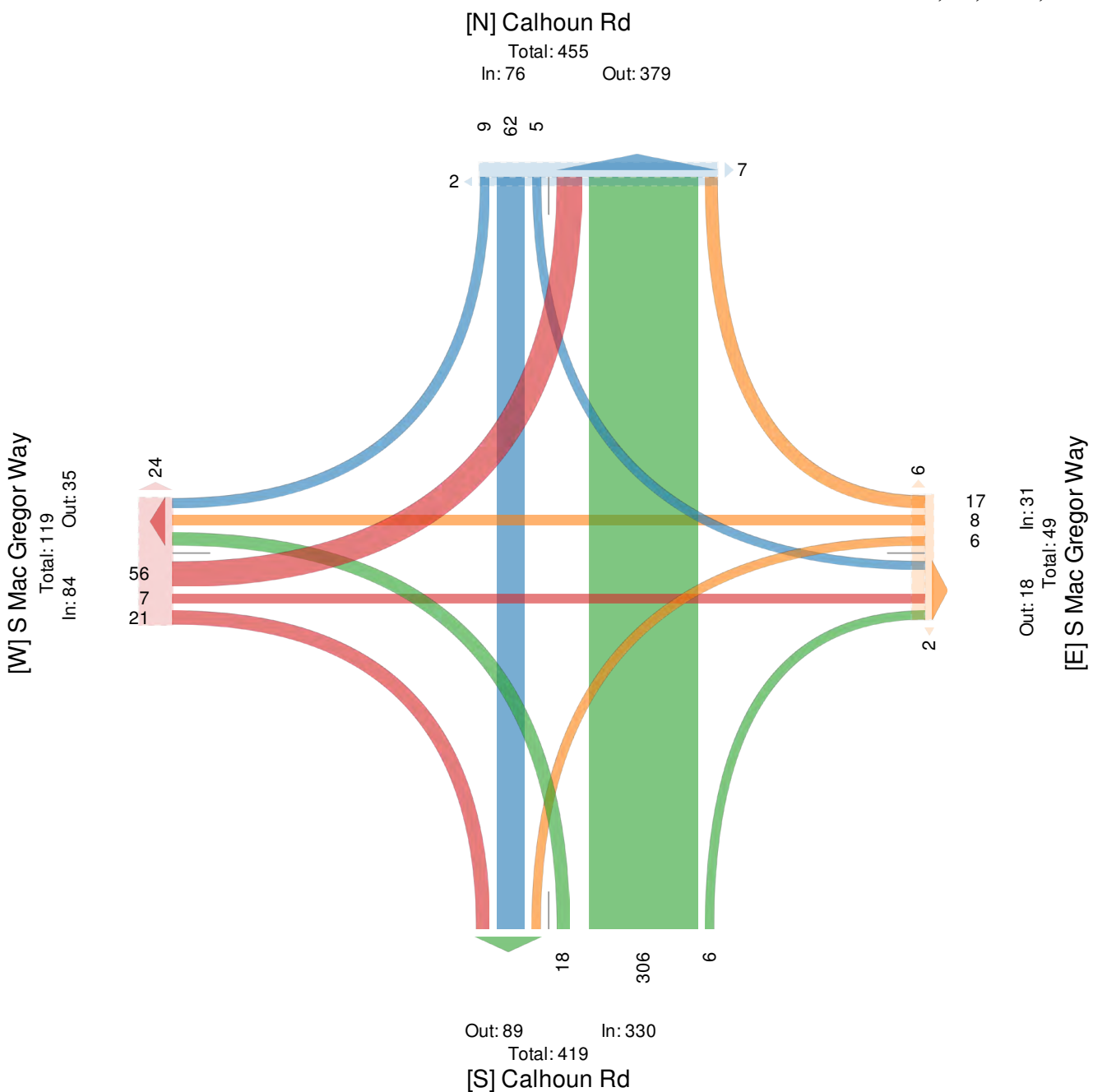
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692198, Location: 29.711385, -95.341624



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Calhoun St at S Mac Gregor Way - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692198, Location: 29.711385, -95.341624



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Calhoun Rd Northbound						Calhoun Rd Southbound						S Mac Gregor Way Eastbound						S Mac Gregor Way Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 5:00PM	2	45	2	0	49	0	1	53	9	0	63	3	5	3	28	0	36	4	1	0	9	0	10	2	158
5:15PM	2	43	2	0	47	1	1	64	19	0	84	3	7	1	23	0	31	5	3	3	5	0	11	6	173
5:30PM	3	39	3	0	45	0	5	71	14	0	90	2	9	0	25	0	34	8	1	1	1	0	3	0	172
5:45PM	3	28	6	0	37	0	2	51	22	0	75	2	9	1	21	0	31	2	0	3	8	0	11	4	154
<b>Total</b>	10	155	13	0	178	1	9	239	64	0	312	10	30	5	97	0	132	19	5	7	23	0	35	12	657
<b>% Approach</b>	5.6%	87.1%	7.3%	0%	-	-	2.9%	76.6%	20.5%	0%	-	-	22.7%	3.8%	73.5%	0%	-	-	14.3%	20.0%	65.7%	0%	-	-	-
<b>% Total</b>	1.5%	23.6%	2.0%	0%	27.1%	-	1.4%	36.4%	9.7%	0%	47.5%	-	4.6%	0.8%	14.8%	0%	20.1%	-	0.8%	1.1%	3.5%	0%	5.3%	-	-
<b>PHF</b>	0.833	0.861	0.542	-	0.908	-	0.450	0.842	0.727	-	0.867	-	0.833	0.417	0.866	-	0.917	-	0.417	0.583	0.639	-	0.795	-	0.949
<b>Lights</b>	10	151	13	0	174	-	9	236	64	0	309	-	30	5	97	0	132	-	5	7	23	0	35	-	650
<b>% Lights</b>	100%	97.4%	100%	0%	97.8%	-	100%	98.7%	100%	0%	99.0%	-	100%	100%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	98.9%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Buses and Single-Unit Trucks</b>	0	4	0	0	4	-	0	3	0	0	3	-	0	0	0	0	0	-	0	0	0	0	0	-	7
<b>% Buses and Single-Unit Trucks</b>	0%	2.6%	0%	0%	2.2%	-	0%	1.3%	0%	0%	1.0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	1.1%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	0	-	-	-	-	-	8	-	-	-	-	-	19	-	-	-	-	-	11	
<b>% Pedestrians</b>	-	-	-	-	-	0%	-	-	-	-	-	80.0%	-	-	-	-	-	100%	-	-	-	-	-	-	91.7%
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	100%	-	-	-	-	-	20.0%	-	-	-	-	-	0%	-	-	-	-	-	-	8.3%

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Calhoun St at S Mac Gregor Way - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

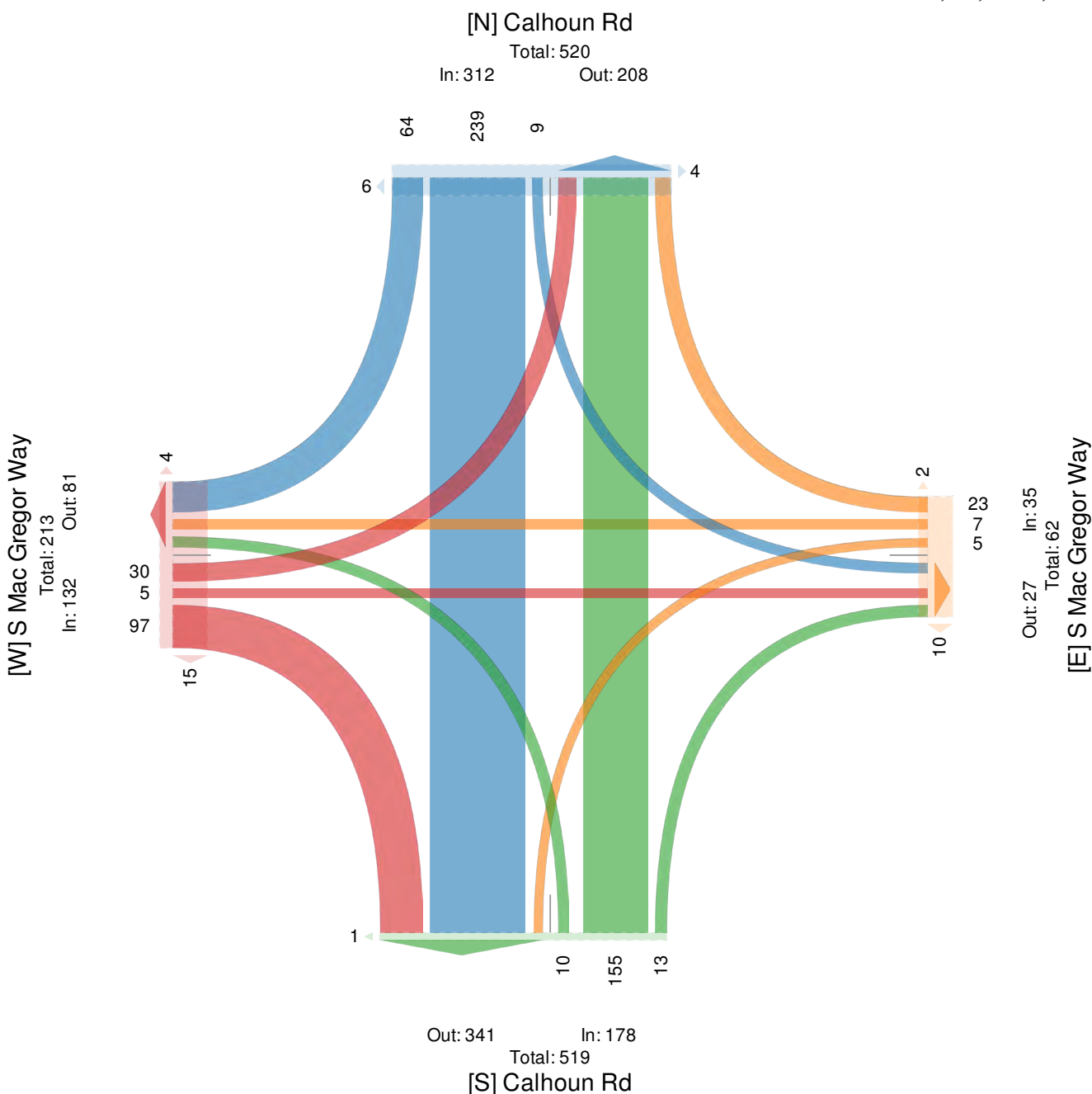
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692198, Location: 29.711385, -95.341624



Provided by: C. J. Hensch &  
Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Calhoun St at Old Spanish Trail - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692199, Location: 29.706108, -95.343529



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Calhoun Rd Northbound						Calhoun Rd Southbound						Old Spanish Trail Eastbound						Old Spanish Trail Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:00AM	13	101	79	0	193	2	22	29	24	0	75	6	62	588	12	0	662	0	61	636	64	0	761	3	1691
8:00AM	14	112	43	0	169	0	22	25	31	0	78	2	131	620	6	0	757	0	48	591	83	0	722	1	1726
4:00PM	13	49	46	0	108	2	72	127	121	0	320	3	52	914	11	0	977	1	81	787	46	0	914	2	2319
5:00PM	10	90	51	0	151	3	104	122	96	0	322	0	77	956	25	0	1058	0	92	771	89	0	952	0	2483
<b>Total</b>	50	352	219	0	621	7	220	303	272	0	795	11	322	3078	54	0	3454	1	282	2785	282	0	3349	6	8219
<b>% Approach</b>	8.1%	56.7%	35.3%	0%	-	-	27.7%	38.1%	34.2%	0%	-	-	9.3%	89.1%	1.6%	0%	-	-	8.4%	83.2%	8.4%	0%	-	-	-
<b>% Total</b>	0.6%	4.3%	2.7%	0%	7.6%	-	2.7%	3.7%	3.3%	0%	9.7%	-	3.9%	37.4%	0.7%	0%	42.0%	-	3.4%	33.9%	3.4%	0%	40.7%	-	-
<b>Lights</b>	50	347	215	0	612	-	219	301	258	0	778	-	311	2985	54	0	3350	-	279	2708	278	0	3265	-	8005
<b>% Lights</b>	100%	98.6%	98.2%	0%	98.6%	-	99.5%	99.3%	94.9%	0%	97.9%	-	96.6%	97.0%	100%	0%	97.0%	-	98.9%	97.2%	98.6%	0%	97.5%	-	97.4%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	10	0	0	10	-	0	9	0	0	9	-	19
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.3%	0%	0%	0.3%	-	0%	0.3%	0%	0%	0.3%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	0	5	4	0	9	-	1	2	14	0	17	-	11	83	0	0	94	-	3	68	4	0	75	-	195
<b>% Buses and Single-Unit Trucks</b>	0%	1.4%	1.8%	0%	1.4%	-	0.5%	0.7%	5.1%	0%	2.1%	-	3.4%	2.7%	0%	0%	2.7%	-	1.1%	2.4%	1.4%	0%	2.2%	-	2.4%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	4	-	-	-	-	-	9	-	-	-	-	-	1	-	-	-	-	-	3	-
<b>% Pedestrians</b>	-	-	-	-	-	57.1%	-	-	-	-	-	81.8%	-	-	-	-	-	100%	-	-	-	-	-	50.0%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	3	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	42.9%	-	-	-	-	-	18.2%	-	-	-	-	-	0%	-	-	-	-	-	50.0%	-

\*Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Calhoun St at Old Spanish Trail - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

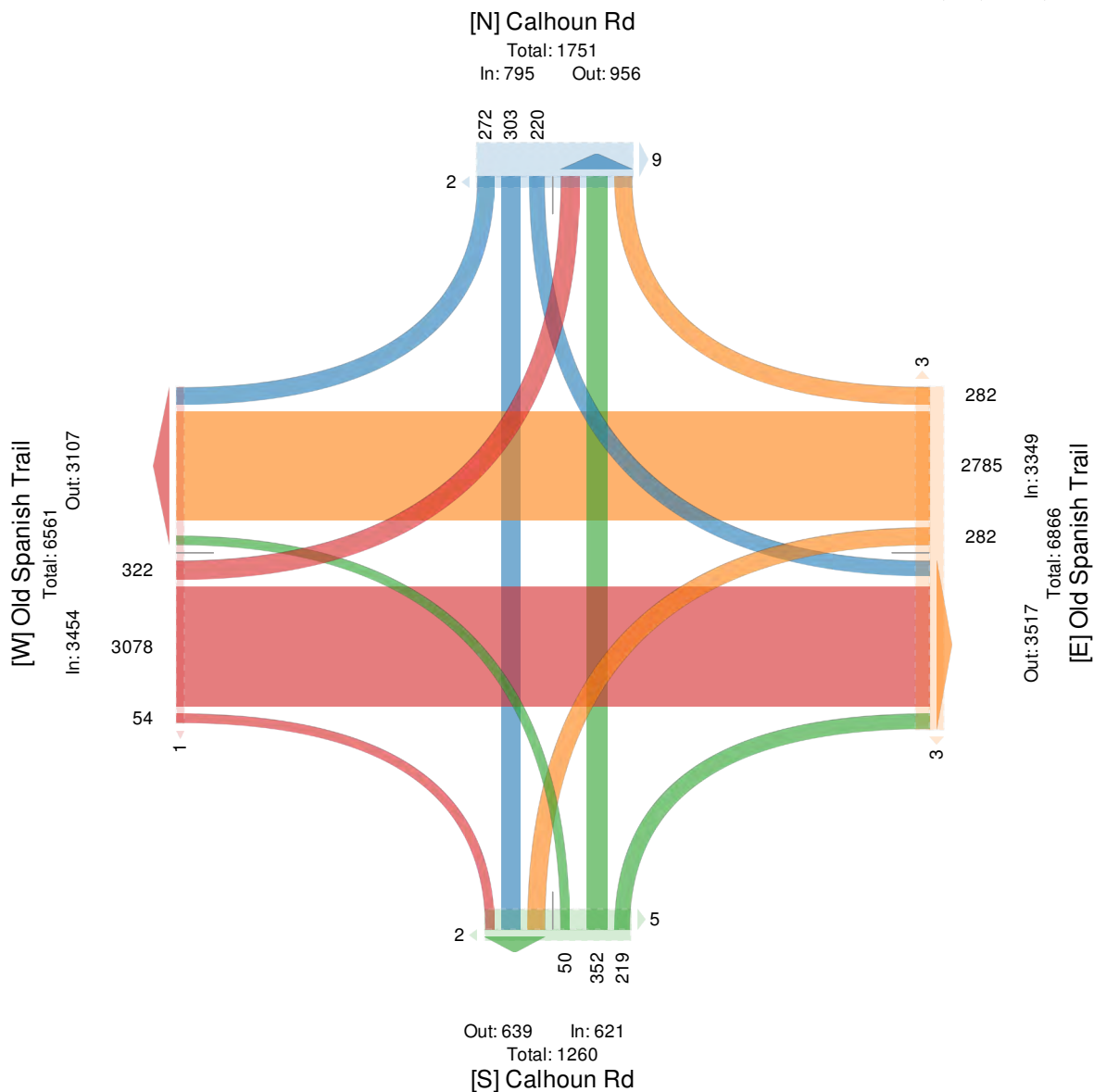
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692199, Location: 29.706108, -95.343529



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Calhoun St at Old Spanish Trail - TMC

Wed Sep 11, 2019

AM Peak (7:30 AM - 8:30 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692199, Location: 29.706108, -95.343529



Provided by: C. J. Hensch & Associates  
Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Calhoun Rd Northbound						Calhoun Rd Southbound						Old Spanish Trail Eastbound						Old Spanish Trail Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:30AM	2	37	18	0	57	0	6	6	9	0	21	1	20	157	4	0	181	0	23	190	19	0	232	0	491
7:45AM	6	41	22	0	69	0	9	9	3	0	21	1	22	163	6	0	191	0	19	165	21	0	205	2	486
8:00AM	7	32	13	0	52	0	3	6	7	0	16	1	27	170	1	0	198	0	11	176	23	0	210	0	476
8:15AM	3	32	11	0	46	0	8	6	7	0	21	1	41	160	1	0	202	0	11	130	15	0	156	1	425
<b>Total</b>	18	142	64	0	224	0	26	27	26	0	79	4	110	650	12	0	772	0	64	661	78	0	803	3	1878
<b>% Approach</b>	8.0%	63.4%	28.6%	0%	-	-	32.9%	34.2%	32.9%	0%	-	-	14.2%	84.2%	1.6%	0%	-	-	8.0%	82.3%	9.7%	0%	-	-	-
<b>% Total</b>	1.0%	7.6%	3.4%	0%	11.9%	-	1.4%	1.4%	1.4%	0%	4.2%	-	5.9%	34.6%	0.6%	0%	4.1%	-	3.4%	35.2%	4.2%	0%	4.2%	-	-
<b>PHF</b>	0.643	0.866	0.727	-	0.812	-	0.722	0.750	0.722	-	0.940	-	0.671	0.956	0.500	-	0.955	-	0.696	0.870	0.848	-	0.865	-	0.956
<b>Lights</b>	18	142	64	0	224	-	26	27	21	0	74	-	107	631	12	0	750	-	64	642	76	0	782	-	1830
<b>% Lights</b>	100%	100%	100%	0%	100%	-	100%	100%	80.8%	0%	93.7%	-	97.3%	97.1%	100%	0%	97.2%	-	100%	97.1%	97.4%	0%	97.4%	-	97.4%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	4	0	0	4	-	0	4	0	0	4	-	8
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.6%	0%	0%	0.5%	-	0%	0.6%	0%	0%	0.5%	-	0.4%
<b>Buses and Single-Unit Trucks</b>	0	0	0	0	0	-	0	0	5	0	5	-	3	15	0	0	18	-	0	15	2	0	17	-	40
<b>% Buses and Single-Unit Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	19.2%	0%	6.3%	-	2.7%	2.3%	0%	0%	2.3%	-	0%	2.3%	2.6%	0%	2.1%	-	2.1%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	3	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Calhoun St at Old Spanish Trail - TMC

Wed Sep 11, 2019

AM Peak (7:30 AM - 8:30 AM)

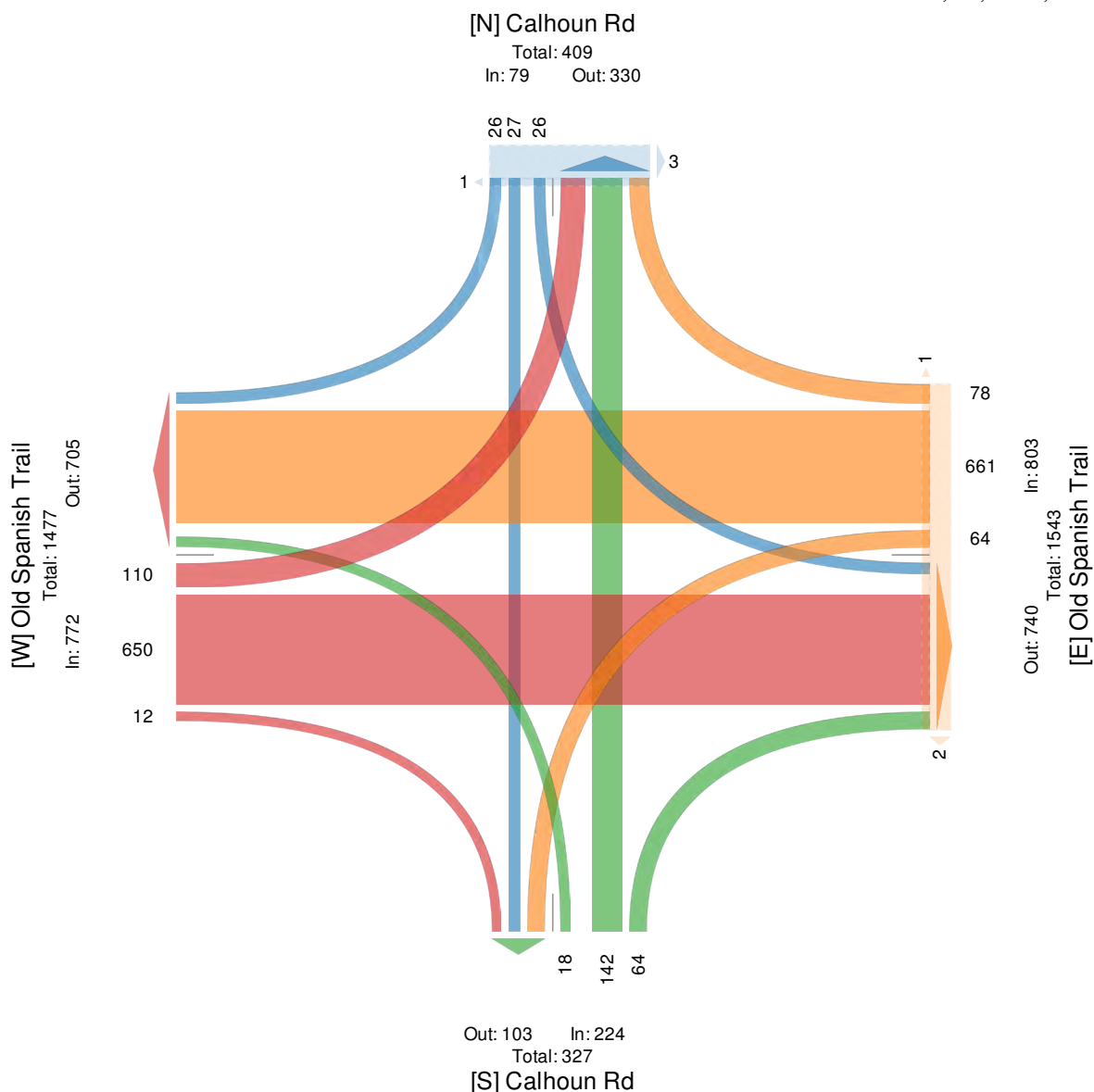
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692199, Location: 29.706108, -95.343529



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Calhoun St at Old Spanish Trail - TMC

Wed Sep 11, 2019

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692199, Location: 29.706108, -95.343529



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Calhoun Rd Northbound						Calhoun Rd Southbound						Old Spanish Trail Eastbound						Old Spanish Trail Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 4:30PM	0	16	11	0	27	1	16	37	36	0	89	2	7	278	4	0	289	0	25	213	13	0	251	0	656
4:45PM	5	15	9	0	29	0	26	30	22	0	78	0	14	209	3	0	226	0	23	216	19	0	258	0	591
5:00PM	0	22	15	0	37	1	25	28	18	0	71	0	14	272	8	0	294	0	29	174	19	0	222	0	624
5:15PM	4	34	14	0	52	1	26	38	30	0	94	0	20	251	6	0	277	0	30	191	12	0	233	0	656
<b>Total</b>	<b>9</b>	<b>87</b>	<b>49</b>	<b>0</b>	<b>145</b>	<b>3</b>	<b>93</b>	<b>133</b>	<b>106</b>	<b>0</b>	<b>332</b>	<b>2</b>	<b>55</b>	<b>1010</b>	<b>21</b>	<b>0</b>	<b>1086</b>	<b>0</b>	<b>107</b>	<b>794</b>	<b>63</b>	<b>0</b>	<b>964</b>	<b>0</b>	<b>2527</b>
<b>% Approach</b>	6.2%	60.0%	33.8%	0%	-	-	28.0%	40.1%	31.9%	0%	-	-	5.1%	93.0%	1.9%	0%	-	-	11.1%	82.4%	6.5%	0%	-	-	-
<b>% Total</b>	0.4%	3.4%	1.9%	0%	5.7%	-	3.7%	5.3%	4.2%	0%	13.1%	-	2.2%	40.0%	0.8%	0%	43.0%	-	4.2%	31.4%	2.5%	0%	38.1%	-	-
<b>PHF</b>	0.450	0.640	0.817	-	0.697	-	0.894	0.875	0.736	-	0.883	-	0.688	0.908	0.656	-	0.923	-	0.892	0.919	0.829	-	0.934	-	0.963
<b>Lights</b>	9	82	48	0	139	-	93	132	103	0	328	-	52	987	21	0	1060	-	104	776	62	0	942	-	2469
<b>% Lights</b>	100%	94.3%	98.0%	0%	95.9%	-	100%	99.2%	97.2%	0%	98.8%	-	94.5%	97.7%	100%	0%	97.6%	-	97.2%	97.7%	98.4%	0%	97.7%	-	97.7%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	2	0	0	2	-	0	1	0	0	1	-	3
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.2%	0%	0%	0.2%	-	0%	0.1%	0%	0%	0.1%	-	0.1%
<b>Buses and Single-Unit Trucks</b>	0	5	1	0	6	-	0	1	3	0	4	-	3	21	0	0	24	-	3	17	1	0	21	-	55
<b>% Buses and Single-Unit Trucks</b>	0%	5.7%	2.0%	0%	4.1%	-	0%	0.8%	2.8%	0%	1.2%	-	5.5%	2.1%	0%	0%	2.2%	-	2.8%	2.1%	1.6%	0%	2.2%	-	2.2%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	66.7%	-	-	-	-	-	50.0%	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	33.3%	-	-	-	-	-	50.0%	-	-	-	-	-	-	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Calhoun St at Old Spanish Trail - TMC

Wed Sep 11, 2019

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

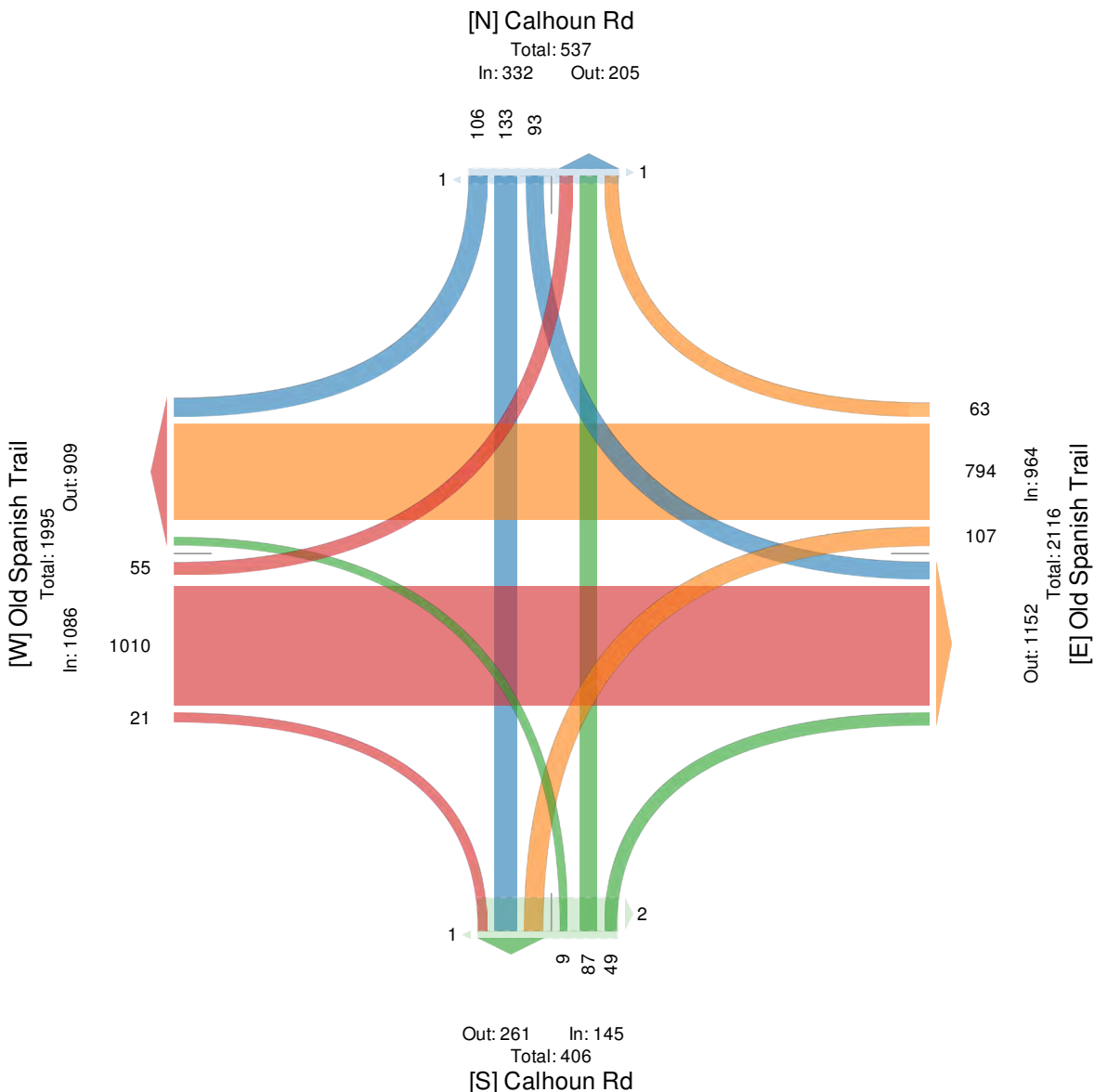
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692199, Location: 29.706108, -95.343529



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Scott St - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692200, Location: 29.70475, -95.358445



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Scott St Northbound						Scott St Southbound						Griggs St Eastbound						Griggs St Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:00AM	18	762	10	0	790	11	109	370	34	0	513	2	61	39	32	0	132	9	6	62	292	0	360	3	1795
8:00AM	14	858	17	0	889	7	86	444	33	0	563	0	50	18	9	0	77	12	9	42	202	0	253	0	1782
4:00PM	15	620	35	0	670	7	257	1001	77	1	1336	3	101	58	15	0	174	17	23	41	204	0	268	1	2448
5:00PM	20	599	31	0	650	7	323	1094	71	2	1490	5	110	65	18	0	193	11	20	62	236	1	319	5	2652
<b>Total</b>	67	2839	93	0	2999	32	775	2909	215	3	3902	10	322	180	74	0	576	49	58	207	934	1	1200	9	8677
<b>% Approach</b>	2.2%	94.7%	3.1%	0%	-	-	19.9%	74.6%	5.5%	0.1%	-	-	55.9%	31.3%	12.8%	0%	-	-	4.8%	17.3%	77.8%	0.1%	-	-	-
<b>% Total</b>	0.8%	32.7%	1.1%	0%	34.6%	-	8.9%	33.5%	2.5%	0%	45.0%	-	3.7%	2.1%	0.9%	0%	6.6%	-	0.7%	2.4%	10.8%	0%	13.8%	-	-
<b>Lights</b>	65	2755	92	0	2912	-	750	2815	203	3	3771	-	316	173	71	0	560	-	56	201	920	1	1178	-	8421
<b>% Lights</b>	97.0%	97.0%	98.9%	0%	97.1%	-	96.8%	96.8%	94.4%	100%	96.6%	-	98.1%	96.1%	95.9%	0%	97.2%	-	96.6%	97.1%	98.5%	100%	98.2%	-	97.0%
<b>Articulated Trucks</b>	0	13	0	0	13	-	1	6	0	0	7	-	0	0	0	0	0	-	0	0	3	0	3	-	23
<b>% Articulated Trucks</b>	0%	0.5%	0%	0%	0.4%	-	0.1%	0.2%	0%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0%	0.3%	0%	0.3%	-	0.3%
<b>Buses and Single-Unit Trucks</b>	2	71	1	0	74	-	23	88	12	0	123	-	6	7	3	0	16	-	2	6	11	0	19	-	232
<b>% Buses and Single-Unit Trucks</b>	3.0%	2.5%	1.1%	0%	2.5%	-	3.0%	3.0%	5.6%	0%	3.2%	-	1.9%	3.9%	4.1%	0%	2.8%	-	3.4%	2.9%	1.2%	0%	1.6%	-	2.7%
<b>Bicycles on Road</b>	0	0	0	0	0	-	1	0	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	1
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0.1%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	26	-	-	-	-	-	8	-	-	-	-	-	43	-	-	-	-	-	9	-
<b>% Pedestrians</b>	-	-	-	-	-	-81.3%	-	-	-	-	-	-80.0%	-	-	-	-	-	-87.8%	-	-	-	-	-	-100%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	6	-	-	-	-	-	2	-	-	-	-	-	6	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-18.8%	-	-	-	-	-	-20.0%	-	-	-	-	-	-12.2%	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Scott St - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

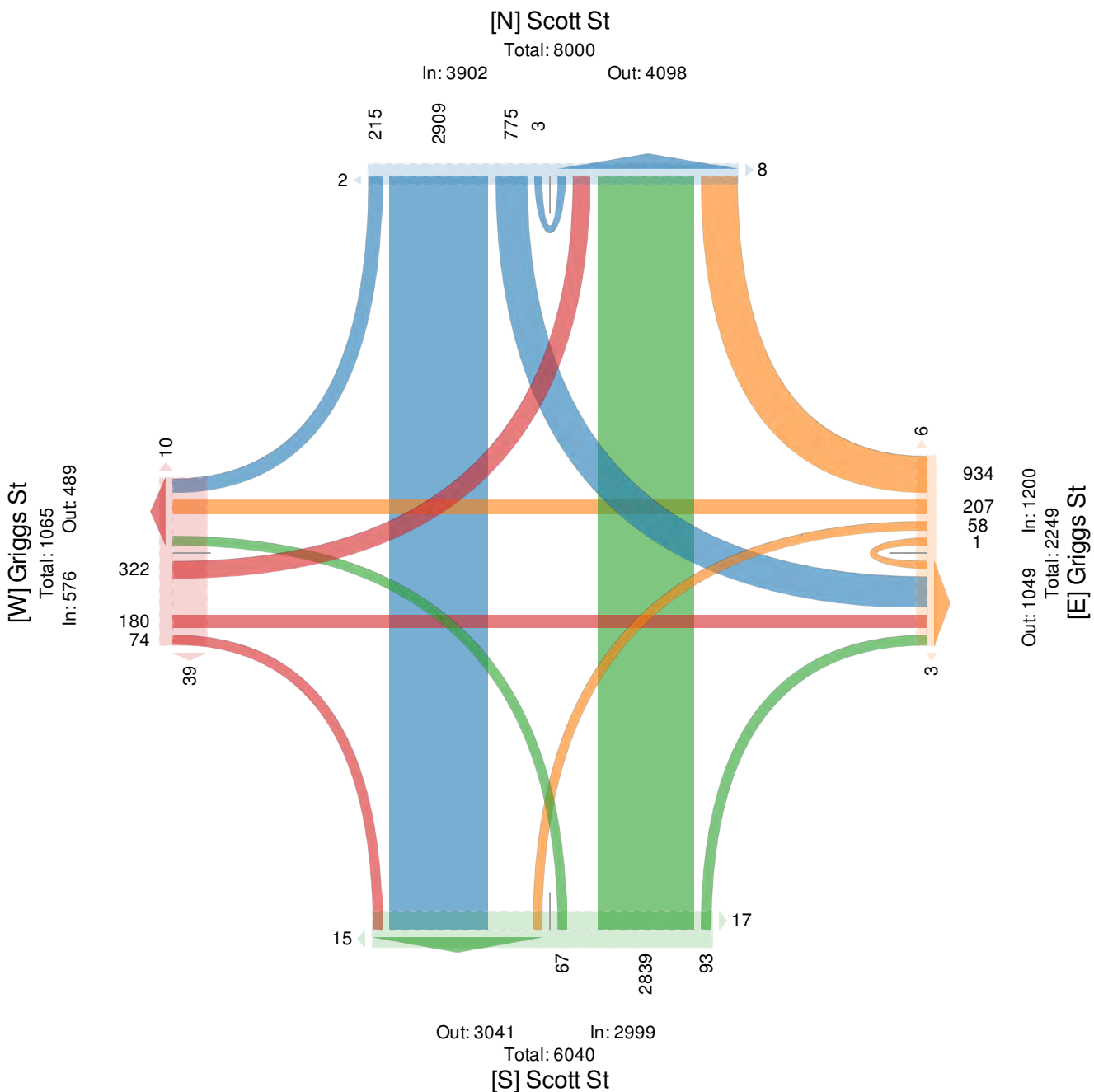
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692200, Location: 29.70475, -95.358445



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Scott St - TMC

Wed Sep 11, 2019

AM Peak (7:30 AM - 8:30 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692200, Location: 29.70475, -95.358445



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Scott St Northbound						Scott St Southbound						Griggs St Eastbound						Griggs St Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:30AM	9	233	2	0	244	5	36	130	13	0	179	0	16	11	8	0	35	3	1	19	67	0	87	0	545
7:45AM	3	211	4	0	218	1	25	96	12	0	133	1	21	7	5	0	33	5	2	20	68	0	90	0	474
8:00AM	5	228	7	0	240	1	19	127	7	0	153	0	15	3	2	0	20	2	0	11	53	0	64	0	477
8:15AM	6	210	5	0	221	3	18	127	10	0	155	0	10	7	2	0	19	4	5	17	59	0	81	0	476
<b>Total</b>	23	882	18	0	923	10	98	480	42	0	620	1	62	28	17	0	107	14	8	67	247	0	322	0	1972
<b>% Approach</b>	2.5%	95.6%	2.0%	0%	-	-	15.8%	77.4%	6.8%	0%	-	-	57.9%	26.2%	15.9%	0%	-	-	2.5%	20.8%	76.7%	0%	-	-	-
<b>% Total</b>	1.2%	44.7%	0.9%	0%	46.8%	-	5.0%	24.3%	2.1%	0%	31.4%	-	3.1%	1.4%	0.9%	0%	5.4%	-	0.4%	3.4%	12.5%	0%	16.3%	-	-
<b>PHF</b>	0.639	0.946	0.643	-	0.946	-	0.674	0.923	0.808	-	0.865	-	0.738	0.636	0.531	-	0.764	-	0.400	0.838	0.908	-	0.894	-	0.904
<b>Lights</b>	21	860	17	0	898	-	92	450	39	0	581	-	60	26	16	0	102	-	8	64	243	0	315	-	1896
<b>% Lights</b>	91.3%	97.5%	94.4%	0%	97.3%	-	93.9%	93.8%	92.9%	0%	93.7%	-	96.8%	92.9%	94.1%	0%	95.3%	-	100%	95.5%	98.4%	0%	97.8%	-	96.1%
<b>Articulated Trucks</b>	0	5	0	0	5	-	0	2	0	0	2	-	0	0	0	0	0	-	0	0	1	0	1	-	8
<b>% Articulated Trucks</b>	0%	0.6%	0%	0%	0.5%	-	0%	0.4%	0%	0%	0.3%	-	0%	0%	0%	0%	0%	-	0%	0%	0.4%	0%	0.3%	-	0.4%
<b>Buses and Single-Unit Trucks</b>	2	17	1	0	20	-	5	28	3	0	36	-	2	2	1	0	5	-	0	3	3	0	6	-	67
<b>% Buses and Single-Unit Trucks</b>	8.7%	1.9%	5.6%	0%	2.2%	-	5.1%	5.8%	7.1%	0%	5.8%	-	3.2%	7.1%	5.9%	0%	4.7%	-	0%	4.5%	1.2%	0%	1.9%	-	3.4%
<b>Bicycles on Road</b>	0	0	0	0	0	-	1	0	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	1
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	1.0%	0%	0%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.1%
<b>Pedestrians</b>	-	-	-	-	-	8	-	-	-	-	-	0	-	-	-	-	-	11	-	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	80.0%	-	-	-	-	-	0%	-	-	-	-	-	78.6%	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	20.0%	-	-	-	-	-	100%	-	-	-	-	-	21.4%	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Scott St - TMC

Wed Sep 11, 2019

AM Peak (7:30 AM - 8:30 AM)

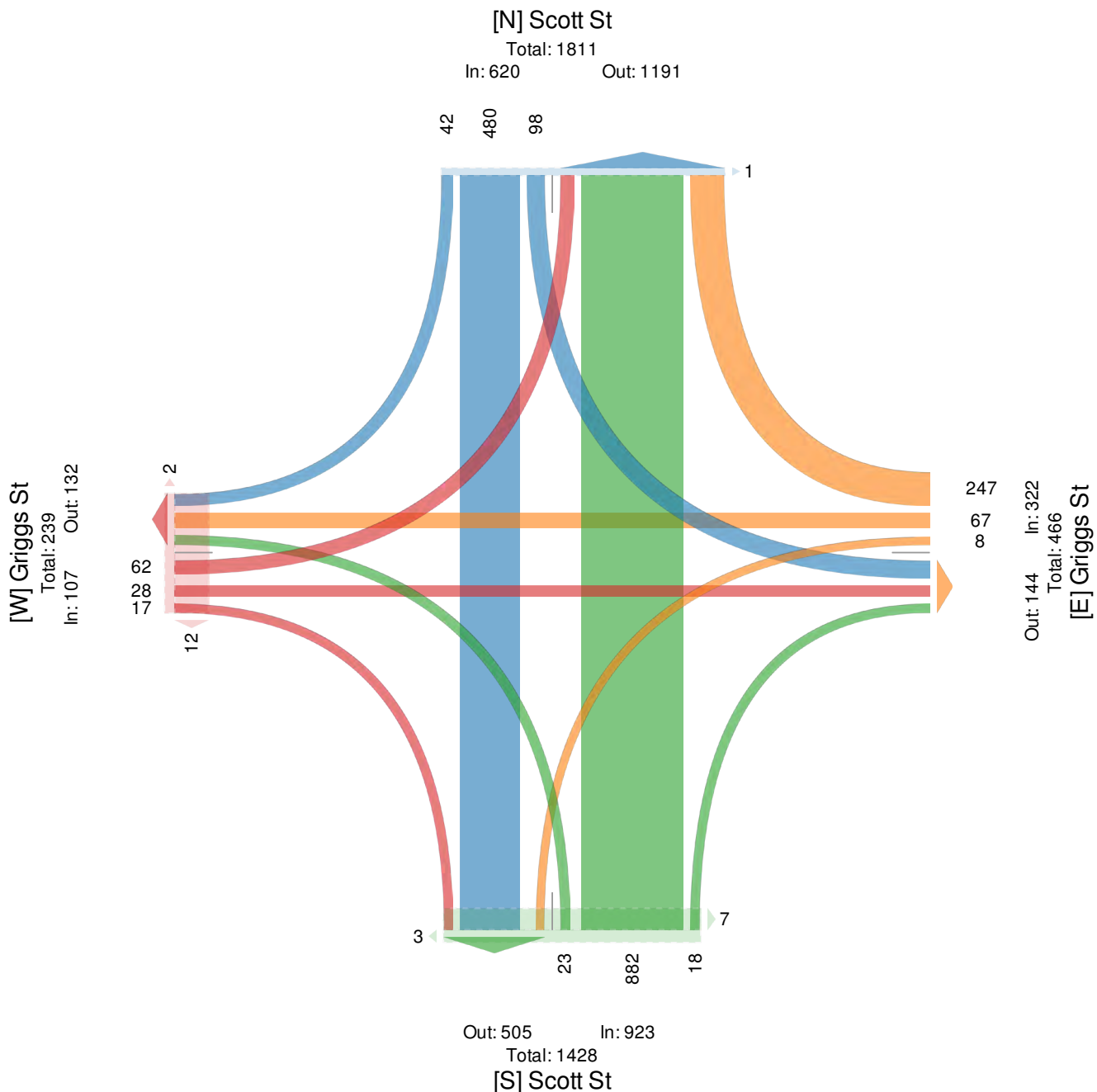
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692200, Location: 29.70475, -95.358445



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Scott St - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692200, Location: 29.70475, -95.358445



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Scott St Northbound						Scott St Southbound						Griggs St Eastbound						Griggs St Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 5:00PM	5	157	5	0	167	0	80	248	14	0	342	0	34	16	7	0	57	1	9	10	66	1	86	0	652
5:15PM	1	152	7	0	160	2	91	276	19	0	386	2	29	15	6	0	50	4	5	12	63	0	80	0	676
5:30PM	8	159	12	0	179	3	74	286	17	1	378	1	24	11	1	0	36	4	3	18	52	0	73	1	666
5:45PM	6	131	7	0	144	2	78	284	21	1	384	2	23	23	4	0	50	2	3	22	55	0	80	4	658
Total	20	599	31	0	650	7	323	1094	71	2	1490	5	110	65	18	0	193	11	20	62	236	1	319	5	2652
% Approach	3.1%	92.2%	4.8%	0%	-	-	21.7%	73.4%	4.8%	0.1%	-	-	57.0%	33.7%	9.3%	0%	-	-	6.3%	19.4%	74.0%	0.3%	-	-	-
% Total	0.8%	22.6%	1.2%	0%	24.5%	-	12.2%	41.3%	2.7%	0.1%	56.2%	-	4.1%	2.5%	0.7%	0%	7.3%	-	0.8%	2.3%	8.9%	0%	12.0%	-	-
PHF	0.625	0.942	0.646	-	0.908	-	0.887	0.956	0.845	0.500	0.965	-	0.809	0.707	0.643	-	0.846	-	0.556	0.705	0.894	0.250	0.927	-	0.981
Lights	20	583	31	0	634	-	317	1071	68	2	1458	-	109	65	17	0	191	-	19	62	233	1	315	-	2598
% Lights	100%	97.3%	100%	0%	97.5%	-	98.1%	97.9%	95.8%	100%	97.9%	-	99.1%	100%	94.4%	0%	99.0%	-	95.0%	100%	98.7%	100%	98.7%	-	98.0%
Articulated Trucks	0	0	0	0	0	-	1	2	0	0	3	-	0	0	0	0	0	-	0	0	0	0	0	-	3
% Articulated Trucks	0%	0%	0%	0%	0%	-	0.3%	0.2%	0%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.1%
Buses and Single-Unit Trucks	0	16	0	0	16	-	5	21	3	0	29	-	1	0	1	0	2	-	1	0	3	0	4	-	51
% Buses and Single-Unit Trucks	0%	2.7%	0%	0%	2.5%	-	1.5%	1.9%	4.2%	0%	1.9%	-	0.9%	0%	5.6%	0%	1.0%	-	5.0%	0%	1.3%	0%	1.3%	-	1.9%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	5	-	-	-	-	-	5	-	-	-	-	-	11	-	-	-	-	-	5	
% Pedestrians	-	-	-	-	-	71.4%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	28.6%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Scott St - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

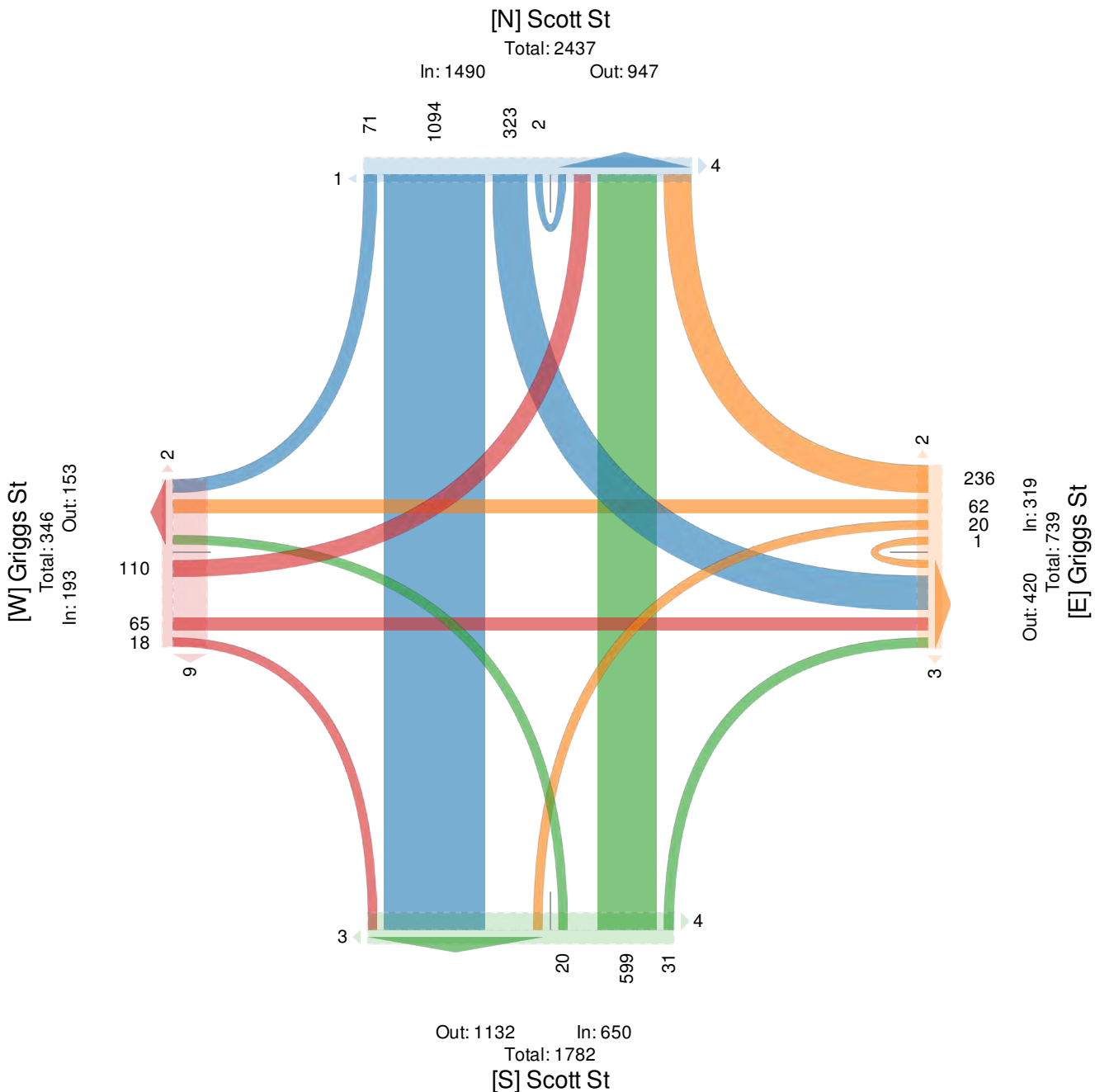
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692200, Location: 29.70475, -95.358445



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Cullen Blvd - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692202, Location: 29.701767, -95.348587



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Cullen Blvd Northbound						Cullen Blvd Southbound						Griggs Rd Eastbound						Griggs Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:00AM	92	365	59	1	517	1	6	101	12	0	119	0	4	187	47	0	238	6	62	592	35	0	689	2	1563
8:00AM	92	359	60	0	511	1	12	113	14	0	139	1	9	150	42	0	201	1	40	432	36	0	508	2	1359
4:00PM	99	211	54	0	364	6	25	361	20	0	406	2	11	579	105	0	695	4	94	356	25	0	475	1	1940
5:00PM	87	198	52	0	337	3	24	398	16	0	438	1	19	631	138	1	789	2	96	383	32	1	512	5	2076
Total	370	1133	225	1	1729	11	67	973	62	0	1102	4	43	1547	332	1	1923	13	292	1763	128	1	2184	10	6938
% Approach	21.4%	65.5%	13.0%	0.1%	-	-	6.1%	88.3%	5.6%	0%	-	-	2.2%	80.4%	17.3%	0.1%	-	-	13.4%	80.7%	5.9%	0%	-	-	-
% Total	5.3%	16.3%	3.2%	0%	24.9%	-	1.0%	14.0%	0.9%	0%	15.9%	-	0.6%	22.3%	4.8%	0%	27.7%	-	4.2%	25.4%	1.8%	0%	31.5%	-	-
Lights	366	1095	221	1	1683	-	66	940	61	0	1067	-	43	1515	321	1	1880	-	287	1728	125	1	2141	-	6771
% Lights	98.9%	96.6%	98.2%	100%	97.3%	-	98.5%	96.6%	98.4%	0%	96.8%	-	100%	97.9%	96.7%	100%	97.8%	-	98.3%	98.0%	97.7%	100%	98.0%	-	97.6%
Articulated Trucks	0	4	0	0	4	-	0	1	1	0	2	-	0	2	1	0	3	-	0	4	1	0	5	-	14
% Articulated Trucks	0%	0.4%	0%	0%	0.2%	-	0%	0.1%	1.6%	0%	0.2%	-	0%	0.1%	0.3%	0%	0.2%	-	0%	0.2%	0.8%	0%	0.2%	-	0.2%
Buses and Single-Unit Trucks	4	34	4	0	42	-	1	32	0	0	33	-	0	30	10	0	40	-	5	31	2	0	38	-	153
% Buses and Single-Unit Trucks	1.1%	3.0%	1.8%	0%	2.4%	-	1.5%	3.3%	0%	0%	3.0%	-	0%	1.9%	3.0%	0%	2.1%	-	1.7%	1.8%	1.6%	0%	1.7%	-	2.2%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	7	-	-	-	-	-	4	-	-	-	-	-	12	-	-	-	-	-	9	
% Pedestrians	-	-	-	-	-	63.6%	-	-	-	-	-	100%	-	-	-	-	-	92.3%	-	-	-	-	-	90.0%	-
Bicycles on Crosswalk	-	-	-	-	-	4	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	36.4%	-	-	-	-	-	0%	-	-	-	-	-	7.7%	-	-	-	-	-	10.0%	

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Cullen Blvd - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

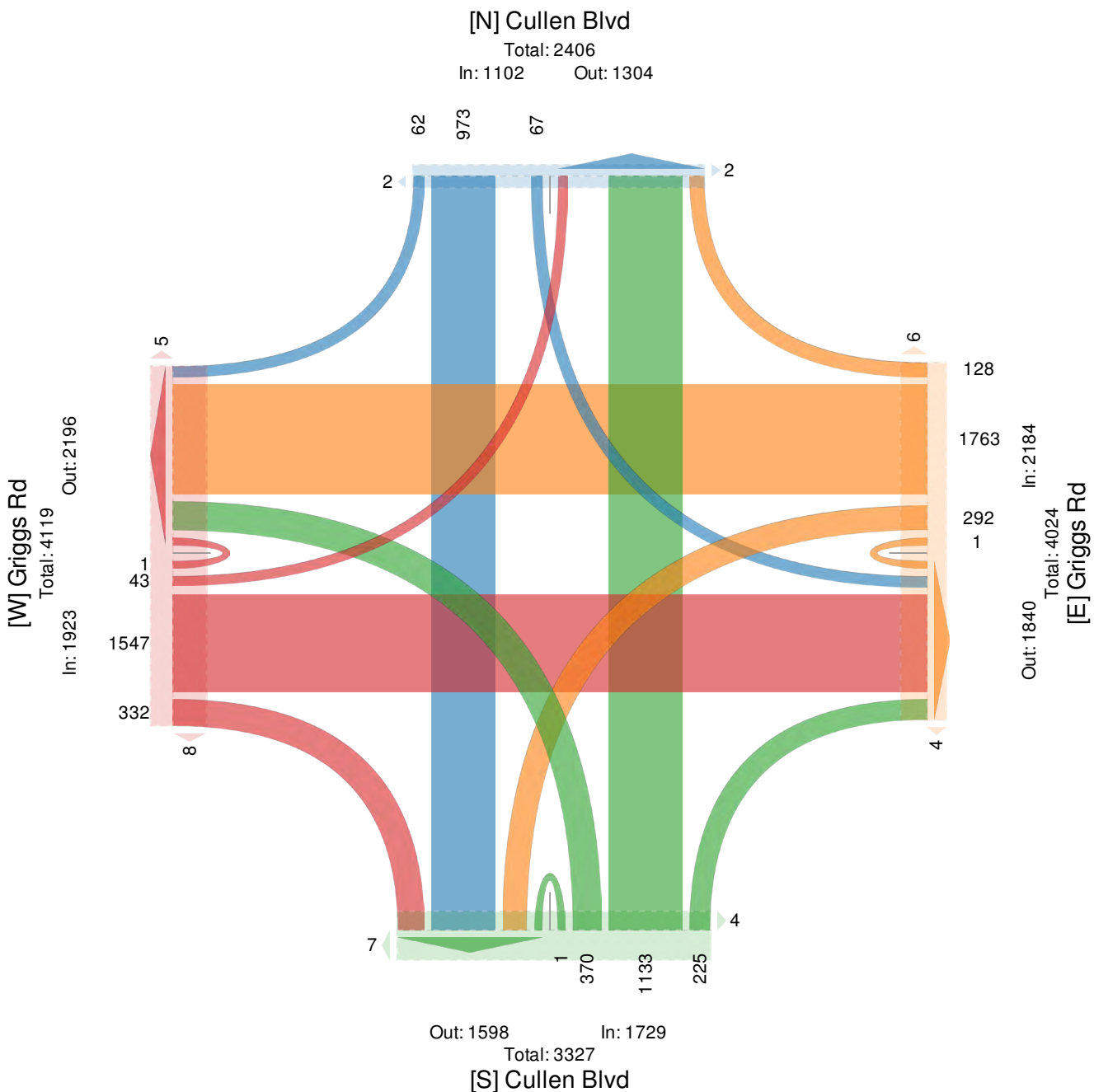
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692202, Location: 29.701767, -95.348587



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Cullen Blvd - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692202, Location: 29.701767, -95.348587



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Cullen Blvd Northbound						Cullen Blvd Southbound						Griggs Rd Eastbound						Griggs Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:15AM	18	98	24	0	140	0	1	29	3	0	33	0	1	41	14	0	56	6	22	158	6	0	186	0	415
7:30AM	26	104	7	0	137	1	3	24	5	0	32	0	1	50	15	0	66	0	16	144	11	0	171	2	406
7:45AM	22	91	9	1	123	0	1	28	4	0	33	0	1	57	10	0	68	0	15	153	10	0	178	0	402
8:00AM	26	96	9	0	131	1	6	31	5	0	42	1	2	42	14	0	58	0	15	148	13	0	176	0	407
Total	92	389	49	1	531	2	11	112	17	0	140	1	5	190	53	0	248	6	68	603	40	0	711	2	1630
% Approach	17.3%	73.3%	9.2%	0.2%	-	-	7.9%	80.0%	12.1%	0%	-	-	2.0%	76.6%	21.4%	0%	-	-	9.6%	84.8%	5.6%	0%	-	-	-
% Total	5.6%	23.9%	3.0%	0.1%	32.6%	-	0.7%	6.9%	1.0%	0%	8.6%	-	0.3%	11.7%	3.3%	0%	15.2%	-	4.2%	37.0%	2.5%	0%	43.6%	-	-
PHF	0.885	0.935	0.510	0.250	0.948	-	0.458	0.903	0.850	-	0.833	-	0.625	0.833	0.883	-	0.912	-	0.773	0.954	0.769	-	0.956	-	0.982
Lights	90	379	49	1	519	-	11	107	17	0	135	-	5	184	50	0	239	-	66	595	40	0	701	-	1594
% Lights	97.8%	97.4%	100%	100%	97.7%	-	100%	95.5%	100%	0%	96.4%	-	100%	96.8%	94.3%	0%	96.4%	-	97.1%	98.7%	100%	0%	98.6%	-	97.8%
Articulated Trucks	0	2	0	0	2	-	0	0	0	0	0	-	0	0	0	0	0	-	0	2	0	0	2	-	4
% Articulated Trucks	0%	0.5%	0%	0%	0.4%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.3%	0%	0%	0.3%	-	0.2%
Buses and Single-Unit Trucks	2	8	0	0	10	-	0	5	0	0	5	-	0	6	3	0	9	-	2	6	0	0	8	-	32
% Buses and Single-Unit Trucks	2.2%	2.1%	0%	0%	1.9%	-	0%	4.5%	0%	0%	3.6%	-	0%	3.2%	5.7%	0%	3.6%	-	2.9%	1.0%	0%	0%	1.1%	-	2.0%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	6	-	-	-	-	-	2	
% Pedestrians	-	-	-	-	-	50.0%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	50.0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Cullen Blvd - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

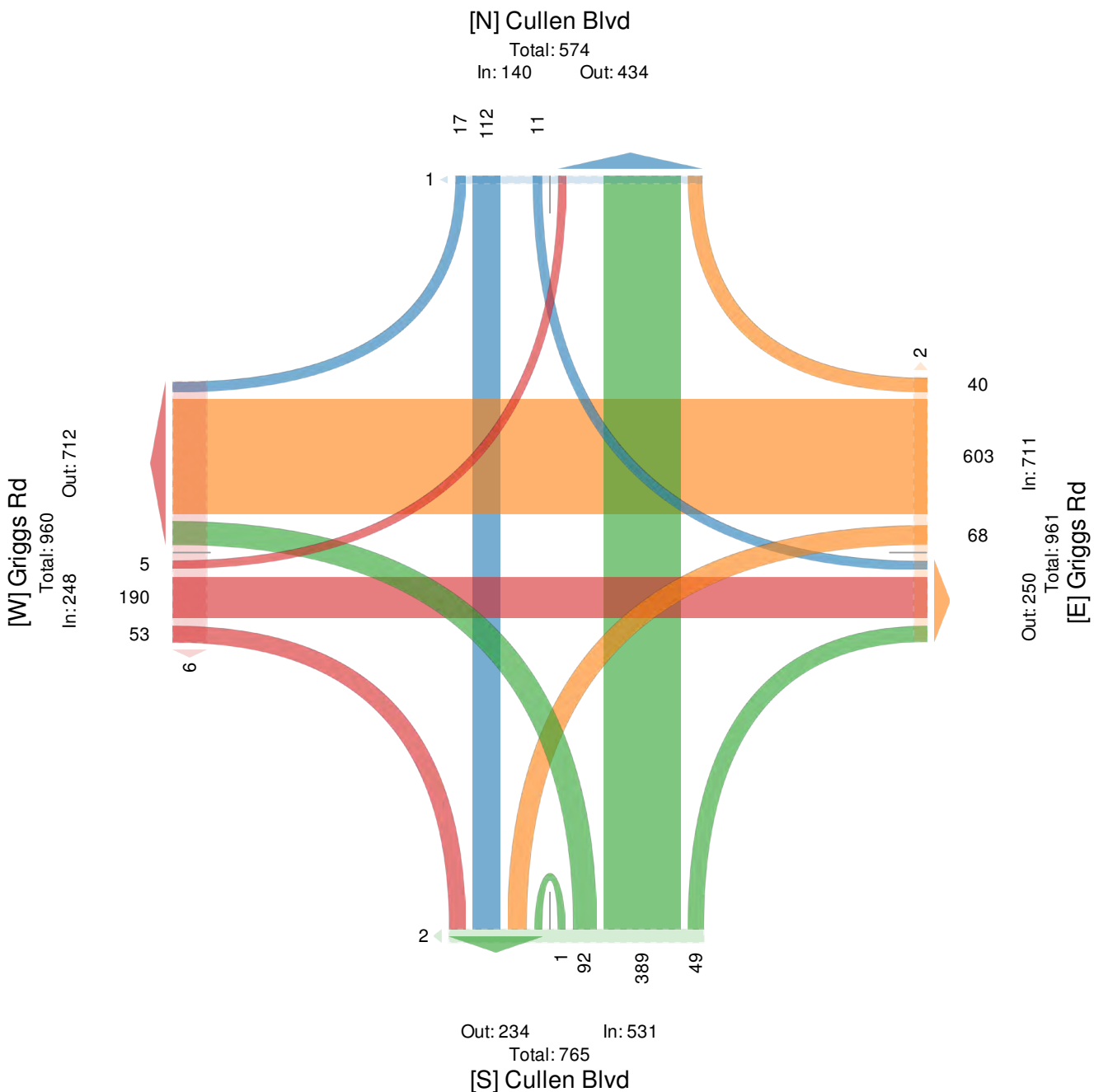
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692202, Location: 29.701767, -95.348587



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Cullen Blvd - TMC

Wed Sep 11, 2019

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692202, Location: 29.701767, -95.348587



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Cullen Blvd Northbound						Cullen Blvd Southbound						Griggs Rd Eastbound						Griggs Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 4:30PM	32	64	10	0	106	3	9	89	8	0	106	2	2	161	38	0	201	1	22	93	4	0	119	0	532
4:45PM	25	45	10	0	80	2	7	117	4	0	128	0	2	162	24	0	188	1	25	95	8	0	128	0	524
5:00PM	22	48	9	0	79	0	8	107	3	0	118	0	2	189	44	0	235	0	31	92	5	1	129	0	561
5:15PM	23	64	15	0	102	2	7	104	3	0	114	1	7	142	24	0	173	0	22	97	6	0	125	1	514
Total	102	221	44	0	367	7	31	417	18	0	466	3	13	654	130	0	797	2	100	377	23	1	501	1	2131
% Approach	27.8%	60.2%	12.0%	0%	-	-	6.7%	89.5%	3.9%	0%	-	-	1.6%	82.1%	16.3%	0%	-	-	20.0%	75.2%	4.6%	0.2%	-	-	-
% Total	4.8%	10.4%	2.1%	0%	17.2%	-	1.5%	19.6%	0.8%	0%	21.9%	-	0.6%	30.7%	6.1%	0%	37.4%	-	4.7%	17.7%	1.1%	0%	23.5%	-	-
PHF	0.797	0.863	0.733	-	0.866	-	0.861	0.891	0.563	-	0.910	-	0.464	0.865	0.739	-	0.848	-	0.806	0.972	0.719	0.250	0.971	-	0.950
Lights	102	211	43	0	356	-	31	408	17	0	456	-	13	642	128	0	783	-	98	368	23	1	490	-	2085
% Lights	100%	95.5%	97.7%	0%	97.0%	-	100%	97.8%	94.4%	0%	97.9%	-	100%	98.2%	98.5%	0%	98.2%	-	98.0%	97.6%	100%	100%	97.8%	-	97.8%
Articulated Trucks	0	1	0	0	1	-	0	0	1	0	1	-	0	2	1	0	3	-	0	0	0	0	0	-	5
% Articulated Trucks	0%	0.5%	0%	0%	0.3%	-	0%	0%	5.6%	0%	0.2%	-	0%	0.3%	0.8%	0%	0.4%	-	0%	0%	0%	0%	0%	-	0.2%
Buses and Single-Unit Trucks	0	9	1	0	10	-	0	9	0	0	9	-	0	10	1	0	11	-	2	9	0	0	11	-	41
% Buses and Single-Unit Trucks	0%	4.1%	2.3%	0%	2.7%	-	0%	2.2%	0%	0%	1.9%	-	0%	1.5%	0.8%	0%	1.4%	-	2.0%	2.4%	0%	0%	2.2%	-	1.9%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	5	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	71.4%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	28.6%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Cullen Blvd - TMC

Wed Sep 11, 2019

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

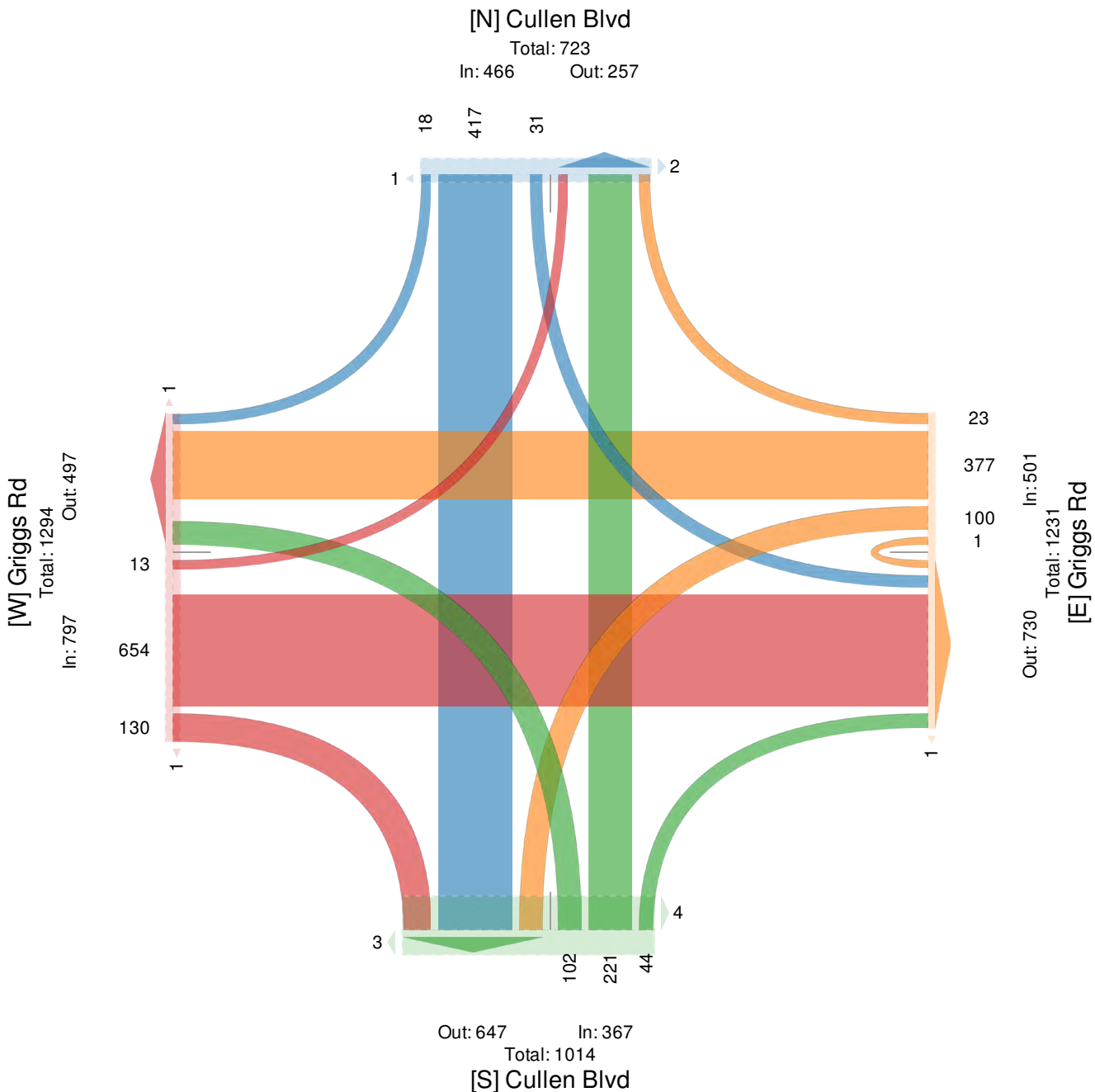
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692202, Location: 29.701767, -95.348587



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Calhoun Rd - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 692203, Location: 29.700841, -95.345648



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave., Pasadena, TX, 77503, US

Leg Direction	Calhoun Rd Northbound						Calhoun Rd Southbound						Griggs Rd Eastbound						Griggs Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:00AM	51	71	45	0	167	6	18	71	17	0	106	0	14	222	25	0	261	1	41	604	98	0	743	1	1277
8:00AM	30	57	22	0	109	4	18	42	10	0	70	1	28	178	16	0	222	5	15	454	82	0	551	0	952
4:00PM	30	52	42	0	124	16	61	85	56	0	202	4	14	607	39	2	662	12	18	392	57	1	468	6	1456
5:00PM	14	61	14	0	89	3	58	83	70	0	211	3	19	664	27	2	712	0	22	407	65	0	494	0	1506
Total	125	241	123	0	489	29	155	281	153	0	589	8	75	1671	107	4	1857	18	96	1857	302	1	2256	7	5191
% Approach	25.6%	49.3%	25.2%	0%	-	-	26.3%	47.7%	26.0%	0%	-	-	4.0%	90.0%	5.8%	0.2%	-	-	4.3%	82.3%	13.4%	0%	-	-	-
% Total	2.4%	4.6%	2.4%	0%	9.4%	-	3.0%	5.4%	2.9%	0%	11.3%	-	1.4%	32.2%	2.1%	0.1%	35.8%	-	1.8%	35.8%	5.8%	0%	43.5%	-	-
Lights	123	238	120	0	481	-	152	276	152	0	580	-	74	1641	105	4	1824	-	95	1817	297	1	2210	-	5095
% Lights	98.4%	98.8%	97.6%	0%	98.4%	-	98.1%	98.2%	99.3%	0%	98.5%	-	98.7%	98.2%	98.1%	100%	98.2%	-	99.0%	97.8%	98.3%	100%	98.0%	-	98.2%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	1	-	0	5	0	0	5	-	6
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.1%	0%	0%	0.1%	-	0%	0.3%	0%	0%	0.2%	-	0.1%
Buses and Single-Unit Trucks	2	3	3	0	8	-	3	5	1	0	9	-	1	29	2	0	32	-	1	35	5	0	41	-	90
% Buses and Single-Unit Trucks	1.6%	1.2%	2.4%	0%	1.6%	-	1.9%	1.8%	0.7%	0%	1.5%	-	1.3%	1.7%	1.9%	0%	1.7%	-	1.0%	1.9%	1.7%	0%	1.8%	-	1.7%
Pedestrians	-	-	-	-	-	29	-	-	-	-	-	6	-	-	-	-	-	16	-	-	-	-	-	6	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	75.0%	-	-	-	-	-	88.9%	-	-	-	-	-	85.7%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	25.0%	-	-	-	-	-	11.1%	-	-	-	-	-	14.3%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Calhoun Rd - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

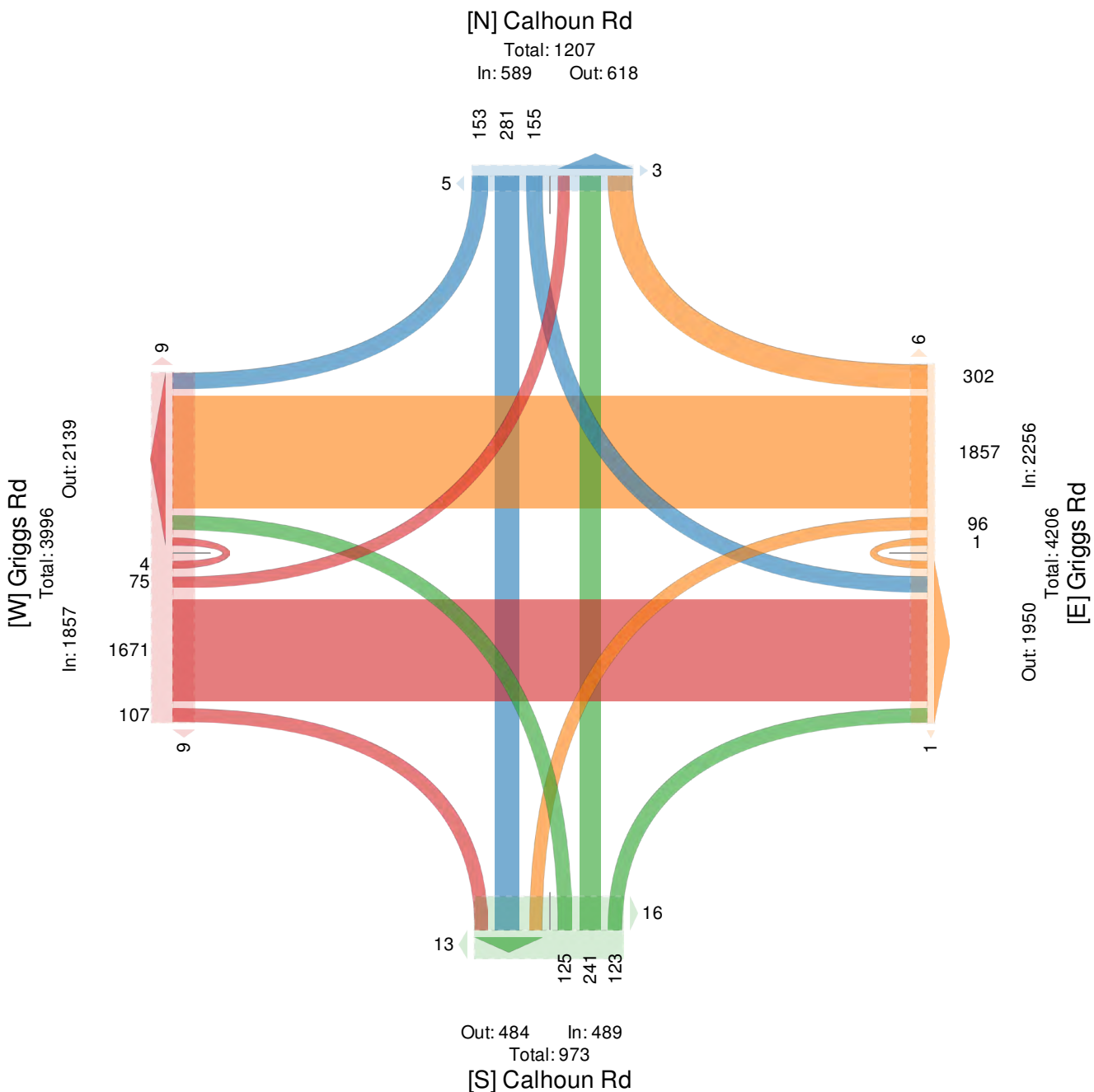
All Movements

ID: 692203, Location: 29.700841, -95.345648



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Calhoun Rd - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 692203, Location: 29.700841, -95.345648



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave., Pasadena, TX, 77503, US

Leg Direction	Calhoun Rd Northbound						Calhoun Rd Southbound						Griggs Rd Eastbound						Griggs Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:15AM	14	20	11	0	45	1	5	12	0	0	17	0	2	62	6	0	70	0	9	175	19	0	203	0	335
7:30AM	17	17	20	0	54	2	5	23	5	0	33	0	4	50	8	0	62	1	14	139	28	0	181	0	330
7:45AM	15	21	11	0	47	1	6	24	8	0	38	0	6	51	9	0	66	0	15	161	42	0	218	0	369
8:00AM	20	25	14	0	59	3	3	18	3	0	24	1	3	51	3	0	57	2	8	141	24	0	173	0	313
<b>Total</b>	66	83	56	0	205	7	19	77	16	0	112	1	15	214	26	0	255	3	46	616	113	0	775	0	1347
<b>% Approach</b>	32.2%	40.5%	27.3%	0%	-	-	17.0%	68.8%	14.3%	0%	-	-	5.9%	83.9%	10.2%	0%	-	-	5.9%	79.5%	14.6%	0%	-	-	-
<b>% Total</b>	4.9%	6.2%	4.2%	0%	15.2%	-	1.4%	5.7%	1.2%	0%	8.3%	-	1.1%	15.9%	1.9%	0%	18.9%	-	3.4%	45.7%	8.4%	0%	57.5%	-	-
<b>PHF</b>	0.825	0.830	0.700	-	0.869	-	0.792	0.802	0.500	-	0.737	-	0.625	0.863	0.722	-	0.911	-	0.767	0.880	0.673	-	0.889	-	0.913
<b>Lights</b>	64	83	55	0	202	-	18	77	16	0	111	-	15	208	26	0	249	-	46	607	113	0	766	-	1328
<b>% Lights</b>	97.0%	100%	98.2%	0%	98.5%	-	94.7%	100%	100%	0%	99.1%	-	100%	97.2%	100%	0%	97.6%	-	100%	98.5%	100%	0%	98.8%	-	98.6%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	2	0	0	2	-	2
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.3%	0%	0%	0.3%	-	0.1%
<b>Buses and Single-Unit Trucks</b>	2	0	1	0	3	-	1	0	0	0	1	-	0	6	0	0	6	-	0	7	0	0	7	-	17
<b>% Buses and Single-Unit Trucks</b>	3.0%	0%	1.8%	0%	1.5%	-	5.3%	0%	0%	0%	0.9%	-	0%	2.8%	0%	0%	2.4%	-	0%	1.1%	0%	0%	0.9%	-	1.3%
<b>Pedestrians</b>	-	-	-	-	-	7	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	66.7%	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	33.3%	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Calhoun Rd - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

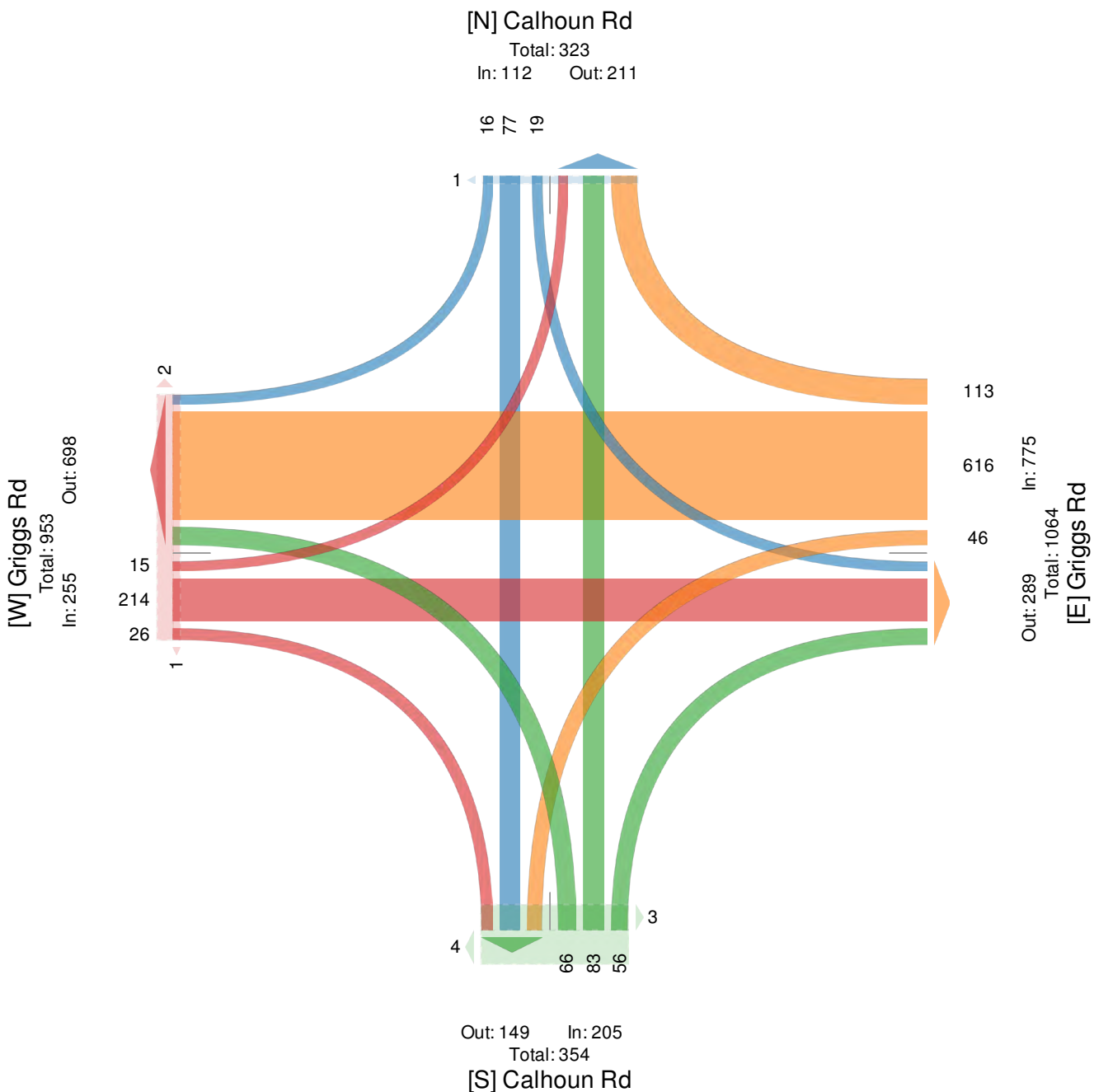
All Movements

ID: 692203, Location: 29.700841, -95.345648



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Calhoun Rd - TMC

Wed Sep 11, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 692203, Location: 29.700841, -95.345648



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave., Pasadena, TX, 77503, US

Leg Direction	Calhoun Rd Northbound						Calhoun Rd Southbound						Griggs Rd Eastbound						Griggs Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 4:45PM	3	12	4	0	19	2	13	22	17	0	52	0	4	173	7	0	184	1	1	101	8	0	110	1	365
5:00PM	3	17	5	0	25	0	13	24	23	0	60	0	5	191	9	0	205	0	4	94	22	0	120	0	410
5:15PM	5	20	1	0	26	3	20	23	20	0	63	1	6	154	6	0	166	0	8	99	17	0	124	0	379
5:30PM	2	12	3	0	17	0	8	23	16	0	47	1	6	182	7	1	196	0	3	115	13	0	131	0	391
<b>Total</b>	13	61	13	0	87	5	54	92	76	0	222	2	21	700	29	1	751	1	16	409	60	0	485	1	1545
<b>% Approach</b>	14.9%	70.1%	14.9%	0%	-	-	24.3%	41.4%	34.2%	0%	-	-	2.8%	93.2%	3.9%	0.1%	-	-	3.3%	84.3%	12.4%	0%	-	-	-
<b>% Total</b>	0.8%	3.9%	0.8%	0%	5.6%	-	3.5%	6.0%	4.9%	0%	14.4%	-	1.4%	45.3%	1.9%	0.1%	48.6%	-	1.0%	26.5%	3.9%	0%	31.4%	-	-
<b>PHF</b>	0.650	0.763	0.650	-	0.837	-	0.675	0.958	0.826	-	0.881	-	0.875	0.916	0.806	0.250	0.916	-	0.500	0.889	0.682	-	0.926	-	0.942
<b>Lights</b>	13	59	12	0	84	-	53	90	75	0	218	-	21	689	28	1	739	-	16	398	57	0	471	-	1512
<b>% Lights</b>	100%	96.7%	92.3%	0%	96.6%	-	98.1%	97.8%	98.7%	0%	98.2%	-	100%	98.4%	96.6%	100%	98.4%	-	100%	97.3%	95.0%	0%	97.1%	-	97.9%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	1	0	0	1	-	0	0	0	0	0	-	1
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	0%	-	0.1%
<b>Buses and Single-Unit Trucks</b>	0	2	1	0	3	-	1	2	1	0	4	-	0	10	1	0	11	-	0	11	3	0	14	-	32
<b>% Buses and Single-Unit Trucks</b>	0%	3.3%	7.7%	0%	3.4%	-	1.9%	2.2%	1.3%	0%	1.8%	-	0%	1.4%	3.4%	0%	1.5%	-	0%	2.7%	5.0%	0%	2.9%	-	2.1%
<b>Pedestrians</b>	-	-	-	-	-	5	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-
<b>% Pedestrians</b>	-	-	-	-	-	100%	-	-	-	-	-	50.0%	-	-	-	-	-	100%	-	-	-	-	-	-	100%
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	0%	-	-	-	-	-	50.0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Calhoun Rd - TMC

Wed Sep 11, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

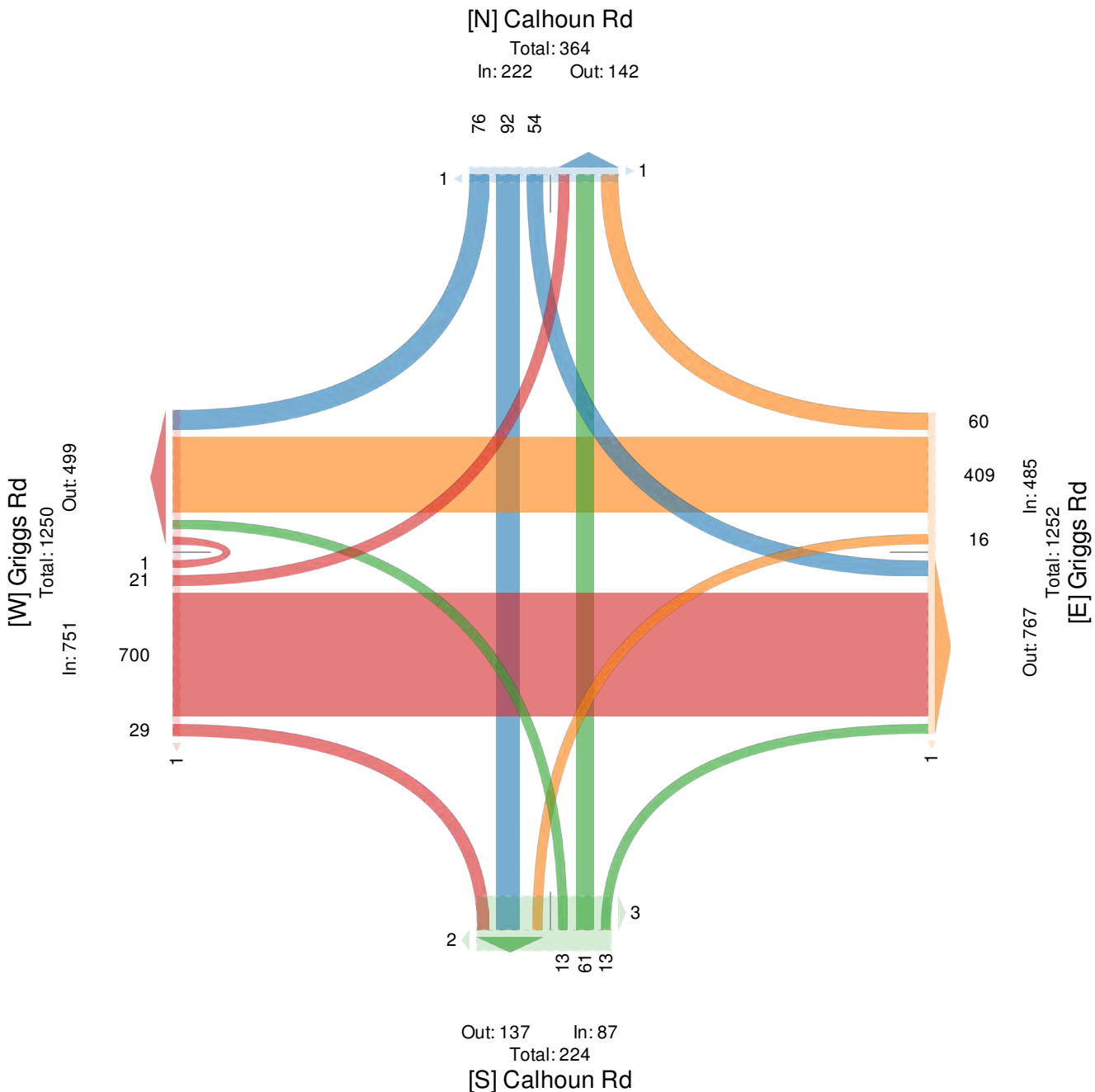
All Movements

ID: 692203, Location: 29.700841, -95.345648



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Milart St - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692204, Location: 29.698668, -95.338929



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Milart St Northbound							Milart St Southbound							Griggs Rd Eastbound							Griggs Rd Westbound								
Time	L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*	Int		
2019-09-11 7:00AM	104	92	13	1	210	2		7	18	8	0	33	2		48	212	47	3	310	1		22	670	51	0	743	2		1296	
8:00AM	70	18	12	0	100	4		5	13	10	0	28	4		7	177	34	0	218	3		14	465	13	2	494	6		840	
4:00PM	70	11	12	0	93	12		11	26	10	0	47	7		7	551	124	1	683	0		29	355	18	4	406	1		1229	
5:00PM	47	12	13	0	72	10		2	25	17	0	44	7		13	593	119	7	732	0		42	376	10	2	430	3		1278	
Total	291	133	50	1	475	28		25	82	45	0	152	20		75	1533	324	11	1943	4		107	1866	92	8	2073	12		4643	
% Approach	61.3%	28.0%	10.5%	0.2%	-	-		16.4%	53.9%	29.6%	0%	-	-		3.9%	78.9%	16.7%	0.6%	-	-		5.2%	90.0%	4.4%	0.4%	-	-		-	
% Total	6.3%	2.9%	1.1%	0%	10.2%	-		0.5%	1.8%	1.0%	0%	3.3%	-		1.6%	33.0%	7.0%	0.2%	41.8%	-		2.3%	40.2%	2.0%	0.2%	44.6%	-		-	
Lights	287	131	49	1	468	-		25	82	45	0	152	-		72	1496	320	11	1899	-		106	1826	90	7	2029	-		4548	
% Lights	98.6%	98.5%	98.0%	100%	98.5%	-		100%	100%	100%	0%	100%	-		96.0%	97.6%	98.8%	100%	97.7%	-		99.1%	97.9%	97.8%	87.5%	97.9%	-		98.0%	
Articulated Trucks	0	0	0	0	0	0	-		0	0	0	0	0	-		0	3	0	0	3	-		0	5	0	0	5	-		8
% Articulated Trucks	0%	0%	0%	0%	0%	0%	-		0%	0%	0%	0%	0%	-		0%	0.2%	0%	0%	0.2%	-		0%	0.3%	0%	0%	0.2%	-		0.2%
Buses and Single-Unit Trucks	4	2	0	0	6	-		0	0	0	0	0	0	-		2	34	3	0	39	-		1	35	2	1	39	-		84
% Buses and Single-Unit Trucks	1.4%	1.5%	0%	0%	1.3%	-		0%	0%	0%	0%	0%	0%	-		2.7%	2.2%	0.9%	0%	2.0%	-		0.9%	1.9%	2.2%	12.5%	1.9%	-		1.8%
Bicycles on Road	0	0	1	0	1	-		0	0	0	0	0	0	-		1	0	1	0	2	-		0	0	0	0	0	-		3
% Bicycles on Road	0%	0%	2.0%	0%	0.2%	-		0%	0%	0%	0%	0%	0%	-		1.3%	0%	0.3%	0%	0.1%	-		0%	0%	0%	0%	0%	-		0.1%
Pedestrians	-	-	-	-	-	23		-	-	-	-	-	15		-	-	-	-	-	4		-	-	-	-	-	-	-		12
% Pedestrians	-	-	-	-	-	82.1%		-	-	-	-	-	75.0%		-	-	-	-	-	100%		-	-	-	-	-	-	-		100%
Bicycles on Crosswalk	-	-	-	-	-	5		-	-	-	-	-	5		-	-	-	-	-	0		-	-	-	-	-	-	-		0
% Bicycles on Crosswalk	-	-	-	-	-	17.9%		-	-	-	-	-	25.0%		-	-	-	-	-	0%		-	-	-	-	-	-	-		0%

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Milart St - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

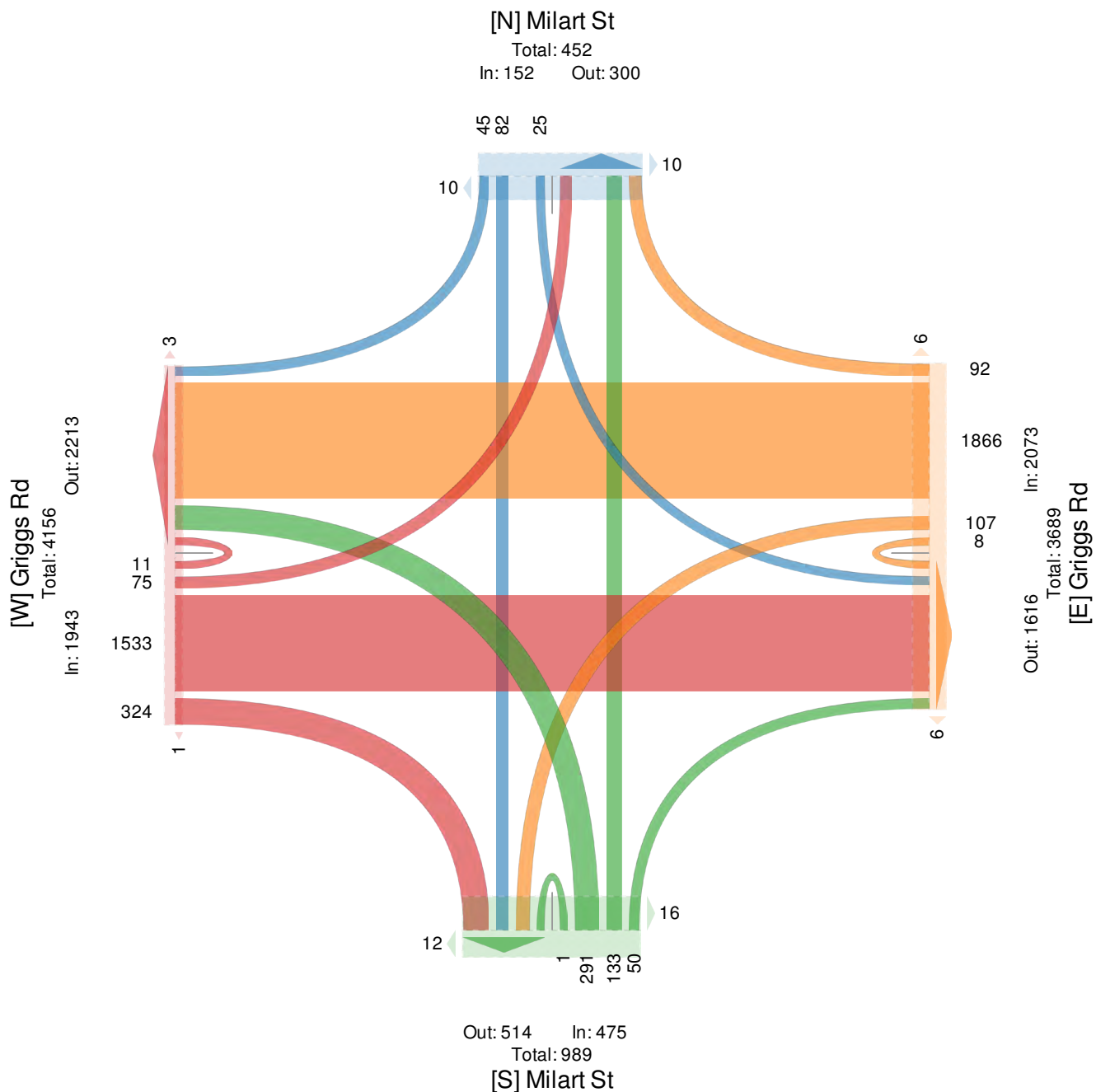
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692204, Location: 29.698668, -95.338929



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Milart St - TMC

Wed Sep 11, 2019

AM Peak (7 AM - 8 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692204, Location: 29.698668, -95.338929



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Milart St Northbound						Milart St Southbound						Griggs Rd Eastbound						Griggs Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:00AM	16	31	5	1	53	1	2	5	0	0	7	0	19	39	7	0	65	0	1	144	19	0	164	1	289
7:15AM	22	36	3	0	61	0	2	3	3	0	8	1	23	53	12	0	88	1	14	178	22	0	214	0	371
7:30AM	32	15	0	0	47	0	1	6	1	0	8	0	4	56	11	2	73	0	2	170	7	0	179	1	307
7:45AM	34	10	5	0	49	1	2	4	4	0	10	1	2	64	17	1	84	0	5	178	3	0	186	0	329
<b>Total</b>	104	92	13	1	210	2	7	18	8	0	33	2	48	212	47	3	310	1	22	670	51	0	743	2	1296
<b>% Approach</b>	49.5%	43.8%	6.2%	0.5%	-	-	21.2%	54.5%	24.2%	0%	-	-	15.5%	68.4%	15.2%	1.0%	-	-	3.0%	90.2%	6.9%	0%	-	-	-
<b>% Total</b>	8.0%	7.1%	1.0%	0.1%	16.2%	-	0.5%	1.4%	0.6%	0%	2.5%	-	3.7%	16.4%	3.6%	0.2%	23.9%	-	1.7%	51.7%	3.9%	0%	57.3%	-	-
<b>PHF</b>	0.765	0.639	0.650	0.250	0.861	-	0.875	0.750	0.500	-	0.825	-	0.522	0.828	0.691	0.375	0.881	-	0.393	0.941	0.580	-	0.868	-	0.873
<b>Lights</b>	104	90	13	1	208	-	7	18	8	0	33	-	46	204	46	3	299	-	21	656	50	0	727	-	1267
<b>% Lights</b>	100%	97.8%	100%	100%	99.0%	-	100%	100%	100%	0%	100%	-	95.8%	96.2%	97.9%	100%	96.5%	-	95.5%	97.9%	98.0%	0%	97.8%	-	97.8%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	3	0	0	3	-	3
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.4%	0%	0%	0.4%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	0	2	0	0	2	-	0	0	0	0	0	-	2	8	1	0	11	-	1	11	1	0	13	-	26
<b>% Buses and Single-Unit Trucks</b>	0%	2.2%	0%	0%	1.0%	-	0%	0%	0%	0%	0%	-	4.2%	3.8%	2.1%	0%	3.5%	-	4.5%	1.6%	2.0%	0%	1.7%	-	2.0%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	2	-
<b>% Pedestrians</b>	-	-	-	-	-	50.0%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	50.0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Milart St - TMC

Wed Sep 11, 2019

AM Peak (7 AM - 8 AM)

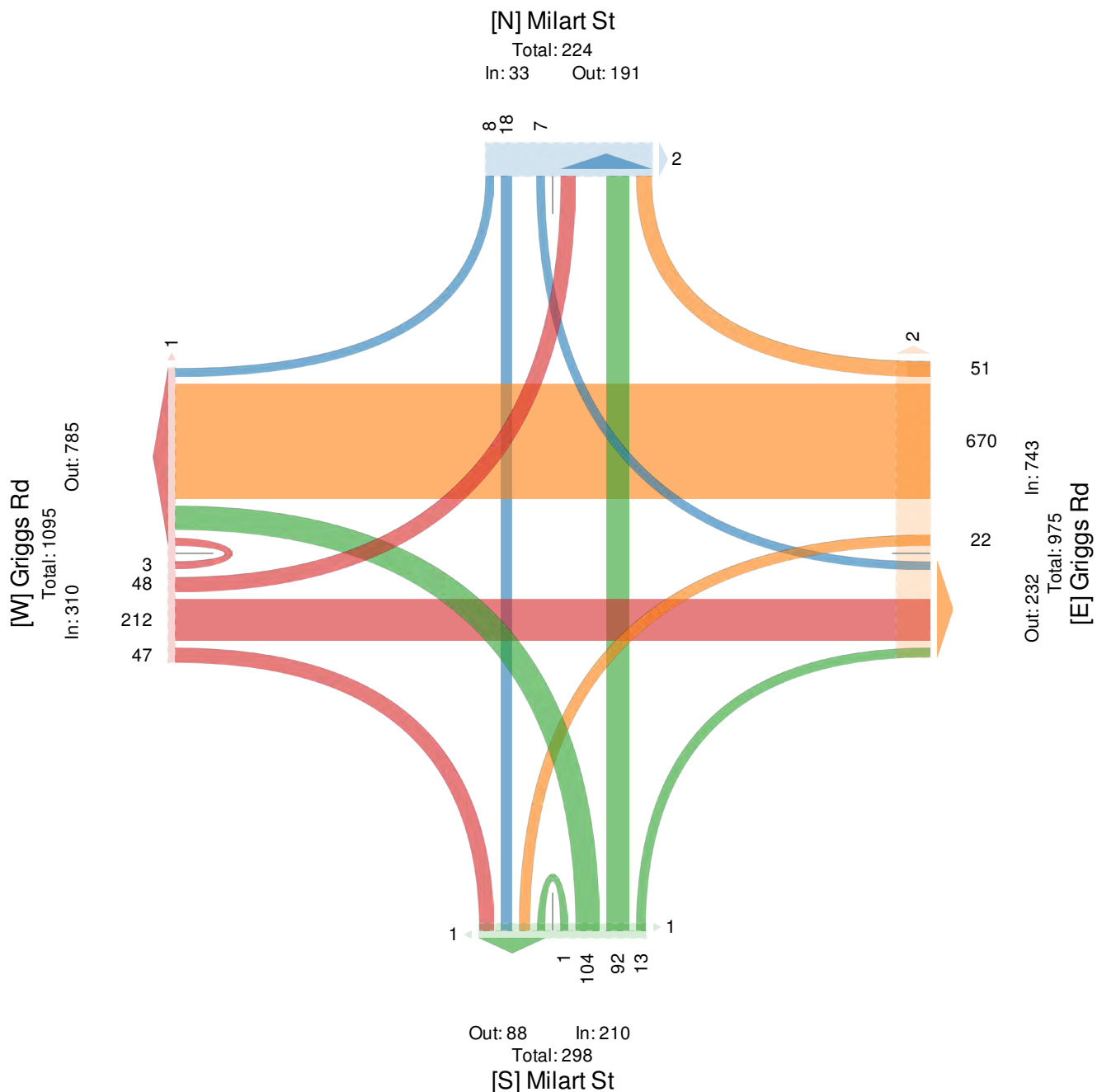
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692204, Location: 29.698668, -95.338929



Provided by: C. J. Hensch &  
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5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Milart St - TMC

Wed Sep 11, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692204, Location: 29.698668, -95.338929



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Milart St Northbound						Milart St Southbound						Griggs Rd Eastbound						Griggs Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 4:45PM	18	1	3	0	22	2	3	10	3	0	16	3	1	164	32	0	197	0	7	94	6	0	107	1	342
5:00PM	16	2	4	0	22	2	1	4	5	0	10	3	2	154	34	1	191	0	4	84	2	0	90	1	313
5:15PM	9	3	6	0	18	1	0	14	5	0	19	1	2	156	36	1	195	0	13	85	4	1	103	0	335
5:30PM	13	5	2	0	20	4	0	4	5	0	9	1	3	155	20	3	181	0	13	108	1	1	123	0	333
<b>Total</b>	56	11	15	0	82	9	4	32	18	0	54	8	8	629	122	5	764	0	37	371	13	2	423	2	1323
<b>% Approach</b>	68.3%	13.4%	18.3%	0%	-	-	7.4%	59.3%	33.3%	0%	-	-	1.0%	82.3%	16.0%	0.7%	-	-	8.7%	87.7%	3.1%	0.5%	-	-	-
<b>% Total</b>	4.2%	0.8%	1.1%	0%	6.2%	-	0.3%	2.4%	1.4%	0%	4.1%	-	0.6%	47.5%	9.2%	0.4%	57.7%	-	2.8%	28.0%	1.0%	0.2%	32.0%	-	-
<b>PHF</b>	0.778	0.550	0.625	-	0.932	-	0.333	0.571	0.900	-	0.711	-	0.667	0.959	0.847	0.417	0.970	-	0.712	0.859	0.542	0.500	0.860	-	0.967
<b>Lights</b>	56	11	15	0	82	-	4	32	18	0	54	-	8	614	122	5	749	-	37	358	13	2	410	-	1295
<b>% Lights</b>	100%	100%	100%	0%	100%	-	100%	100%	100%	0%	100%	-	100%	97.6%	100%	100%	98.0%	-	100%	96.5%	100%	100%	96.9%	-	97.9%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	2	0	0	2	-	0	0	0	0	0	-	2
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.3%	0%	0%	0.3%	-	0%	0%	0%	0%	0%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	13	0	0	13	-	0	13	0	0	13	-	26
<b>% Buses and Single-Unit Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	2.1%	0%	0%	1.7%	-	0%	3.5%	0%	0%	3.1%	-	2.0%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	8	-	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	2	-
<b>% Pedestrians</b>	-	-	-	-	-	88.9%	-	-	-	-	-	62.5%	-	-	-	-	-	-	-	-	-	-	-	100%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	11.1%	-	-	-	-	-	37.5%	-	-	-	-	-	-	-	-	-	-	-	0%	-

\* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Milart St - TMC

Wed Sep 11, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

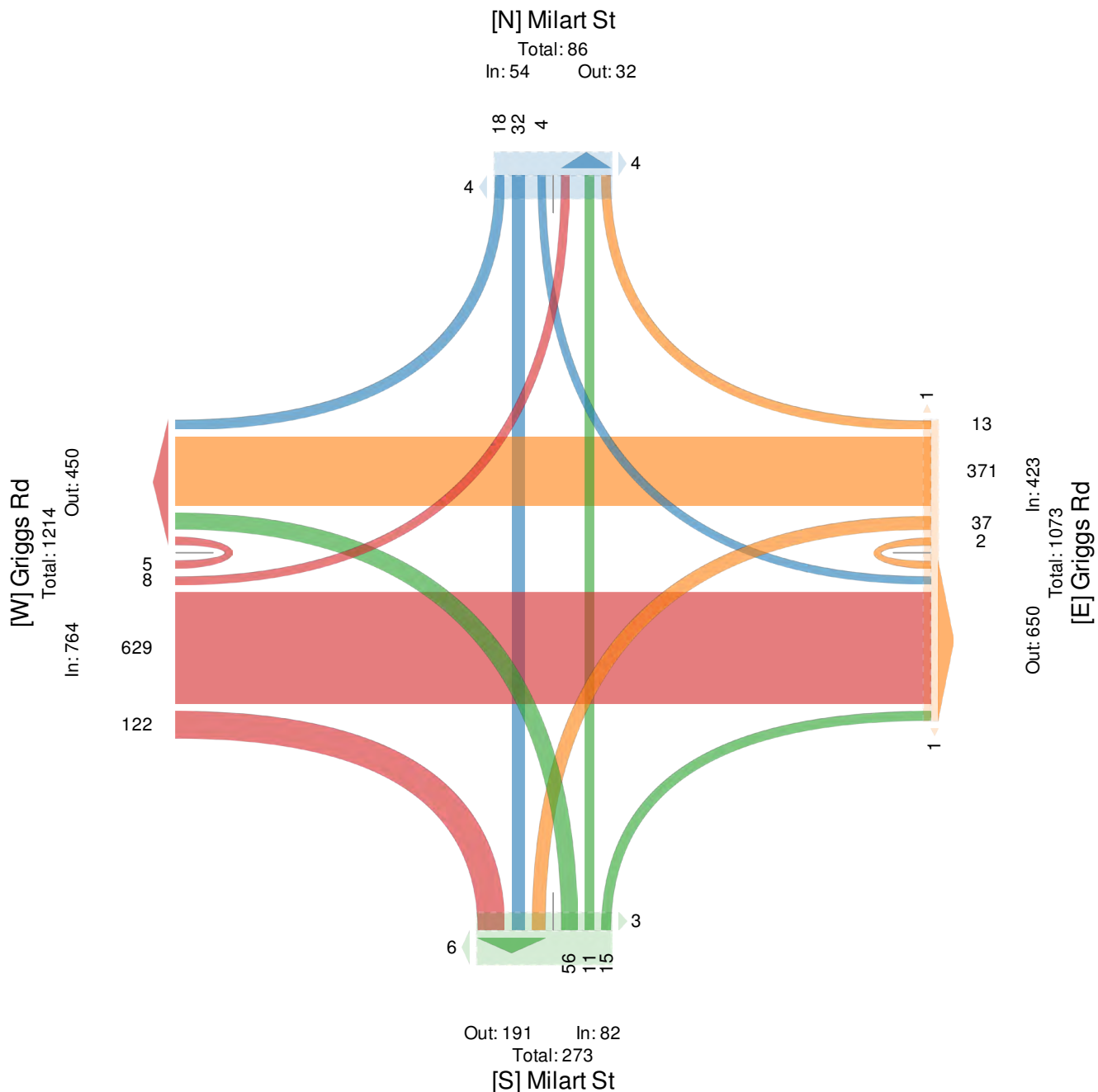
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692204, Location: 29.698668, -95.338929



Provided by: C. J. Hensch &  
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5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Beekman Rd - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692206, Location: 29.696394, -95.331728



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Beekman Rd Northbound						Royal Palms St Southbound						Griggs Rd Eastbound						Griggs Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:00AM	28	9	37	0	74	16	0	0	24	0	24	10	6	218	25	8	257	99	20	780	5	4	809	1	1164
8:00AM	31	11	23	0	65	19	0	0	28	2	30	6	2	164	37	16	219	48	11	643	9	5	668	1	982
4:00PM	44	17	54	0	115	21	0	0	36	0	36	1	3	598	48	28	677	83	17	461	12	3	493	0	1321
5:00PM	27	21	86	0	134	29	0	0	44	0	44	9	6	641	48	11	706	92	12	507	12	9	540	1	1424
Total	130	58	200	0	388	85	0	0	132	2	134	26	17	1621	158	63	1859	322	60	2391	38	21	2510	3	4891
% Approach	33.5%	14.9%	51.5%	0%	-	-	0%	0%	98.5%	1.5%	-	-	0.9%	87.2%	8.5%	3.4%	-	-	2.4%	95.3%	1.5%	0.8%	-	-	-
% Total	2.7%	1.2%	4.1%	0%	7.9%	-	0%	0%	2.7%	0%	2.7%	-	0.3%	33.1%	3.2%	1.3%	38.0%	-	1.2%	48.9%	0.8%	0.4%	51.3%	-	-
Lights	129	57	198	0	384	-	0	0	126	2	128	-	17	1568	151	62	1798	-	60	2315	34	21	2430	-	4740
% Lights	99.2%	98.3%	99.0%	0%	99.0%	-	0%	0%	95.5%	100%	95.5%	-	100%	96.7%	95.6%	98.4%	96.7%	-	100%	96.8%	89.5%	100%	96.8%	-	96.9%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	3	0	0	3	-	0	14	0	0	14	-	17
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.2%	0%	0%	0.2%	-	0%	0.6%	0%	0%	0.6%	-	0.3%
Buses and Single-Unit Trucks	1	1	2	0	4	-	0	0	4	0	4	-	0	49	7	1	57	-	0	58	4	0	62	-	127
% Buses and Single-Unit Trucks	0.8%	1.7%	1.0%	0%	1.0%	-	0%	0%	3.0%	0%	3.0%	-	0%	3.0%	4.4%	1.6%	3.1%	-	0%	2.4%	10.5%	0%	2.5%	-	2.6%
Bicycles on Road	0	0	0	0	0	-	0	0	2	0	2	-	0	1	0	0	1	-	0	4	0	0	4	-	7
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	1.5%	0%	1.5%	-	0%	0.1%	0%	0%	0.1%	-	0%	0.2%	0%	0%	0.2%	-	0.1%
Pedestrians	-	-	-	-	-	80	-	-	-	-	-	21	-	-	-	-	-	317	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	94.1%	-	-	-	-	-	80.8%	-	-	-	-	-	98.4%	-	-	-	-	-	100%	
Bicycles on Crosswalk	-	-	-	-	-	5	-	-	-	-	-	5	-	-	-	-	-	5	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	5.9%	-	-	-	-	-	19.2%	-	-	-	-	-	1.6%	-	-	-	-	-	0%	

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Beekman Rd - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

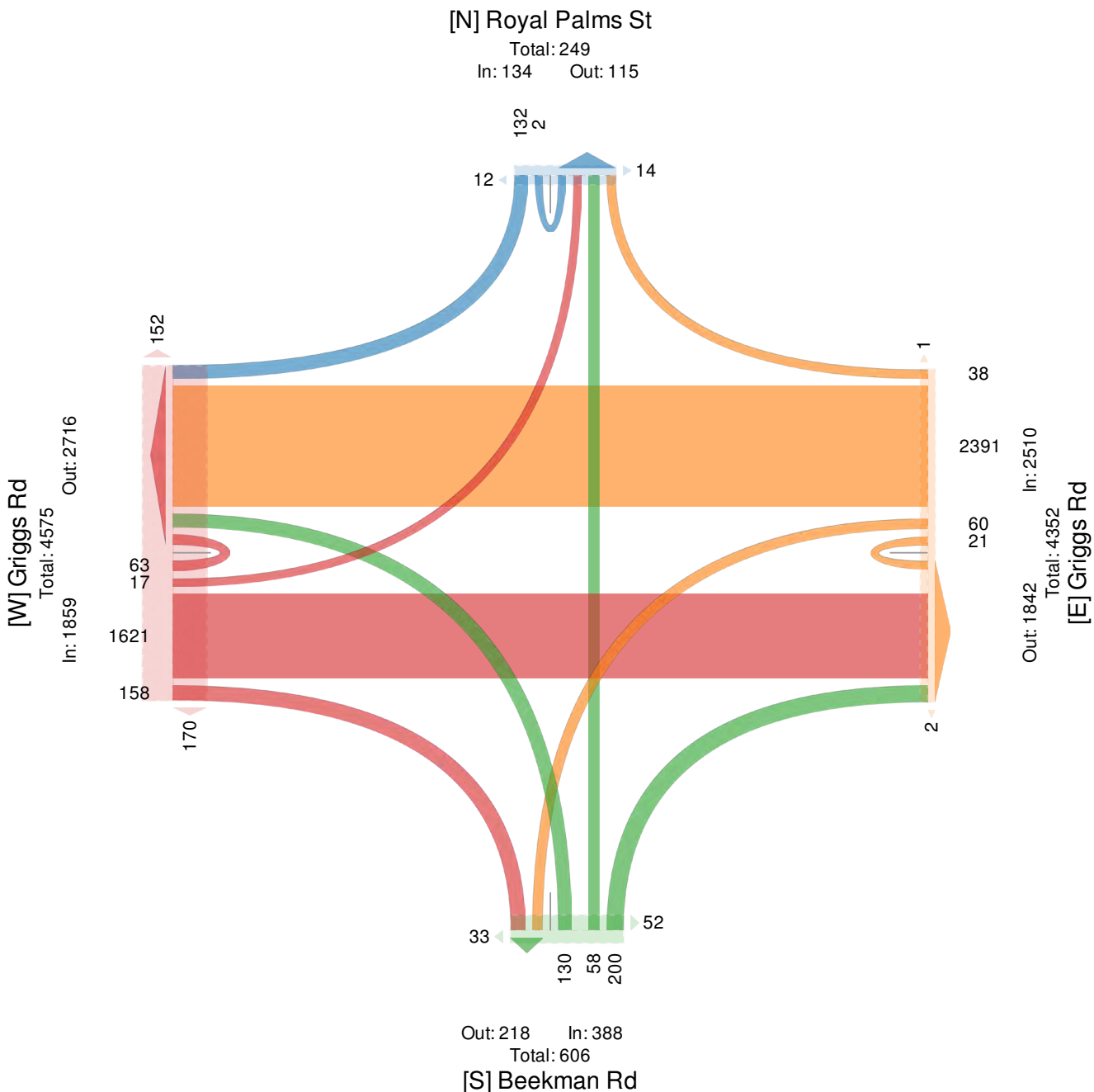
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692206, Location: 29.696394, -95.331728



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5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Beekman Rd - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692206, Location: 29.696394, -95.331728



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Leg Direction	Beekman Rd Northbound						Royal Palms St Southbound						Griggs Rd Eastbound						Griggs Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:15AM	4	2	11	0	17	3	0	0	14	0	14	0	1	59	3	1	64	19	8	210	1	1	220	0	315
7:30AM	9	2	12	0	23	6	0	0	3	0	3	5	4	56	11	1	72	29	0	187	1	2	190	0	288
7:45AM	8	2	8	0	18	5	0	0	3	0	3	4	0	65	5	3	73	26	8	196	3	1	208	1	302
8:00AM	7	3	7	0	17	5	0	0	7	0	7	4	1	41	11	5	58	17	3	195	6	0	204	0	286
Total	28	9	38	0	75	19	0	0	27	0	27	13	6	221	30	10	267	91	19	788	11	4	822	1	1191
% Approach	37.3%	12.0%	50.7%	0%	-	-	0%	0%	100%	0%	-	-	2.2%	82.8%	11.2%	3.7%	-	-	2.3%	95.9%	1.3%	0.5%	-	-	-
% Total	2.4%	0.8%	3.2%	0%	6.3%	-	0%	0%	2.3%	0%	2.3%	-	0.5%	18.6%	2.5%	0.8%	22.4%	-	1.6%	66.2%	0.9%	0.3%	69.0%	-	-
PHF	0.778	0.750	0.792	-	0.815	-	-	-	0.464	-	0.464	-	0.375	0.846	0.682	0.500	0.911	-	0.594	0.938	0.458	0.500	0.934	-	0.944
Lights	28	9	38	0	75	-	0	0	25	0	25	-	6	207	29	10	252	-	19	766	10	4	799	-	1151
% Lights	100%	100%	100%	0%	100%	-	0%	0%	92.6%	0%	92.6%	-	100%	93.7%	96.7%	100%	94.4%	-	100%	97.2%	90.9%	100%	97.2%	-	96.6%
Articulated Trucks	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	4	0	0	4	-	4
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.5%	0%	0%	0.5%	-	0.3%
Buses and Single-Unit Trucks	0	0	0	0	0	-	0	0	1	0	1	-	0	13	1	0	14	-	0	18	1	0	19	-	34
% Buses and Single-Unit Trucks	0%	0%	0%	0%	0%	-	0%	0%	3.7%	0%	3.7%	-	0%	5.9%	3.3%	0%	5.2%	-	0%	2.3%	9.1%	0%	2.3%	-	2.9%
Bicycles on Road	0	0	0	0	0	-	0	0	1	0	1	-	0	1	0	0	1	-	0	0	0	0	0	-	2
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	3.7%	0%	3.7%	-	0%	0.5%	0%	0%	0.4%	-	0%	0%	0%	0%	0%	-	0.2%
Pedestrians	-	-	-	-	-	19	-	-	-	-	-	10	-	-	-	-	-	90	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	76.9%	-	-	-	-	-	98.9%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	23.1%	-	-	-	-	-	1.1%	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Beekman Rd - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

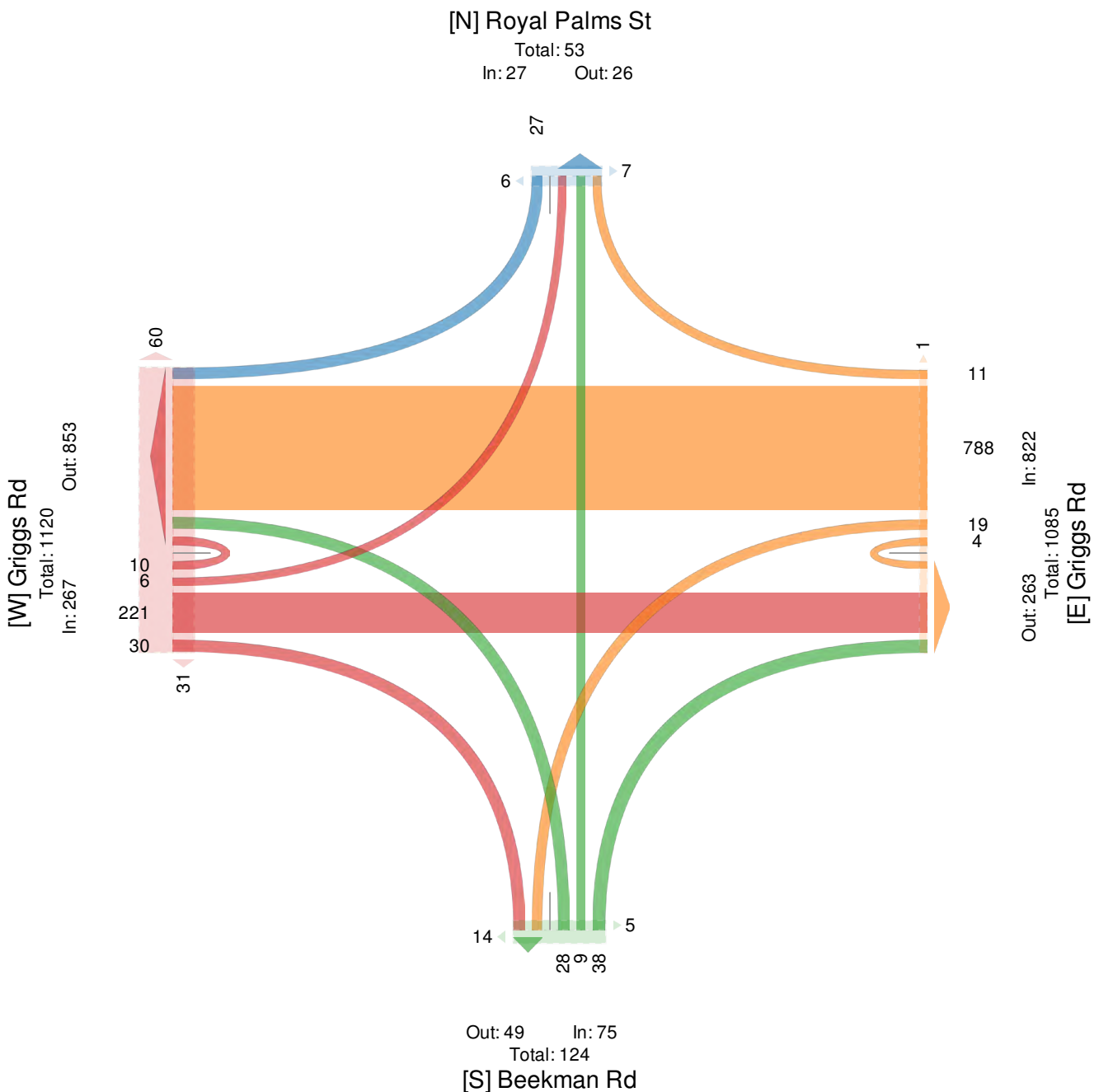
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All Movements

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# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Beekman Rd - TMC

Wed Sep 11, 2019

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692206, Location: 29.696394, -95.331728



Provided by: C. J. Hensch & Associates Inc.  
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Leg Direction	Beekman Rd Northbound						Royal Palms St Southbound						Griggs Rd Eastbound						Griggs Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 4:30PM	7	3	11	0	21	5	0	0	11	0	11	0	0	192	9	6	207	25	3	116	4	0	123	0	362
4:45PM	11	4	15	0	30	7	0	0	7	0	7	0	1	180	10	6	197	16	2	137	3	0	142	0	376
5:00PM	13	7	21	0	41	6	0	0	15	0	15	2	3	160	21	4	188	14	3	122	4	1	130	1	374
5:15PM	4	7	18	0	29	7	0	0	10	0	10	5	2	153	13	4	172	11	3	127	5	1	136	0	347
<b>Total</b>	35	21	65	0	121	25	0	0	43	0	43	7	6	685	53	20	764	66	11	502	16	2	531	1	1459
<b>% Approach</b>	28.9%	17.4%	53.7%	0%	-	-	0%	0%	100%	0%	-	-	0.8%	89.7%	6.9%	2.6%	-	-	2.1%	94.5%	3.0%	0.4%	-	-	-
<b>% Total</b>	2.4%	1.4%	4.5%	0%	8.3%	-	0%	0%	2.9%	0%	2.9%	-	0.4%	46.9%	3.6%	1.4%	52.4%	-	0.8%	34.4%	1.1%	0.1%	36.4%	-	-
<b>PHF</b>	0.673	0.750	0.774	-	0.738	-	-	-	0.717	-	0.717	-	0.500	0.892	0.631	0.833	0.923	-	0.917	0.912	0.800	0.500	0.931	-	0.969
<b>Lights</b>	35	20	65	0	120	-	0	0	40	0	40	-	6	676	50	19	751	-	11	488	14	2	515	-	1426
<b>% Lights</b>	100%	95.2%	100%	0%	99.2%	-	0%	0%	93.0%	0%	93.0%	-	100%	98.7%	94.3%	95.0%	98.3%	-	100%	97.2%	87.5%	100%	97.0%	-	97.7%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	3	0	0	3	-	0	3	0	0	3	-	6
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.4%	0%	0%	0.4%	-	0%	0.6%	0%	0%	0.6%	-	0.4%
<b>Buses and Single-Unit Trucks</b>	0	1	0	0	1	-	0	0	3	0	3	-	0	6	3	1	10	-	0	9	2	0	11	-	25
<b>% Buses and Single-Unit Trucks</b>	0%	4.8%	0%	0%	0.8%	-	0%	0%	7.0%	0%	7.0%	-	0%	0.9%	5.7%	5.0%	1.3%	-	0%	1.8%	12.5%	0%	2.1%	-	1.7%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	2	0	0	2	-	2
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.4%	0%	0%	0.4%	-	0.1%
<b>Pedestrians</b>	-	-	-	-	-	24	-	-	-	-	-	6	-	-	-	-	-	65	-	-	-	-	-	1	-
<b>% Pedestrians</b>	-	-	-	-	-	-96.0%	-	-	-	-	-	-85.7%	-	-	-	-	-	-98.5%	-	-	-	-	-	-100%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	4.0%	-	-	-	-	-	14.3%	-	-	-	-	-	1.5%	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs Rd at Beekman Rd - TMC

Wed Sep 11, 2019

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

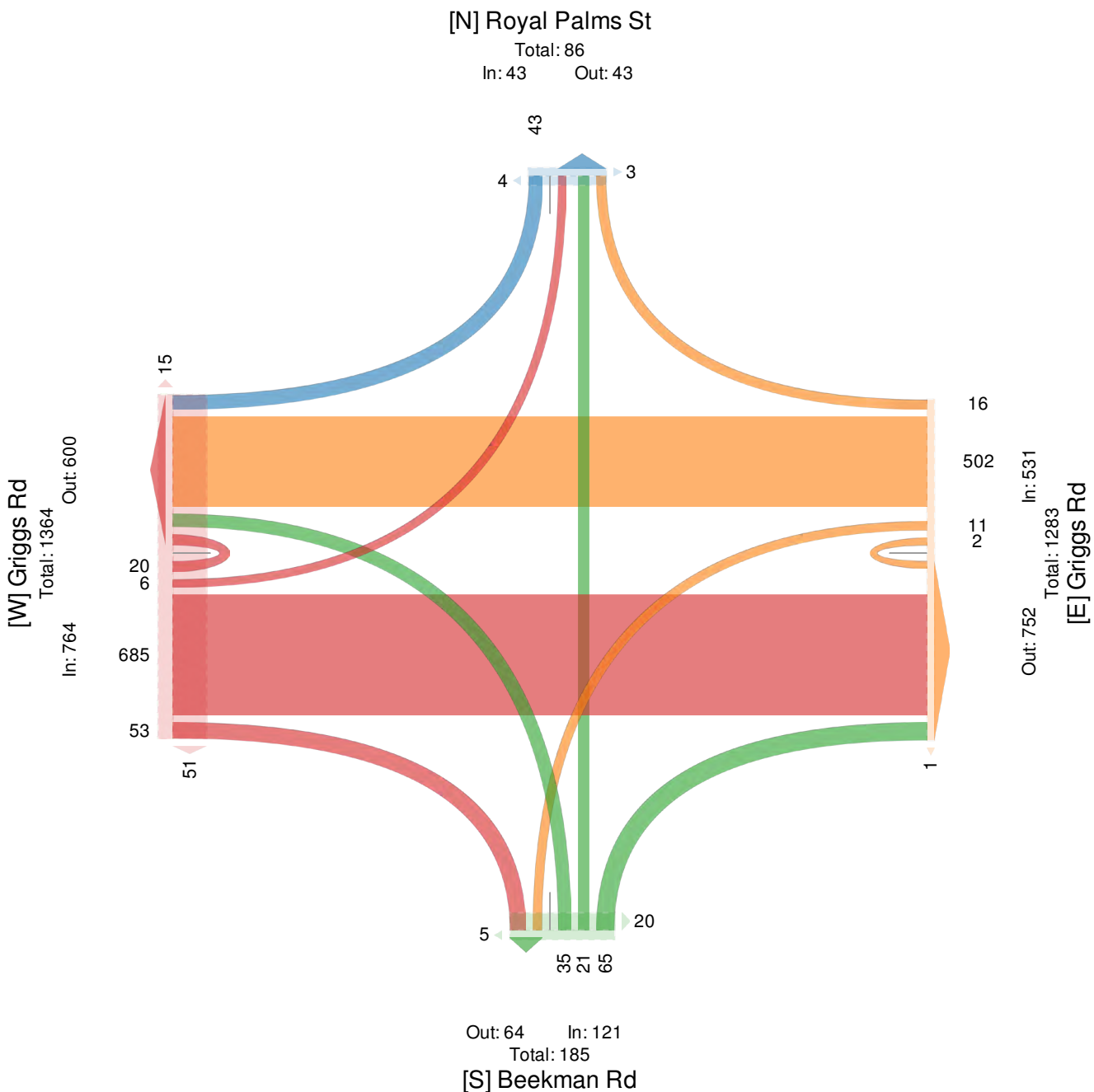
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All Movements

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# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Griggs Rd - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692207, Location: 29.697863, -95.336793



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Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound							MLK Blvd Southbound							Griggs Rd Eastbound							Griggs Rd Westbound							
Time	L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		Int
2019-09-11 7:00AM	124	557	44	0	725	8		127	347	141	10	625	11		52	126	54	0	232	2		45	445	295	21	806	4		2388
8:00AM	108	486	72	0	666	3		68	154	32	2	256	10		19	133	42	2	196	5		48	357	278	31	714	2		1832
4:00PM	102	302	68	0	472	6		194	567	40	9	810	8		35	388	133	1	557	4		101	267	169	34	571	4		2410
5:00PM	95	321	85	0	501	10		197	691	37	8	933	19		30	434	147	0	611	9		102	285	193	42	622	1		2667
<b>Total</b>	429	1666	269	0	2364	27		586	1759	250	29	2624	48		136	1081	376	3	1596	20		296	1354	935	128	2713	11		9297
<b>% Approach</b>	18.1%	70.5%	11.4%	0%	-	-		22.3%	67.0%	9.5%	1.1%	-	-		8.5%	67.7%	23.6%	0.2%	-	-		10.9%	49.9%	34.5%	4.7%	-	-		-
<b>% Total</b>	4.6%	17.9%	2.9%	0%	25.4%	-		6.3%	18.9%	2.7%	0.3%	28.2%	-		1.5%	11.6%	4.0%	0%	17.2%	-		3.2%	14.6%	10.1%	1.4%	29.2%	-		-
<b>Lights</b>	417	1596	255	0	2268	-		554	1683	246	29	2512	-		133	1059	365	3	1560	-		279	1322	898	127	2626	-		8966
<b>% Lights</b>	97.2%	95.8%	94.8%	0%	95.9%	-		94.5%	95.7%	98.4%	100%	95.7%	-		97.8%	98.0%	97.1%	100%	97.7%	-		94.3%	97.6%	96.0%	99.2%	96.8%	-		96.4%
<b>Articulated Trucks</b>	2	6	0	0	8	-		1	3	1	0	5	-		0	2	0	0	2	-		0	5	9	0	14	-		29
<b>% Articulated Trucks</b>	0.5%	0.4%	0%	0%	0.3%	-		0.2%	0.2%	0.4%	0%	0.2%	-		0%	0.2%	0%	0%	0.1%	-		0%	0.4%	1.0%	0%	0.5%	-		0.3%
<b>Buses and Single-Unit Trucks</b>	10	64	13	0	87	-		30	73	3	0	106	-		3	19	11	0	33	-		17	27	28	1	73	-		299
<b>% Buses and Single-Unit Trucks</b>	2.3%	3.8%	4.8%	0%	3.7%	-		5.1%	4.2%	1.2%	0%	4.0%	-		2.2%	1.8%	2.9%	0%	2.1%	-		5.7%	2.0%	3.0%	0.8%	2.7%	-		3.2%
<b>Bicycles on Road</b>	0	0	1	0	1	-		1	0	0	0	1	-		0	1	0	0	1	-		0	0	0	0	0	-		3
<b>% Bicycles on Road</b>	0%	0%	0.4%	0%	0%	-		0.2%	0%	0%	0%	0%	-		0%	0.1%	0%	0%	0.1%	-		0%	0%	0%	0%	0%	-		0%
<b>Pedestrians</b>	-	-	-	-	-	27		-	-	-	-	-	43		-	-	-	-	-	19		-	-	-	-	-	-		11
<b>% Pedestrians</b>	-	-	-	-	-	100%		-	-	-	-	-	89.6%		-	-	-	-	-	95.0%		-	-	-	-	-	-		100%
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0		-	-	-	-	-	5		-	-	-	-	-	1		-	-	-	-	-	-		0
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	0%		-	-	-	-	-	10.4%		-	-	-	-	-	5.0%		-	-	-	-	-	-		0%

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### MLK Blvd at Griggs Rd - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

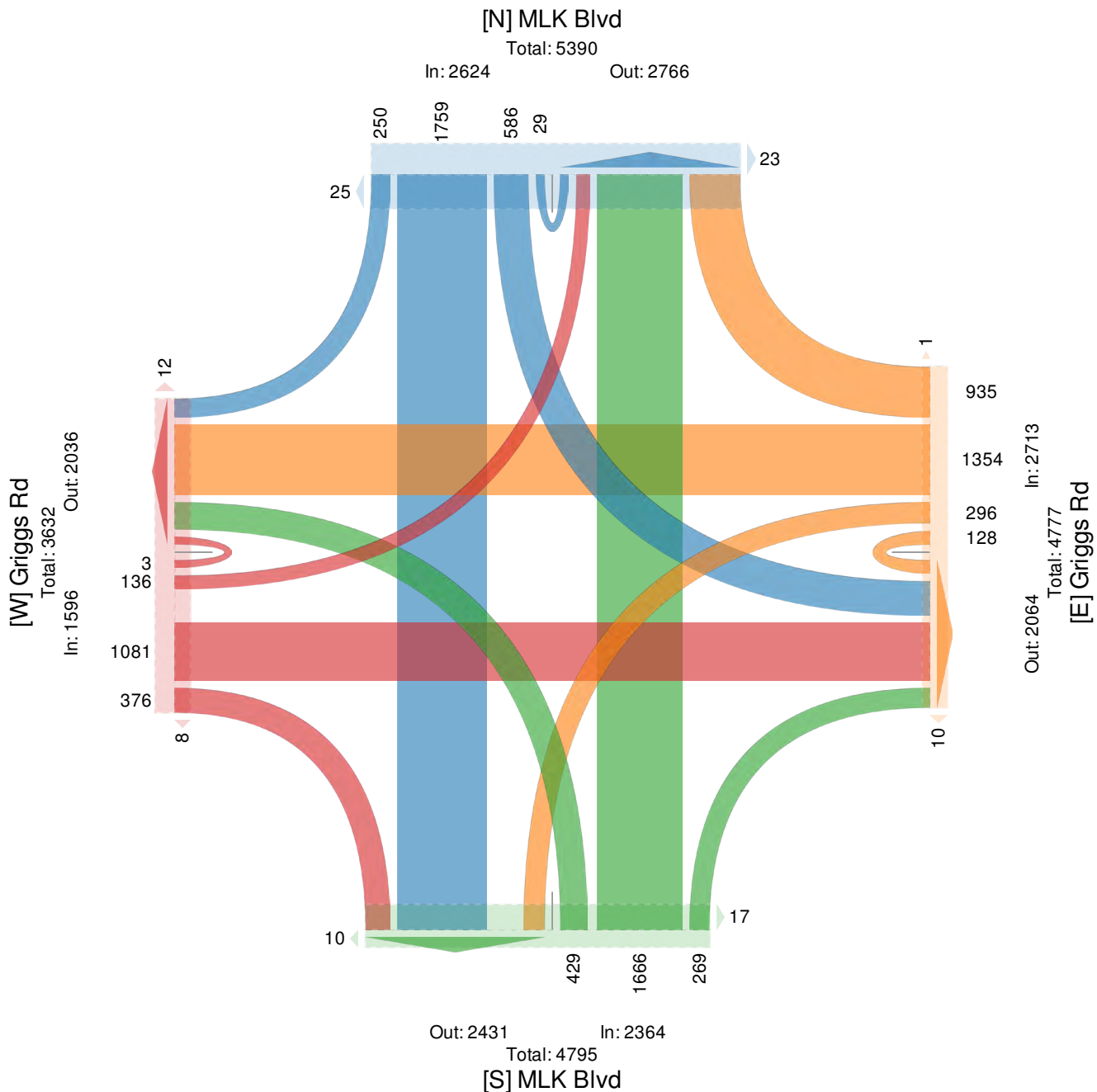
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All Movements

ID: 692207, Location: 29.697863, -95.336793



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### MLK Blvd at Griggs Rd - TMC

Wed Sep 11, 2019

AM Peak (7 AM - 8 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692207, Location: 29.697863, -95.336793



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						Griggs Rd Eastbound						Griggs Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:00AM	29	158	8	0	195	2	27	83	32	4	146	1	18	18	8	0	44	1	8	95	74	6	183	0	568
7:15AM	25	136	8	0	169	1	38	117	61	4	220	3	19	27	14	0	60	1	12	114	84	2	212	4	661
7:30AM	26	105	12	0	143	2	41	93	36	1	171	4	6	37	12	0	55	0	19	105	68	5	197	0	566
7:45AM	44	158	16	0	218	3	21	54	12	1	88	3	9	44	20	0	73	0	6	131	69	8	214	0	593
<b>Total</b>	124	557	44	0	725	8	127	347	141	10	625	11	52	126	54	0	232	2	45	445	295	21	806	4	2388
<b>% Approach</b>	17.1%	76.8%	6.1%	0%	-	-	20.3%	55.5%	22.6%	1.6%	-	-	22.4%	54.3%	23.3%	0%	-	-	5.6%	55.2%	36.6%	2.6%	-	-	-
<b>% Total</b>	5.2%	23.3%	1.8%	0%	30.4%	-	5.3%	14.5%	5.9%	0.4%	26.2%	-	2.2%	5.3%	2.3%	0%	9.7%	-	1.9%	18.6%	12.4%	0.9%	33.8%	-	-
<b>PHF</b>	0.705	0.881	0.688	-	0.831	-	0.774	0.741	0.578	0.625	0.710	-	0.684	0.716	0.675	-	0.795	-	0.592	0.849	0.878	0.656	0.942	-	0.903
<b>Lights</b>	120	541	42	0	703	-	118	320	140	10	588	-	52	121	52	0	225	-	38	433	281	21	773	-	2289
<b>% Lights</b>	96.8%	97.1%	95.5%	0%	97.0%	-	92.9%	92.2%	99.3%	100%	94.1%	-	100%	96.0%	96.3%	0%	97.0%	-	84.4%	97.3%	95.3%	100%	95.9%	-	95.9%
<b>Articulated Trucks</b>	2	2	0	0	4	-	0	0	0	0	0	-	0	0	0	0	0	-	0	2	3	0	5	-	9
<b>% Articulated Trucks</b>	1.6%	0.4%	0%	0%	0.6%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0.4%	1.0%	0%	0.6%	-	0.4%
<b>Buses and Single-Unit Trucks</b>	2	14	2	0	18	-	9	27	1	0	37	-	0	5	2	0	7	-	7	10	11	0	28	-	90
<b>% Buses and Single-Unit Trucks</b>	1.6%	2.5%	4.5%	0%	2.5%	-	7.1%	7.8%	0.7%	0%	5.9%	-	0%	4.0%	3.7%	0%	3.0%	-	15.6%	2.2%	3.7%	0%	3.5%	-	3.8%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	8	-	-	-	-	-	10	-	-	-	-	-	2	-	-	-	-	-	4	-
<b>% Pedestrians</b>	-	-	-	-	-	100%	-	-	-	-	-	90.9%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	0%	-	-	-	-	-	9.1%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Griggs Rd - TMC

Wed Sep 11, 2019

AM Peak (7 AM - 8 AM)

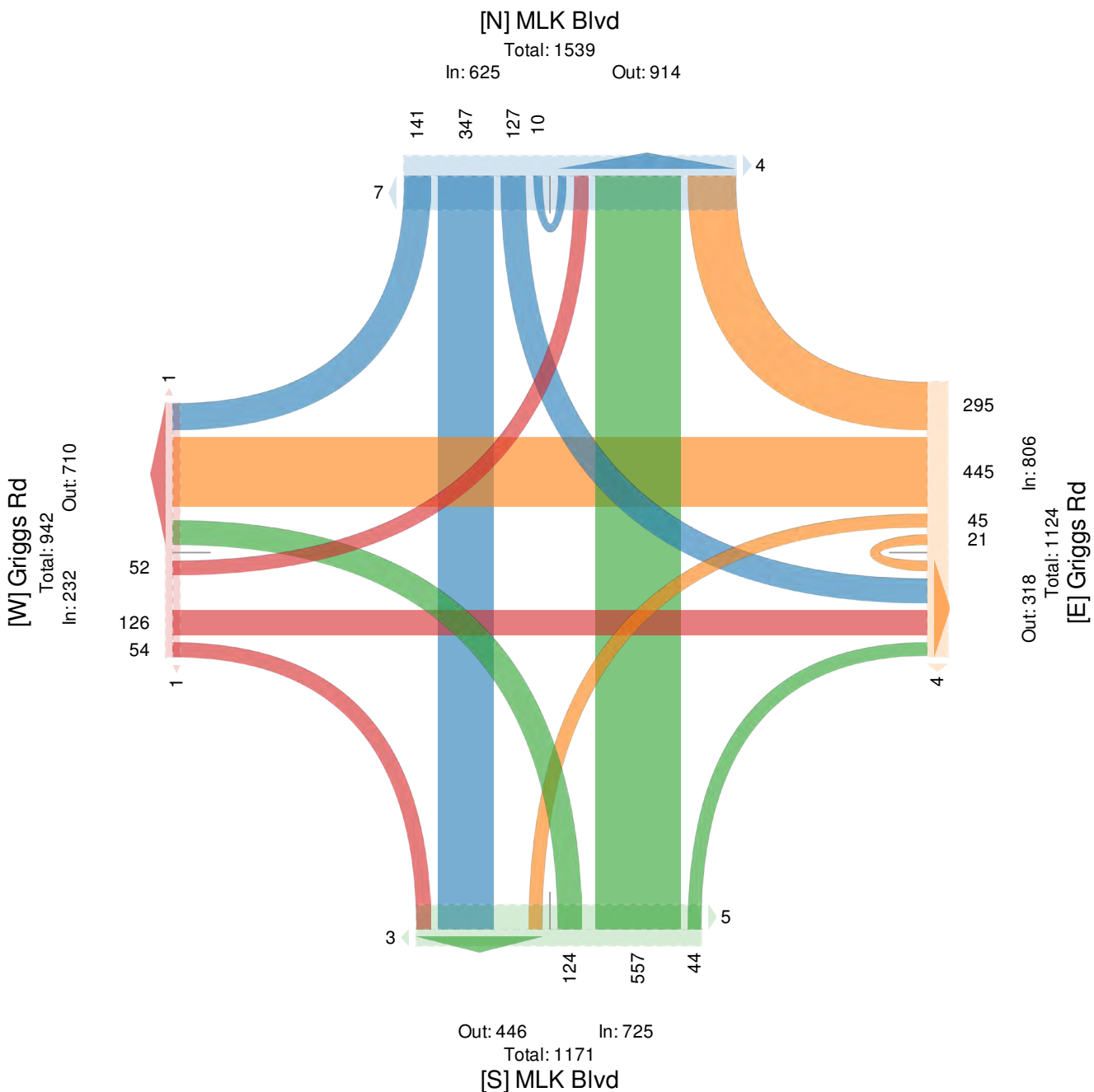
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692207, Location: 29.697863, -95.336793



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Griggs Rd - TMC

Wed Sep 11, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692207, Location: 29.697863, -95.336793



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						Griggs Rd Eastbound						Griggs Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 4:45PM	22	84	14	0	120	0	60	149	14	5	228	3	10	121	40	0	171	3	26	77	53	9	165	2	684
5:00PM	19	84	13	0	116	4	60	162	8	1	231	6	5	108	38	0	151	3	25	61	54	5	145	0	643
5:15PM	27	72	23	0	122	3	27	137	10	2	176	7	13	115	46	0	174	1	28	62	58	11	159	0	631
5:30PM	30	86	24	0	140	1	49	234	7	2	292	5	5	100	32	0	137	3	22	79	36	13	150	1	719
Total	98	326	74	0	498	8	196	682	39	10	927	21	33	444	156	0	633	10	101	279	201	38	619	3	2677
% Approach	19.7%	65.5%	14.9%	0%	-	-	21.1%	73.6%	4.2%	1.1%	-	-	5.2%	70.1%	24.6%	0%	-	-	16.3%	45.1%	32.5%	6.1%	-	-	-
% Total	3.7%	12.2%	2.8%	0%	18.6%	-	7.3%	25.5%	1.5%	0.4%	34.6%	-	1.2%	16.6%	5.8%	0%	23.6%	-	3.8%	10.4%	7.5%	1.4%	23.1%	-	-
PHF	0.817	0.948	0.760	-	0.888	-	0.817	0.729	0.696	0.500	0.794	-	0.635	0.917	0.848	-	0.909	-	0.902	0.883	0.866	0.731	0.938	-	0.930
Lights	93	316	71	0	480	-	190	674	39	10	913	-	32	437	151	0	620	-	97	270	197	38	602	-	2615
% Lights	94.9%	96.9%	95.9%	0%	96.4%	-	96.9%	98.8%	100%	100%	98.5%	-	97.0%	98.4%	96.8%	0%	97.9%	-	96.0%	96.8%	98.0%	100%	97.3%	-	97.7%
Articulated Trucks	0	3	0	0	3	-	1	0	0	0	1	-	0	2	0	0	2	-	0	0	3	0	3	-	9
% Articulated Trucks	0%	0.9%	0%	0%	0.6%	-	0.5%	0%	0%	0%	0.1%	-	0%	0.5%	0%	0%	0.3%	-	0%	0%	1.5%	0%	0.5%	-	0.3%
Buses and Single-Unit Trucks	5	7	2	0	14	-	5	8	0	0	13	-	1	5	5	0	11	-	4	9	1	0	14	-	52
% Buses and Single-Unit Trucks	5.1%	2.1%	2.7%	0%	2.8%	-	2.6%	1.2%	0%	0%	1.4%	-	3.0%	1.1%	3.2%	0%	1.7%	-	4.0%	3.2%	0.5%	0%	2.3%	-	1.9%
Bicycles on Road	0	0	1	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1
% Bicycles on Road	0%	0%	1.4%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	8	-	-	-	-	-	19	-	-	-	-	-	9	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	90.5%	-	-	-	-	-	90.0%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	9.5%	-	-	-	-	-	10.0%	-	-	-	-	-	0%	

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Griggs Rd - TMC

Wed Sep 11, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

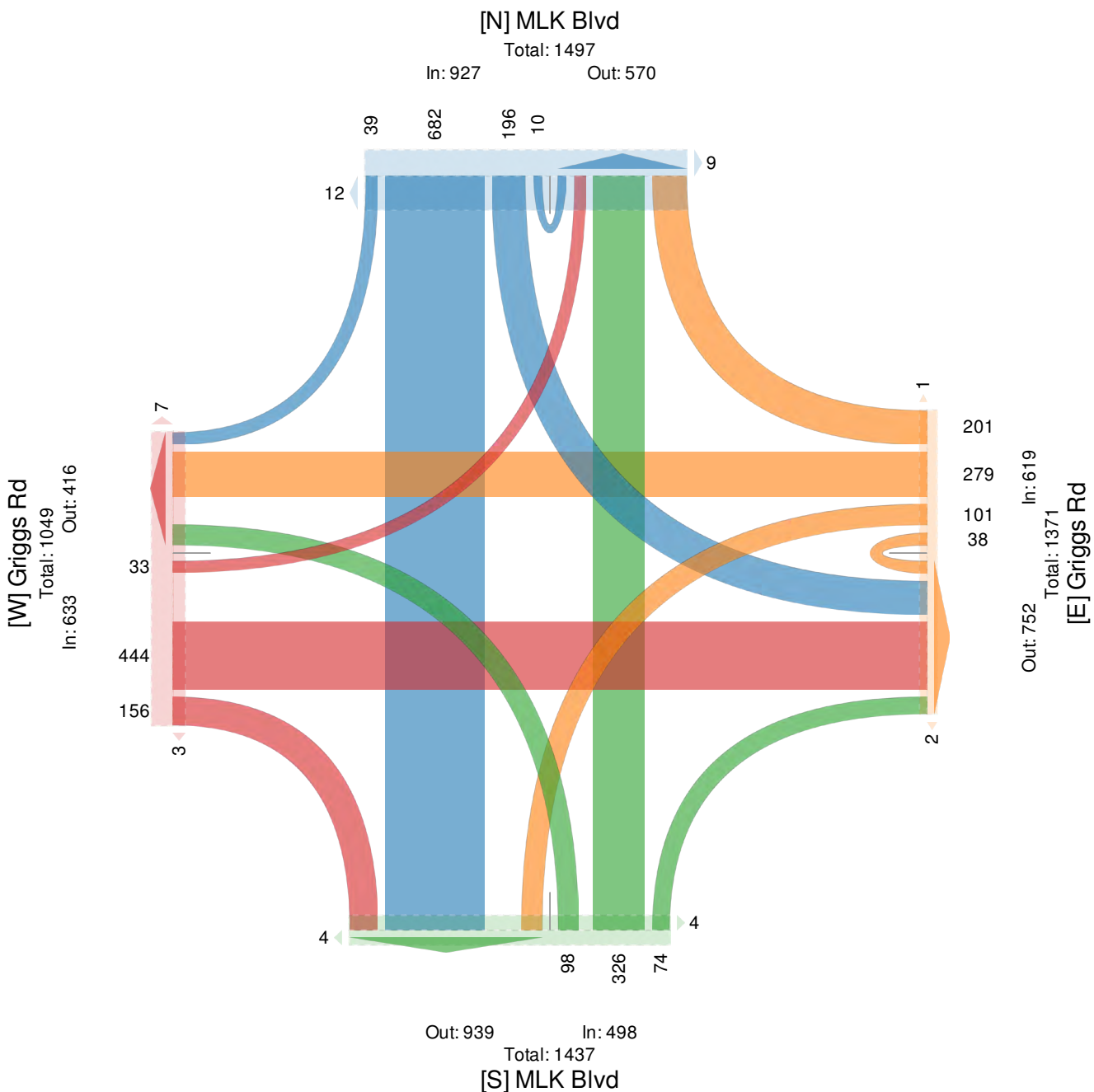
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692207, Location: 29.697863, -95.336793



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at WBFR US 610 - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692210, Location: 29.68601, -95.341009



Provided by: C. J. Hensch & Associates  
Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound							MLK Blvd Southbound							WBFR 610 Loop Eastbound							WBFR 610 Loop Westbound							
Time	L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*	Int	
2019-09-11 7:00AM	231	988	0	0	1219	1		0	527	133	0	660	1		0	0	0	0	0	3		267	164	359	123	913	5	2792	
8:00AM	173	758	0	0	931	0		0	319	51	0	370	0		0	0	0	0	0	1		213	83	256	47	599	0	1900	
4:00PM	133	485	0	9	627	1		0	933	241	0	1174	0		0	0	0	0	0	1		459	152	270	67	948	3	2749	
5:00PM	108	500	0	1	609	0		0	1297	271	0	1568	0		0	0	0	0	0	2		565	225	349	45	1184	0	3361	
Total	645	2731	0	10	3386	2		0	3076	696	0	3772	1		0	0	0	0	0	7		1504	624	1234	282	3644	8	10802	
% Approach	19.0%	80.7%	0%	0.3%	-	-		0%	81.5%	18.5%	0%	-	-		0%	0%	0%	0%	-	-		41.3%	17.1%	33.9%	7.7%	-	-	-	
% Total	6.0%	25.3%	0%	0.1%	31.3%	-		0%	28.5%	6.4%	0%	34.9%	-		0%	0%	0%	0%	0%	-		13.9%	5.8%	11.4%	2.6%	33.7%	-	-	
Lights	624	2643	0	10	3277	-		0	2952	688	0	3640	-		0	0	0	0	0	-		1456	603	1200	264	3523	-	10440	
% Lights	96.7%	96.8%	0%	100%	96.8%	-		0%	96.0%	98.9%	0%	96.5%	-		0%	0%	0%	0%	-	-		96.8%	96.6%	97.2%	93.6%	96.7%	-	96.6%	
Articulated Trucks	5	7	0	0	12	-		0	3	1	0	4	-		0	0	0	0	0	-		14	10	2	3	29	-	45	
% Articulated Trucks	0.8%	0.3%	0%	0%	0.4%	-		0%	0.1%	0.1%	0%	0.1%	-		0%	0%	0%	0%	-	-		0.9%	1.6%	0.2%	1.1%	0.8%	-	0.4%	
Buses and Single-Unit Trucks	16	80	0	0	96	-		0	121	7	0	128	-		0	0	0	0	0	-		34	11	32	15	92	-	316	
% Buses and Single-Unit Trucks	2.5%	2.9%	0%	0%	2.8%	-		0%	3.9%	1.0%	0%	3.4%	-		0%	0%	0%	0%	-	-		2.3%	1.8%	2.6%	5.3%	2.5%	-	2.9%	
Bicycles on Road	0	1	0	0	1	-		0	0	0	0	0	-		0	0	0	0	0	-		0	0	0	0	0	-	1	
% Bicycles on Road	0%	0%	0%	0%	0%	-		0%	0%	0%	0%	0%	-		0%	0%	0%	0%	-	-		0%	0%	0%	0%	0%	-	0%	
Pedestrians	-	-	-	-	-	2		-	-	-	-	-	1		-	-	-	-	-	6		-	-	-	-	-	8		
% Pedestrians	-	-	-	-	-	100%		-	-	-	-	-	100%		-	-	-	-	-	85.7%		-	-	-	-	-	100%	-	
Bicycles on Crosswalk	-	-	-	-	-	0		-	-	-	-	-	0		-	-	-	-	-	1		-	-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	14.3%		-	-	-	-	-	0%		

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at WBFR US 610 - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

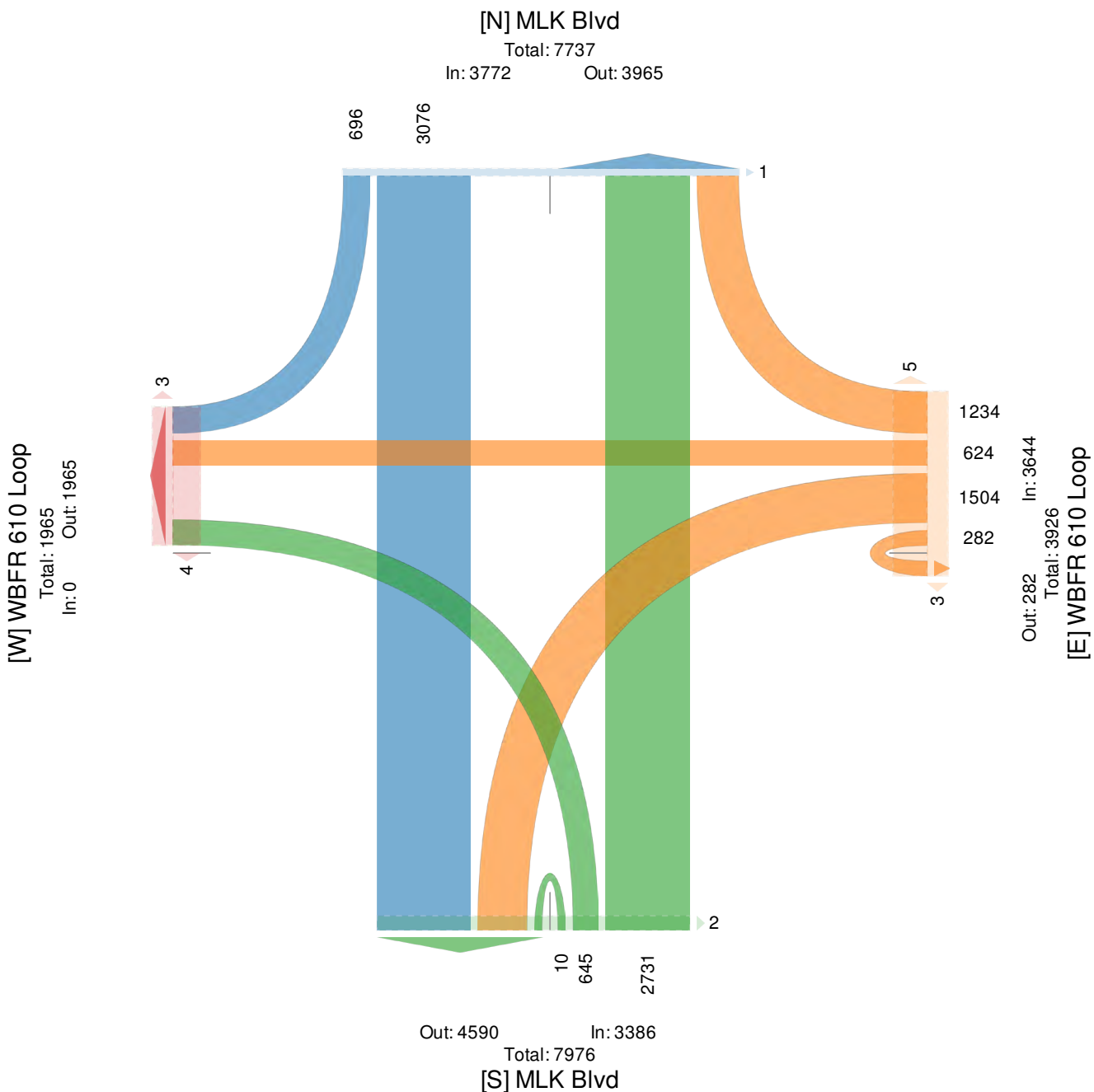
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692210, Location: 29.68601, -95.341009



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at WBFR US 610 - TMC

Wed Sep 11, 2019

AM Peak (7 AM - 8 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692210, Location: 29.68601, -95.341009



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						WBFR 610 Loop Eastbound						WBFR 610 Loop Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:00AM	65	242	0	0	307	0	0	111	28	0	139	0	0	0	0	0	0	1	42	37	79	7	165	0	611
7:15AM	60	256	0	0	316	1	0	132	51	0	183	1	0	0	0	0	0	1	55	36	77	23	191	1	690
7:30AM	57	231	0	0	288	0	0	190	31	0	221	0	0	0	0	0	0	0	76	48	103	41	268	4	777
7:45AM	49	259	0	0	308	0	0	94	23	0	117	0	0	0	0	0	0	1	94	43	100	52	289	0	714
<b>Total</b>	231	988	0	0	1219	1	0	527	133	0	660	1	0	0	0	0	0	3	267	164	359	123	913	5	2792
<b>% Approach</b>	18.9%	81.1%	0%	0%	-	-	0%	79.8%	20.2%	0%	-	-	0%	0%	0%	0%	-	-	29.2%	18.0%	39.3%	13.5%	-	-	-
<b>% Total</b>	8.3%	35.4%	0%	0%	43.7%	-	0%	18.9%	4.8%	0%	23.6%	-	0%	0%	0%	0%	0%	-	9.6%	5.9%	12.9%	4.4%	32.7%	-	-
<b>PHF</b>	0.888	0.954	-	-	0.964	-	-	0.693	0.652	-	0.747	-	-	-	-	-	-	-	0.710	0.854	0.871	0.591	0.790	-	0.898
<b>Lights</b>	219	956	0	0	1175	-	0	485	129	0	614	-	0	0	0	0	0	-	263	158	349	110	880	-	2669
<b>% Lights</b>	94.8%	96.8%	0%	0%	96.4%	-	0%	92.0%	97.0%	0%	93.0%	-	0%	0%	0%	0%	-	-	98.5%	96.3%	97.2%	89.4%	96.4%	-	95.6%
<b>Articulated Trucks</b>	4	2	0	0	6	-	0	2	0	0	2	-	0	0	0	0	0	-	1	2	1	0	4	-	12
<b>% Articulated Trucks</b>	1.7%	0.2%	0%	0%	0.5%	-	0%	0.4%	0%	0%	0.3%	-	0%	0%	0%	0%	-	-	0.4%	1.2%	0.3%	0%	0.4%	-	0.4%
<b>Buses and Single-Unit Trucks</b>	8	30	0	0	38	-	0	40	4	0	44	-	0	0	0	0	0	-	3	4	9	13	29	-	111
<b>% Buses and Single-Unit Trucks</b>	3.5%	3.0%	0%	0%	3.1%	-	0%	7.6%	3.0%	0%	6.7%	-	0%	0%	0%	0%	-	-	1.1%	2.4%	2.5%	10.6%	3.2%	-	4.0%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	5	-
<b>% Pedestrians</b>	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at WBFR US 610 - TMC

Wed Sep 11, 2019

AM Peak (7 AM - 8 AM)

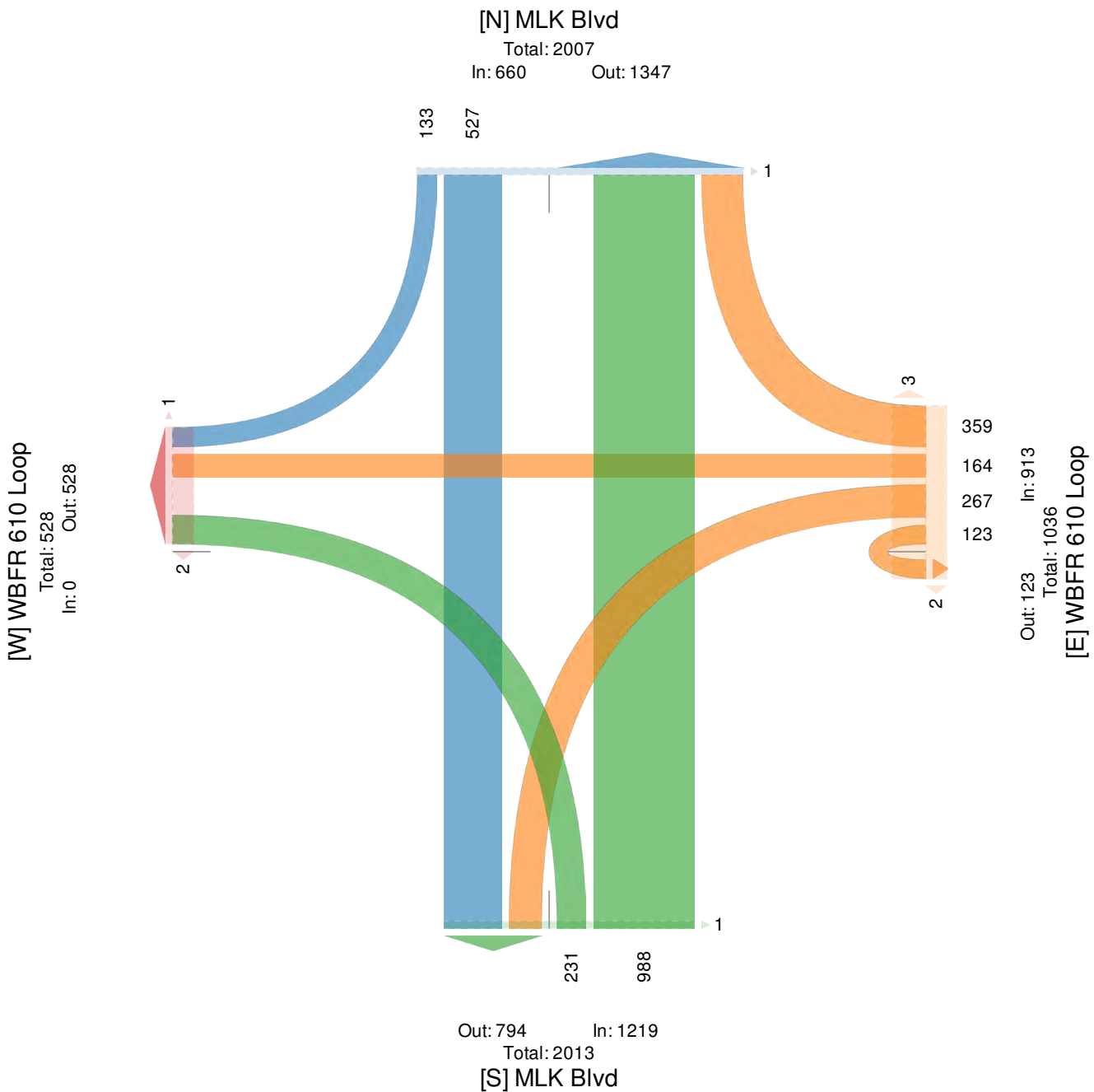
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692210, Location: 29.68601, -95.341009



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at WBFR US 610 - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692210, Location: 29.68601, -95.341009



Provided by: C. J. Hensch & Associates  
Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						WBFR 610 Loop Eastbound						WBFR 610 Loop Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 5:00PM	28	112	0	0	140	0	0	368	73	0	441	0	0	0	0	0	0	1	130	56	107	16	309	0	890
5:15PM	23	129	0	0	152	0	0	323	76	0	399	0	0	0	0	0	0	0	146	68	83	14	311	0	862
5:30PM	31	137	0	0	168	0	0	326	77	0	403	0	0	0	0	0	0	1	141	41	74	10	266	0	837
5:45PM	26	122	0	1	149	0	0	280	45	0	325	0	0	0	0	0	0	0	148	60	85	5	298	0	772
<b>Total</b>	108	500	0	1	609	0	0	1297	271	0	1568	0	0	0	0	0	2		565	225	349	45	1184	0	3361
<b>% Approach</b>	17.7%	82.1%	0%	0.2%	-	-	0%	82.7%	17.3%	0%	-	-	0%	0%	0%	0%	-	-	47.7%	19.0%	29.5%	3.8%	-	-	-
<b>% Total</b>	3.2%	14.9%	0%	0%	18.1%	-	0%	38.6%	8.1%	0%	46.7%	-	0%	0%	0%	0%	0%	-	16.8%	6.7%	10.4%	1.3%	35.2%	-	-
<b>PHF</b>	0.871	0.912	-0.250	0.906	-	-	0.881	0.880	-0.889	-	-	-	-	-	-	-	-	-	0.954	0.827	0.815	0.703	0.952	-	0.944
<b>Lights</b>	106	493	0	1	600	-	0	1278	270	0	1548	-	0	0	0	0	0	-	550	222	342	45	1159	-	3307
<b>% Lights</b>	98.1%	98.6%	0%	100%	98.5%	-	0%	98.5%	99.6%	0%	98.7%	-	0%	0%	0%	0%	-	-	97.3%	98.7%	98.0%	100%	97.9%	-	98.4%
<b>Articulated Trucks</b>	1	1	0	0	2	-	0	1	0	0	1	-	0	0	0	0	0	-	5	2	1	0	8	-	11
<b>% Articulated Trucks</b>	0.9%	0.2%	0%	0%	0.3%	-	0%	0.1%	0%	0%	0.1%	-	0%	0%	0%	0%	-	-	0.9%	0.9%	0.3%	0%	0.7%	-	0.3%
<b>Buses and Single-Unit Trucks</b>	1	6	0	0	7	-	0	18	1	0	19	-	0	0	0	0	0	-	10	1	6	0	17	-	43
<b>% Buses and Single-Unit Trucks</b>	0.9%	1.2%	0%	0%	1.1%	-	0%	1.4%	0.4%	0%	1.2%	-	0%	0%	0%	0%	-	-	1.8%	0.4%	1.7%	0%	1.4%	-	1.3%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at WBFR US 610 - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

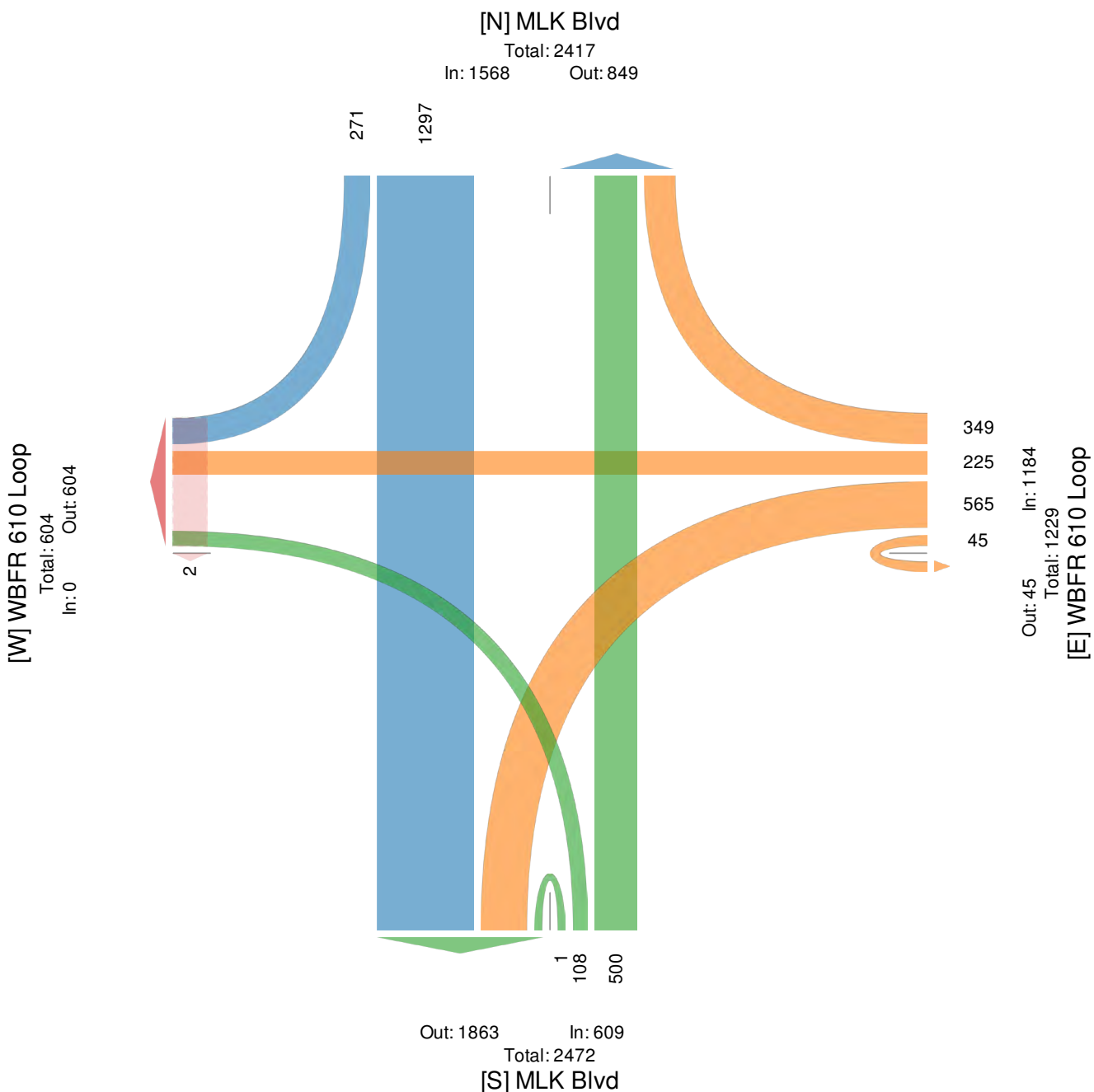
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692210, Location: 29.68601, -95.341009



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at EBFR US 610 - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692211, Location: 29.685247, -95.340738



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Le g Direction	MLK Blvd Northbound						MLK Blvd Southbound						EBFR 610 Loop Eastbound						EBFR 610 Loop Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	App	Ped*	Int	
2019-09-11 7:00AM	0	956	403	0	1359	0	220	543	0	2	765	0	276	89	88	0	453	7	0	0	0	0	0	2577	
8:00AM	0	587	234	0	821	1	131	403	0	1	535	0	340	48	85	0	473	2	0	0	0	0	1	1829	
4:00PM	0	470	167	0	637	0	262	1129	0	1	1392	0	154	70	170	0	394	2	0	0	0	0	2	2423	
5:00PM	0	438	196	0	634	0	314	1492	0	1	1807	0	181	70	193	0	444	8	0	0	0	0	0	2885	
Total	0	2451	1000	0	3451	1	927	3567	0	5	4499	0	951	277	536	0	1764	19	0	0	0	0	3	9714	
% Approach	0%	71.0%	29.0%	0%	-	-	20.6%	79.3%	0%	0.1%	-	-	53.9%	15.7%	30.4%	0%	-	-	0%	0%	0%	-	-	-	
% Total	0%	25.2%	10.3%	0%	35.5%	-	9.5%	36.7%	0%	0.1%	46.3%	-	9.8%	2.9%	5.5%	0%	18.2%	-	0%	0%	0%	0%	-	-	
Lights	0	2364	959	0	3323	-	888	3442	0	5	4335	-	928	266	523	0	1717	-	0	0	0	0	-	9375	
% Lights	0%	96.5%	95.9%	0%	96.3%	-	95.8%	96.5%	0%	100%	96.4%	-	97.6%	96.0%	97.6%	0%	97.3%	-	0%	0%	0%	-	-	96.5%	
Articulated Trucks	0	5	2	0	7	-	5	13	0	0	18	-	4	4	1	0	9	-	0	0	0	0	-	34	
% Articulated Trucks	0%	0.2%	0.2%	0%	0.2%	-	0.5%	0.4%	0%	0%	0.4%	-	0.4%	1.4%	0.2%	0%	0.5%	-	0%	0%	0%	-	-	0.4%	
Buses and Single-Unit Trucks	0	82	39	0	121	-	34	112	0	0	146	-	19	7	12	0	38	-	0	0	0	0	-	305	
% Buses and Single-Unit Trucks	0%	3.3%	3.9%	0%	3.5%	-	3.7%	3.1%	0%	0%	3.2%	-	2.0%	2.5%	2.2%	0%	2.2%	-	0%	0%	0%	-	-	3.1%	
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0	
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	19	-	-	-	-	1	-	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	33.3%	-	
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	2	-	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	66.7%	-	

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at EBFR US 610 - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

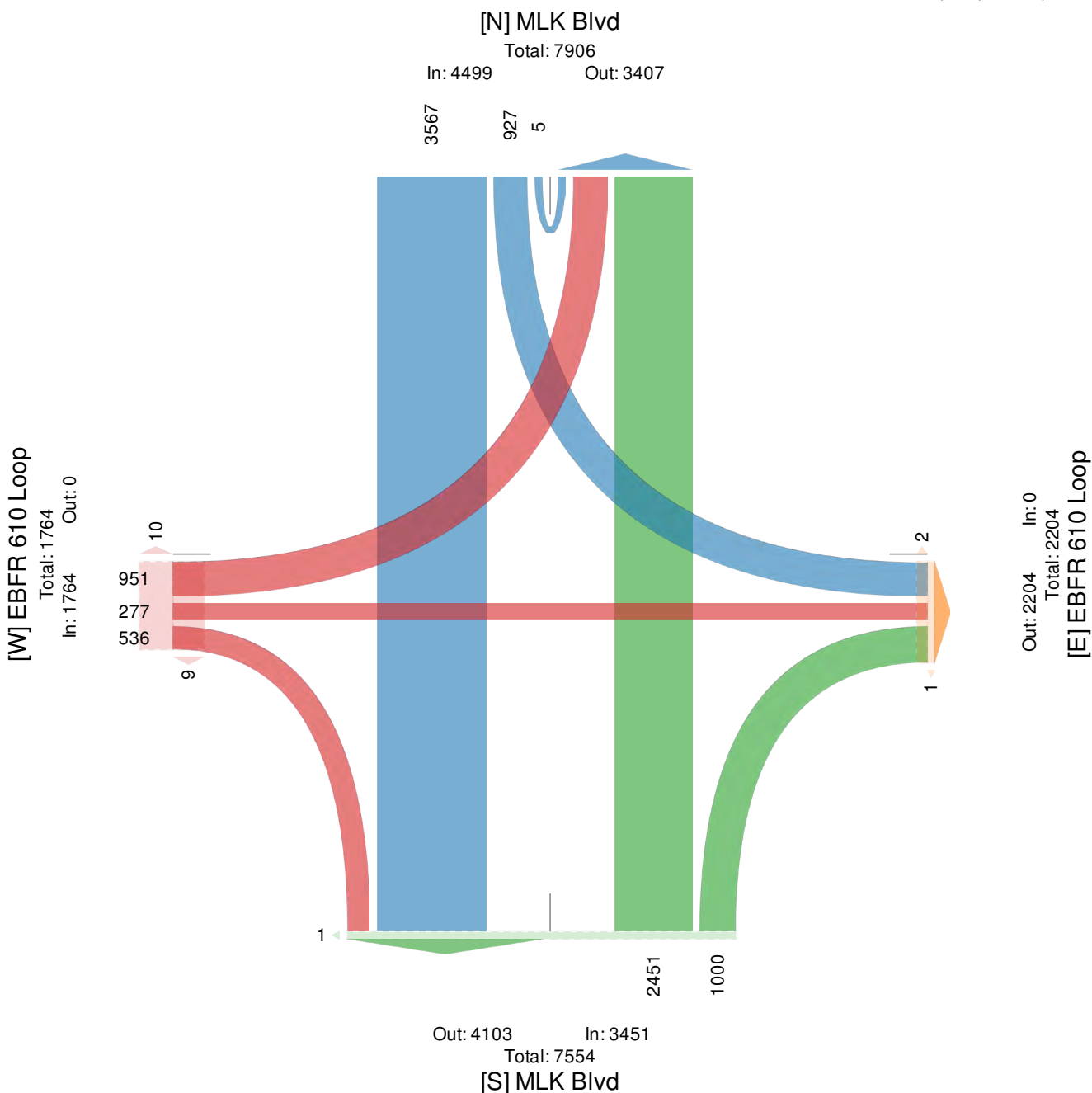
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692211, Location: 29.685247, -95.340738



Provided by: C. J. Hensch &  
Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at EBFR US 610 - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692211, Location: 29.685247, -95.340738



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						EBFR 610 Loop Eastbound						EBFR 610 Loop Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	App	Ped*	Int	
2019-09-11 7:15AM	0	269	106	0	375	0	47	130	0	0	177	0	56	19	17	0	92	2	0	0	0	0	0	644	
7:30AM	0	217	112	0	329	0	90	170	0	0	260	0	74	29	25	0	128	0	0	0	0	0	0	717	
7:45AM	0	255	117	0	372	0	32	149	0	1	182	0	54	17	23	0	94	3	0	0	0	0	0	648	
8:00AM	0	182	83	0	265	1	51	138	0	0	189	0	81	9	27	0	117	0	0	0	0	0	0	571	
Total	0	923	418	0	1341	1	220	587	0	1	808	0	265	74	92	0	431	5	0	0	0	0	0	2580	
% Approach	0%	68.8%	31.2%	0%	-	-	27.2%	72.6%	0%	0.1%	-	-	61.5%	17.2%	21.3%	0%	-	-	0%	0%	0%	-	-	-	
% Total	0%	35.8%	16.2%	0%	52.0%	-	8.5%	22.8%	0%	0%	31.3%	-	10.3%	2.9%	3.6%	0%	16.7%	-	0%	0%	0%	0%	-	-	
PHF	-	0.858	0.893	-	0.894	-	0.611	0.863	-	0.250	0.777	-	0.818	0.638	0.852	-	0.842	-	-	-	-	-	-	0.900	
Lights	0	885	403	0	1288	-	209	552	0	1	762	-	259	72	92	0	423	-	0	0	0	0	-	2473	
% Lights	0%	95.9%	96.4%	0%	96.0%	-	95.0%	94.0%	0%	100%	94.3%	-	97.7%	97.3%	100%	0%	98.1%	-	0%	0%	0%	-	-	95.9%	
Articulated Trucks	0	3	1	0	4	-	2	2	0	0	4	-	1	1	0	0	2	-	0	0	0	0	-	10	
% Articulated Trucks	0%	0.3%	0.2%	0%	0.3%	-	0.9%	0.3%	0%	0%	0.5%	-	0.4%	1.4%	0%	0%	0.5%	-	0%	0%	0%	-	-	0.4%	
Buses and Single-Unit Trucks	0	35	14	0	49	-	9	33	0	0	42	-	5	1	0	0	6	-	0	0	0	0	-	97	
% Buses and Single-Unit Trucks	0%	3.8%	3.3%	0%	3.7%	-	4.1%	5.6%	0%	0%	5.2%	-	1.9%	1.4%	0%	0%	1.4%	-	0%	0%	0%	-	-	3.8%	
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0	
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	5	-	-	-	-	0	-	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	-	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	

\* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at EBFR US 610 - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

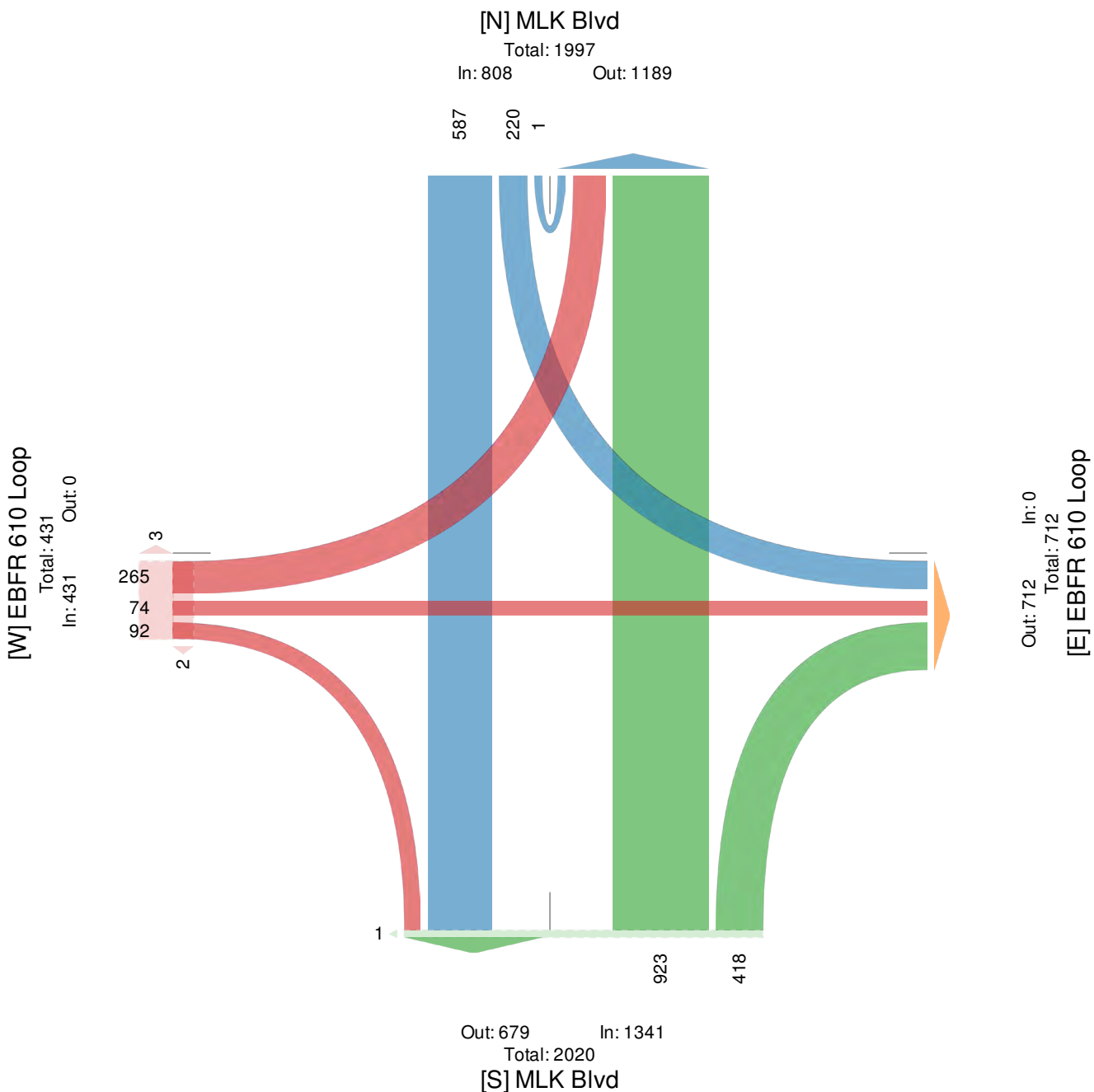
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692211, Location: 29.685247, -95.340738



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at EBFR US 610 - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692211, Location: 29.685247, -95.340738



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						EBFR 610 Loop Eastbound						EBFR 610 Loop Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	App	Ped*	Int	
2019-09-11 5:00PM	0	96	46	0	142	0	102	373	0	0	475	0	45	17	36	0	98	2	0	0	0	0	0	715	
5:15PM	0	105	56	0	161	0	85	371	0	1	457	0	47	12	47	0	106	2	0	0	0	0	0	724	
5:30PM	0	128	45	0	173	0	70	383	0	0	453	0	48	22	51	0	121	4	0	0	0	0	0	747	
5:45PM	0	109	49	0	158	0	57	365	0	0	422	0	41	19	59	0	119	0	0	0	0	0	0	699	
Total	0	438	196	0	634	0	314	1492	0	1	1807	0	181	70	193	0	444	8	0	0	0	0	0	2885	
% Approach	0%	69.1%	30.9%	0%	-	-	17.4%	82.6%	0%	0.1%	-	-	40.8%	15.8%	43.5%	0%	-	-	0%	0%	0%	-	-	-	
% Total	0%	15.2%	6.8%	0%	22.0%	-	10.9%	51.7%	0%	0%	62.6%	-	6.3%	2.4%	6.7%	0%	15.4%	-	0%	0%	0%	0%	-	-	
PHF	-	0.855	0.875	-	0.916	-	0.770	0.974	-	0.250	0.951	-	0.943	0.795	0.818	-	0.917	-	-	-	-	-	-	0.966	
Lights	0	429	190	0	619	-	307	1465	0	1	1773	-	180	67	189	0	436	-	0	0	0	0	-	2828	
% Lights	0%	97.9%	96.9%	0%	97.6%	-	97.8%	98.2%	0%	100%	98.1%	-	99.4%	95.7%	97.9%	0%	98.2%	-	0%	0%	0%	-	-	98.0%	
Articulated Trucks	0	1	0	0	1	-	1	5	0	0	6	-	1	1	0	0	2	-	0	0	0	0	-	9	
% Articulated Trucks	0%	0.2%	0%	0%	0.2%	-	0.3%	0.3%	0%	0%	0.3%	-	0.6%	1.4%	0%	0%	0.5%	-	0%	0%	0%	-	-	0.3%	
Buses and Single-Unit Trucks	0	8	6	0	14	-	6	22	0	0	28	-	0	2	4	0	6	-	0	0	0	0	-	48	
% Buses and Single-Unit Trucks	0%	1.8%	3.1%	0%	2.2%	-	1.9%	1.5%	0%	0%	1.5%	-	0%	2.9%	2.1%	0%	1.4%	-	0%	0%	0%	-	-	1.7%	
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0	
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	-	-	0%	
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	8	-	-	-	-	0	-	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	-	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	

\* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at EBFR US 610 - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

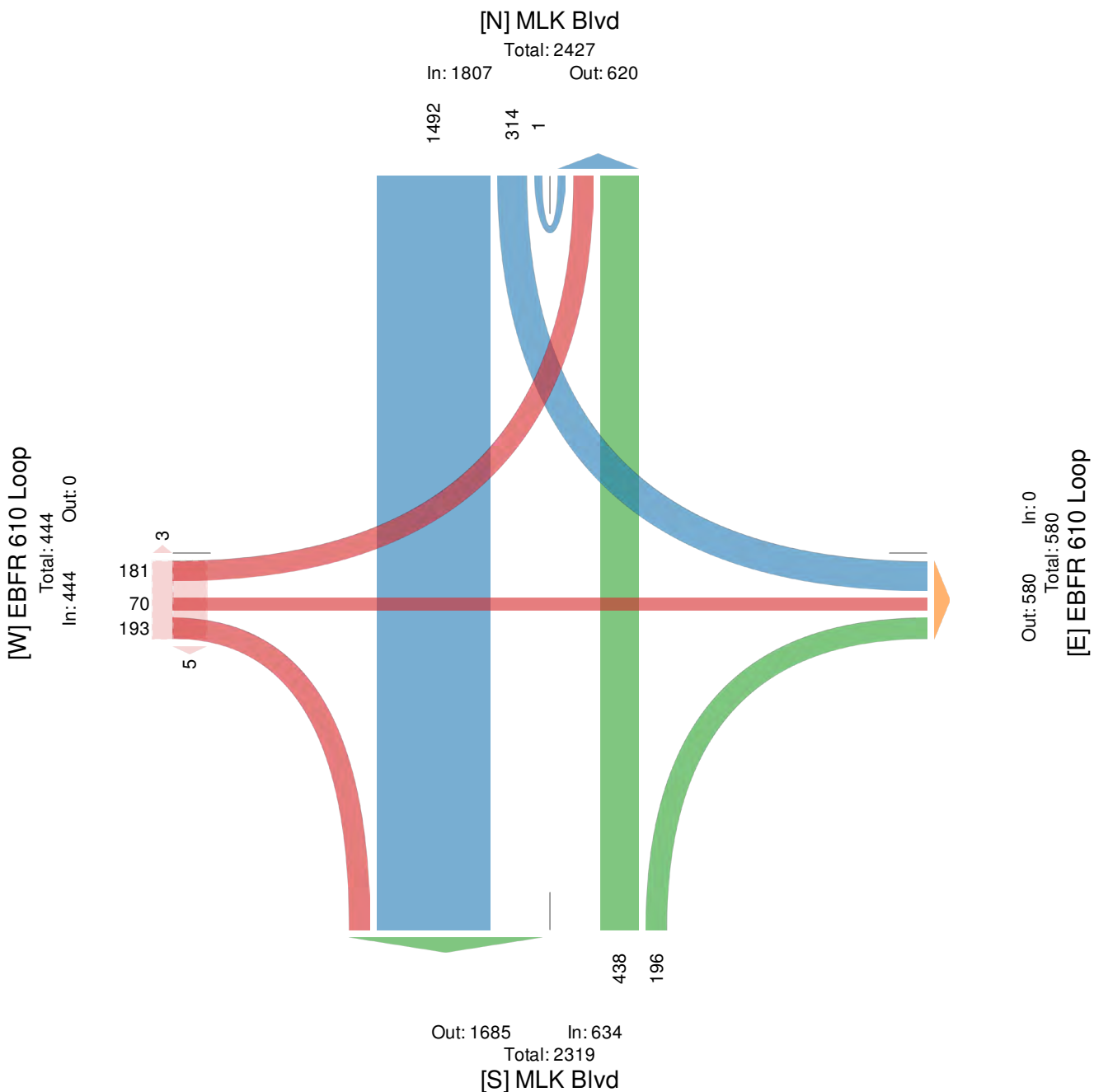
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692211, Location: 29.685247, -95.340738



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Van Fleet St - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692212, Location: 29.673891, -95.336435



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound							MLK Blvd Southbound							Van Fleet St Eastbound							Van Fleet St Westbound							
Time	L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*		L	T	R	U	App	Ped*	Int	
2019-09-11 7:00AM	19	1194	13	2	1228	8		11	582	24	0	617	2		36	8	30	0	74	7		12	14	41	0	67	0	1986	
8:00AM	6	704	14	0	724	1		7	432	12	1	452	0		10	4	10	0	24	3		12	8	35	0	55	4	1255	
4:00PM	18	614	7	1	640	8		16	1121	31	3	1171	3		16	6	40	0	62	8		16	8	27	0	51	1	1924	
5:00PM	15	579	10	0	604	2		13	1635	30	2	1680	4		11	10	27	0	48	5		17	8	33	0	58	0	2390	
Total	58	3091	44	3	3196	19		47	3770	97	6	3920	9		73	28	107	0	208	23		57	38	136	0	231	5	7555	
% Approach	1.8%	96.7%	1.4%	0.1%	-	-		1.2%	96.2%	2.5%	0.2%	-	-		35.1%	13.5%	51.4%	0%	-	-		24.7%	16.5%	58.9%	0%	-	-	-	
% Total	0.8%	40.9%	0.6%	0%	42.3%	-		0.6%	49.9%	1.3%	0.1%	51.9%	-		1.0%	0.4%	1.4%	0%	2.8%	-		0.8%	0.5%	1.8%	0%	3.1%	-	-	
Lights	54	2987	43	3	3087	-		46	3672	92	6	3816	-		54	26	95	0	175	-		56	37	133	0	226	-	7304	
% Lights	93.1%	96.6%	97.7%	100%	96.6%	-		97.9%	97.4%	94.8%	100%	97.3%	-		74.0%	92.9%	88.8%	0%	84.1%	-		98.2%	97.4%	97.8%	0%	97.8%	-	96.7%	
Articulated Trucks	0	7	0	0	7	-		0	11	1	0	12	-		0	0	1	0	1	-		0	0	0	0	0	-	20	
% Articulated Trucks	0%	0.2%	0%	0%	0.2%	-		0%	0.3%	1.0%	0%	0.3%	-		0%	0%	0.9%	0%	0.5%	-		0%	0%	0%	0%	0%	-	0.3%	
Buses and Single-Unit Trucks	4	97	1	0	102	-		1	86	4	0	91	-		19	2	11	0	32	-		1	1	3	0	5	-	230	
% Buses and Single-Unit Trucks	6.9%	3.1%	2.3%	0%	3.2%	-		2.1%	2.3%	4.1%	0%	2.3%	-		26.0%	7.1%	10.3%	0%	15.4%	-		1.8%	2.6%	2.2%	0%	2.2%	-	3.0%	
Bicycles on Road	0	0	0	0	0	-		0	1	0	0	1	-		0	0	0	0	0	-		0	0	0	0	0	-	1	
% Bicycles on Road	0%	0%	0%	0%	0%	-		0%	0%	0%	0%	0%	-		0%	0%	0%	0%	0%	-		0%	0%	0%	0%	0%	-	0%	
Pedestrians	-	-	-	-	-	18		-	-	-	-	-	8		-	-	-	-	-	21		-	-	-	-	-	5		
% Pedestrians	-	-	-	-	-	94.7%		-	-	-	-	-	88.9%		-	-	-	-	-	91.3%		-	-	-	-	-	100%	-	
Bicycles on Crosswalk	-	-	-	-	-	1		-	-	-	-	-	1		-	-	-	-	-	2		-	-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	-	5.3%		-	-	-	-	-	11.1%		-	-	-	-	-	8.7%		-	-	-	-	-	0%		

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Van Fleet St - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians,

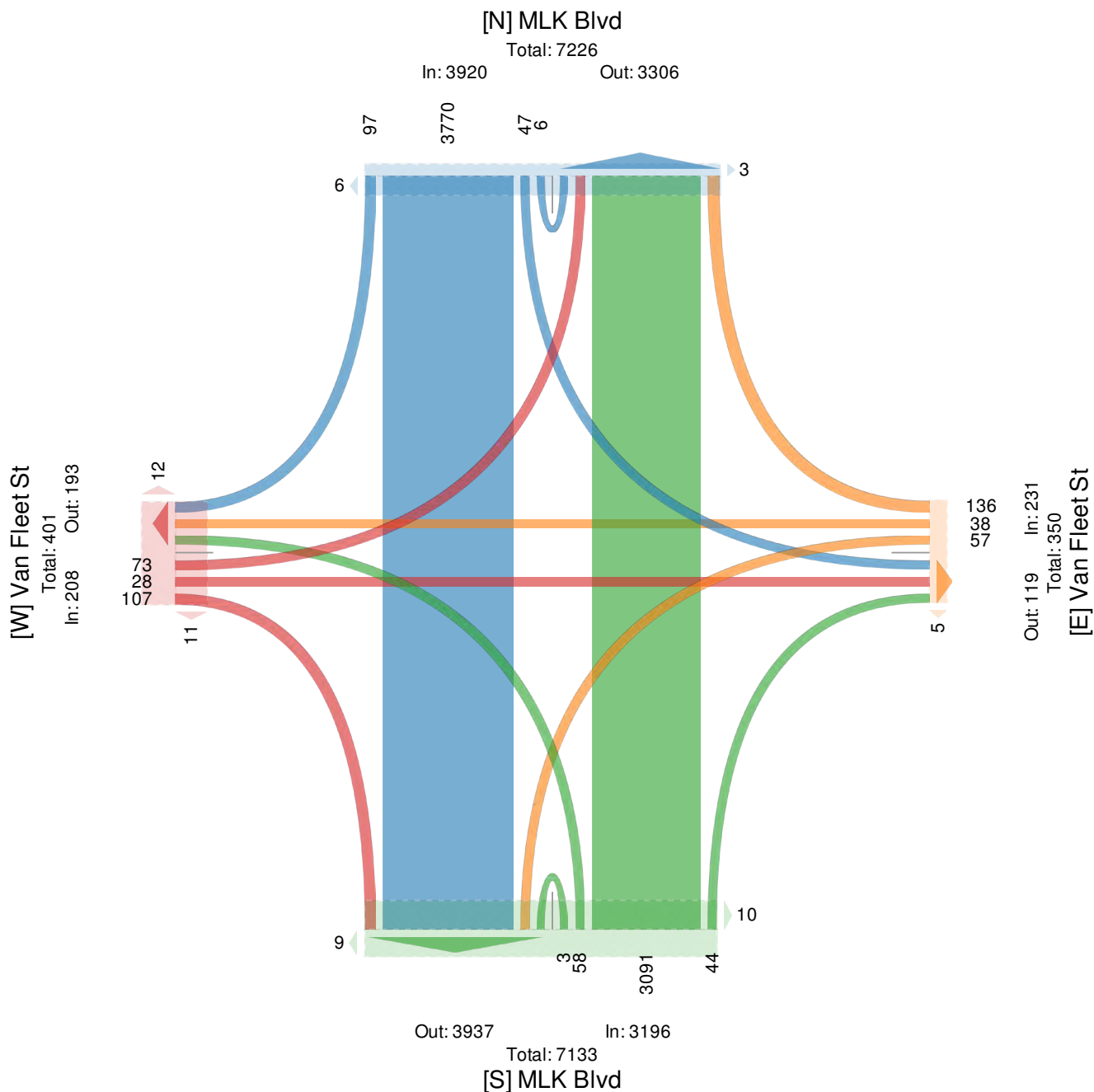
Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692212, Location: 29.673891, -95.336435



Provided by: C. J. Hensch &  
Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Van Fleet St - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692212, Location: 29.673891, -95.336435



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						Van Fleet St Eastbound						Van Fleet St Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:15AM	4	312	1	1	318	1	2	152	8	0	162	0	6	1	5	0	12	0	3	3	16	0	22	0	514
7:30AM	8	323	2	0	333	4	2	165	3	0	170	0	7	2	10	0	19	2	6	3	11	0	20	0	542
7:45AM	6	307	7	1	321	1	4	166	5	0	175	1	14	2	7	0	23	5	0	5	9	0	14	0	533
8:00AM	2	248	3	0	253	1	4	135	6	0	145	0	5	3	1	0	9	3	5	7	7	0	19	1	426
<b>Total</b>	20	1190	13	2	1225	7	12	618	22	0	652	1	32	8	23	0	63	10	14	18	43	0	75	1	2015
<b>% Approach</b>	1.6%	97.1%	1.1%	0.2%	-	-	1.8%	94.8%	3.4%	0%	-	-	50.8%	12.7%	36.5%	0%	-	-	18.7%	24.0%	57.3%	0%	-	-	-
<b>% Total</b>	1.0%	59.1%	0.6%	0.1%	60.8%	-	0.6%	30.7%	1.1%	0%	32.4%	-	1.6%	0.4%	1.1%	0%	3.1%	-	0.7%	0.9%	2.1%	0%	3.7%	-	-
<b>PHF</b>	0.625	0.921	0.464	0.500	0.920	-	0.750	0.931	0.688	-	0.931	-	0.571	0.667	0.575	-	0.685	-	0.583	0.643	0.672	-	0.852	-	0.929
<b>Lights</b>	19	1143	13	2	1177	-	12	596	21	0	629	-	24	8	21	0	53	-	14	17	41	0	72	-	1931
<b>% Lights</b>	95.0%	96.1%	100%	100%	96.1%	-	100%	96.4%	95.5%	0%	96.5%	-	75.0%	100%	91.3%	0%	84.1%	-	100%	94.4%	95.3%	0%	96.0%	-	95.8%
<b>Articulated Trucks</b>	0	4	0	0	4	-	0	1	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	5
<b>% Articulated Trucks</b>	0%	0.3%	0%	0%	0.3%	-	0%	0.2%	0%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	1	43	0	0	44	-	0	21	1	0	22	-	8	0	2	0	10	-	0	1	2	0	3	-	79
<b>% Buses and Single-Unit Trucks</b>	5.0%	3.6%	0%	0%	3.6%	-	0%	3.4%	4.5%	0%	3.4%	-	25.0%	0%	8.7%	0%	15.9%	-	0%	5.6%	4.7%	0%	4.0%	-	3.9%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	7	-	-	-	-	-	1	-	-	-	-	-	10	-	-	-	-	-	1	-
<b>% Pedestrians</b>	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Van Fleet St - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

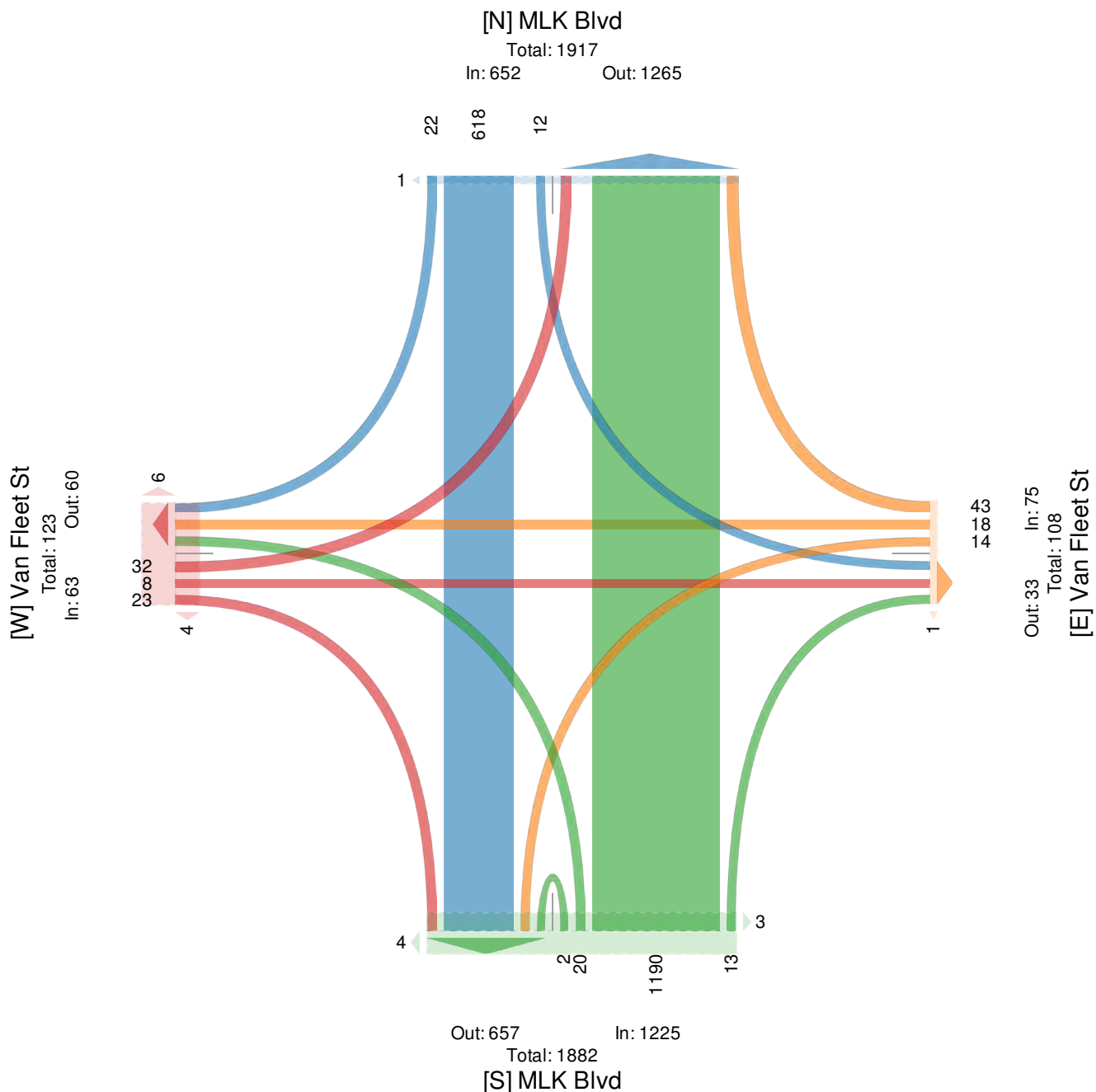
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692212, Location: 29.673891, -95.336435



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Van Fleet St - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692212, Location: 29.673891, -95.336435



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						Van Fleet St Eastbound						Van Fleet St Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 5:00PM	5	147	2	0	154	1	3	386	4	0	393	0	1	3	8	0	12	1	5	2	7	0	14	0	573
5:15PM	6	153	5	0	164	1	5	412	10	0	427	1	5	0	6	0	11	2	4	2	8	0	14	0	616
5:30PM	2	146	1	0	149	0	1	411	8	2	422	2	3	5	9	0	17	0	4	1	13	0	18	0	606
5:45PM	2	133	2	0	137	0	4	426	8	0	438	1	2	2	4	0	8	2	4	3	5	0	12	0	595
<b>Total</b>	15	579	10	0	604	2	13	1635	30	2	1680	4	11	10	27	0	48	5	17	8	33	0	58	0	2390
<b>% Approach</b>	2.5%	95.9%	1.7%	0%	-	-	0.8%	97.3%	1.8%	0.1%	-	-	22.9%	20.8%	56.3%	0%	-	-	29.3%	13.8%	56.9%	0%	-	-	-
<b>% Total</b>	0.6%	24.2%	0.4%	0%	25.3%	-	0.5%	68.4%	1.3%	0.1%	70.3%	-	0.5%	0.4%	1.1%	0%	2.0%	-	0.7%	0.3%	1.4%	0%	2.4%	-	-
<b>PHF</b>	0.625	0.946	0.500	-	0.921	-	0.650	0.960	0.750	0.250	0.959	-	0.550	0.500	0.750	-	0.706	-	0.850	0.667	0.635	-	0.806	-	0.970
<b>Lights</b>	14	566	10	0	590	-	13	1613	27	2	1655	-	10	9	25	0	44	-	17	8	33	0	58	-	2347
<b>% Lights</b>	93.3%	97.8%	100%	0%	97.7%	-	100%	98.7%	90.0%	100%	98.5%	-	90.9%	90.0%	92.6%	0%	91.7%	-	100%	100%	100%	0%	100%	-	98.2%
<b>Articulated Trucks</b>	0	0	0	0	0	-	0	3	1	0	4	-	0	0	0	0	0	-	0	0	0	0	0	-	4
<b>% Articulated Trucks</b>	0%	0%	0%	0%	0%	-	0%	0.2%	3.3%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	1	13	0	0	14	-	0	19	2	0	21	-	1	1	2	0	4	-	0	0	0	0	0	-	39
<b>% Buses and Single-Unit Trucks</b>	6.7%	2.2%	0%	0%	2.3%	-	0%	1.2%	6.7%	0%	1.3%	-	9.1%	10.0%	7.4%	0%	8.3%	-	0%	0%	0%	0%	0%	-	1.6%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	4	-	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	50.0%	-	-	-	-	-	100%	-	-	-	-	-	80.0%	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	50.0%	-	-	-	-	-	0%	-	-	-	-	-	20.0%	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Van Fleet St - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

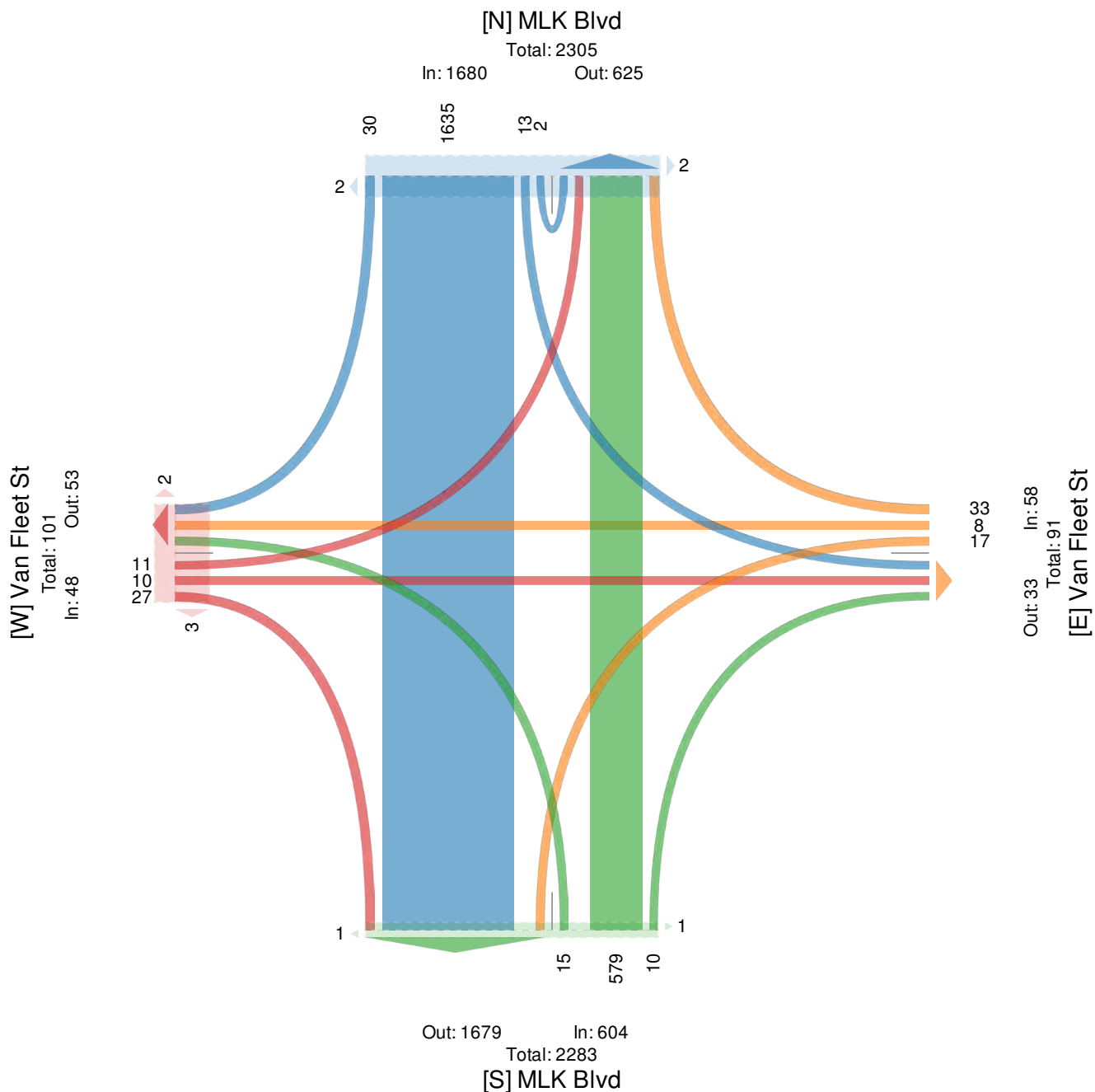
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692212, Location: 29.673891, -95.336435



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Belfort St - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692214, Location: 29.666315, -95.337195



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						Belfort St Eastbound						Belfort St Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:00AM	118	938	41	0	1097	11	52	413	81	3	549	16	91	182	59	4	336	14	51	363	76	0	490	17	2472
8:00AM	86	539	39	1	665	9	45	309	66	8	428	12	57	135	30	3	225	15	67	351	77	1	496	10	1814
4:00PM	61	436	59	2	558	26	93	827	93	8	1021	9	99	315	83	3	500	21	92	376	81	4	553	14	2632
5:00PM	60	381	59	3	503	2	101	1203	149	5	1458	8	79	326	87	2	494	10	95	448	74	1	618	9	3073
<b>Total</b>	325	2294	198	6	2823	48	291	2752	389	24	3456	45	326	958	259	12	1555	60	305	1538	308	6	2157	50	9991
<b>% Approach</b>	11.5%	81.3%	7.0%	0.2%	-	-	8.4%	79.6%	11.3%	0.7%	-	-	21.0%	61.6%	16.7%	0.8%	-	-	14.1%	71.3%	14.3%	0.3%	-	-	-
<b>% Total</b>	3.3%	23.0%	2.0%	0.1%	28.3%	-	2.9%	27.5%	3.9%	0.2%	34.6%	-	3.3%	9.6%	2.6%	0.1%	15.6%	-	3.1%	15.4%	3.1%	0.1%	21.6%	-	-
<b>Lights</b>	312	2213	188	6	2719	-	277	2650	382	24	3333	-	316	920	253	12	1501	-	299	1482	297	6	2084	-	9637
<b>% Lights</b>	96.0%	96.5%	94.9%	100%	96.3%	-	95.2%	96.3%	98.2%	100%	96.4%	-	96.9%	96.0%	97.7%	100%	96.5%	-	98.0%	96.4%	96.4%	100%	96.6%	-	96.5%
<b>Articulated Trucks</b>	0	4	0	0	4	-	0	11	1	0	12	-	0	1	0	0	1	-	1	1	1	0	3	-	20
<b>% Articulated Trucks</b>	0%	0.2%	0%	0%	0.1%	-	0%	0.4%	0.3%	0%	0.3%	-	0%	0.1%	0%	0%	0.1%	-	0.3%	0.1%	0.3%	0%	0.1%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	13	77	10	0	100	-	14	91	6	0	111	-	10	37	6	0	53	-	5	55	10	0	70	-	334
<b>% Buses and Single-Unit Trucks</b>	4.0%	3.4%	5.1%	0%	3.5%	-	4.8%	3.3%	1.5%	0%	3.2%	-	3.1%	3.9%	2.3%	0%	3.4%	-	1.6%	3.6%	3.2%	0%	3.2%	-	3.3%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	48	-	-	-	-	-	42	-	-	-	-	-	56	-	-	-	-	-	48	-
<b>% Pedestrians</b>	-	-	-	-	-	100%	-	-	-	-	-	93.3%	-	-	-	-	-	93.3%	-	-	-	-	-	96.0%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	4	-	-	-	-	-	2	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	0%	-	-	-	-	-	6.7%	-	-	-	-	-	6.7%	-	-	-	-	-	4.0%	-

\*Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Belfort St - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

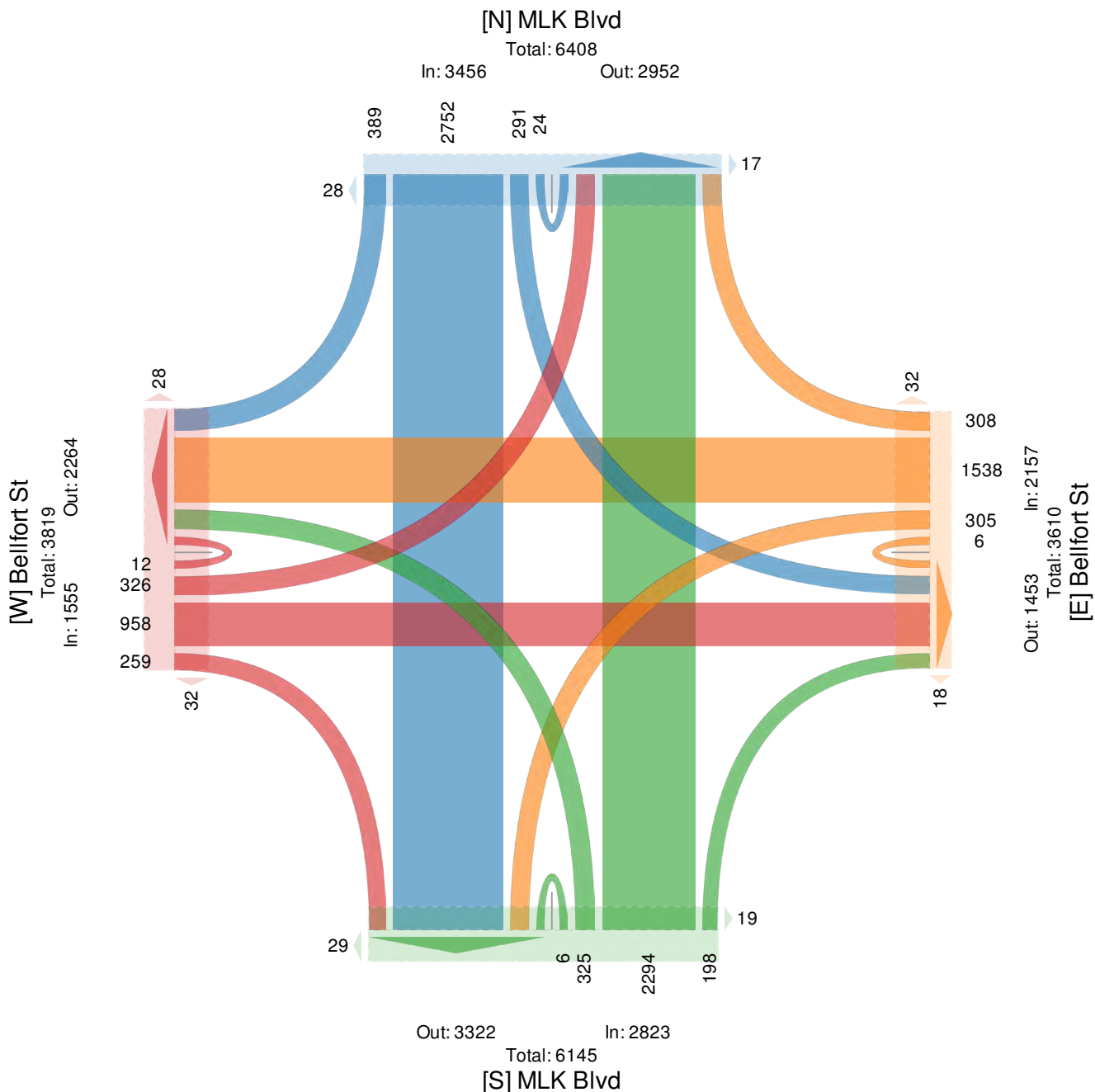
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692214, Location: 29.666315, -95.337195



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Belfort St - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692214, Location: 29.666315, -95.337195



Provided by: C. J. Hensel & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						Bellfort St Eastbound						Bellfort St Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:15AM	29	268	12	0	309	1	12	113	26	1	152	5	18	47	19	1	85	7	9	78	22	0	109	0	655
7:30AM	32	230	10	0	272	1	21	128	19	2	170	4	24	47	14	1	86	2	15	114	20	0	149	4	677
7:45AM	31	262	11	0	304	3	9	96	23	0	128	4	24	40	12	1	77	3	15	87	16	0	118	7	627
8:00AM	28	211	12	0	251	4	10	99	22	3	134	3	18	45	7	1	71	4	19	103	22	0	144	4	600
<b>Total</b>	120	971	45	0	1136	9	52	436	90	6	584	16	84	179	52	4	319	16	58	382	80	0	520	15	2559
<b>% Approach</b>	10.6%	85.5%	4.0%	0%	-	-	8.9%	74.7%	15.4%	1.0%	-	-	26.3%	56.1%	16.3%	1.3%	-	-	11.2%	73.5%	15.4%	0%	-	-	-
<b>% Total</b>	4.7%	37.9%	1.8%	0%	44.4%	-	2.0%	17.0%	3.5%	0.2%	22.8%	-	3.3%	7.0%	2.0%	0.2%	12.5%	-	2.3%	14.9%	3.1%	0%	20.3%	-	-
<b>PHF</b>	0.938	0.906	0.938	-	0.919	-	0.619	0.852	0.865	0.500	0.859	-	0.875	0.952	0.684	1.000	0.927	-	0.763	0.838	0.909	-	0.872	-	0.945
<b>Lights</b>	117	932	42	0	1091	-	48	403	88	6	545	-	80	169	50	4	303	-	58	370	76	0	504	-	2443
<b>% Lights</b>	97.5%	96.0%	93.3%	0%	96.0%	-	92.3%	92.4%	97.8%	100%	93.3%	-	95.2%	94.4%	96.2%	100%	95.0%	-	100%	96.9%	95.0%	0%	96.9%	-	95.5%
<b>Articulated Trucks</b>	0	2	0	0	2	-	0	3	0	0	3	-	0	0	0	0	0	-	0	0	1	0	1	-	6
<b>% Articulated Trucks</b>	0%	0.2%	0%	0%	0.2%	-	0%	0.7%	0%	0%	0.5%	-	0%	0%	0%	0%	0%	-	0%	0%	1.3%	0%	0.2%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	3	37	3	0	43	-	4	30	2	0	36	-	4	10	2	0	16	-	0	12	3	0	15	-	110
<b>% Buses and Single-Unit Trucks</b>	2.5%	3.8%	6.7%	0%	3.8%	-	7.7%	6.9%	2.2%	0%	6.2%	-	4.8%	5.6%	3.8%	0%	5.0%	-	0%	3.1%	3.8%	0%	2.9%	-	4.3%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	9	-	-	-	-	-	16	-	-	-	-	-	15	-	-	-	-	-	15	-
<b>% Pedestrians</b>	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	93.8%	-	-	-	-	-	100%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	6.3%	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Belfort St - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

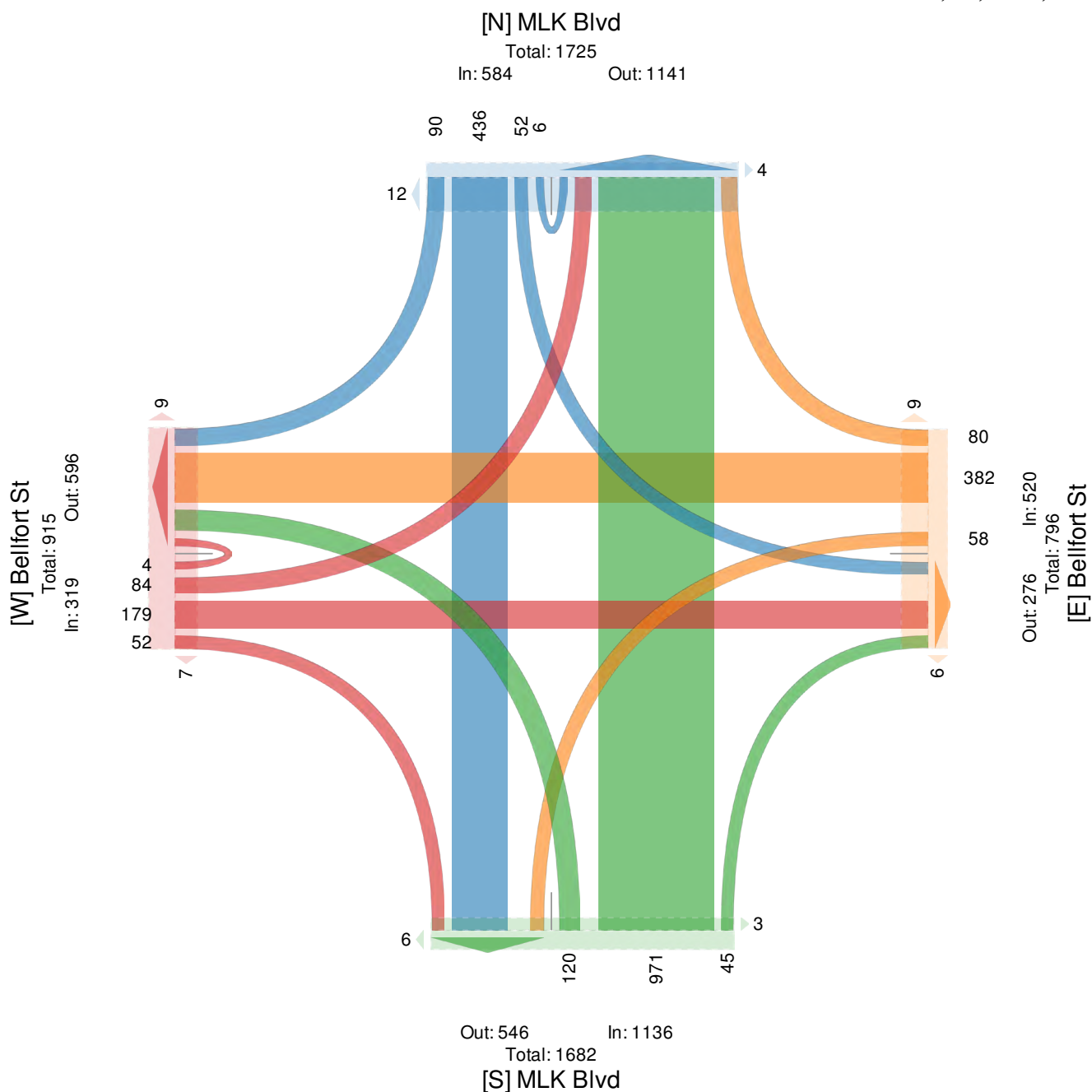
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692214, Location: 29.666315, -95.337195



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Belfort St - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692214, Location: 29.666315, -95.337195



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,

Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						Belfort St Eastbound						Belfort St Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 5:00PM	18	87	15	1	121	2	28	264	43	1	336	3	16	82	17	1	116	2	22	107	22	0	151	2	724
5:15PM	16	112	14	0	142	0	21	342	34	1	398	2	19	90	17	0	126	3	24	95	20	0	139	4	805
5:30PM	10	95	16	2	123	0	28	290	35	3	356	3	17	81	24	1	123	4	25	112	17	0	154	3	756
5:45PM	16	87	14	0	117	0	24	307	37	0	368	0	27	73	29	0	129	1	24	134	15	1	174	0	788
<b>Total</b>	<b>60</b>	<b>381</b>	<b>59</b>	<b>3</b>	<b>503</b>	<b>2</b>	<b>101</b>	<b>1203</b>	<b>149</b>	<b>5</b>	<b>1458</b>	<b>8</b>	<b>79</b>	<b>326</b>	<b>87</b>	<b>2</b>	<b>494</b>	<b>10</b>	<b>95</b>	<b>448</b>	<b>74</b>	<b>1</b>	<b>618</b>	<b>9</b>	<b>3073</b>
<b>% Approach</b>	11.9%	75.7%	11.7%	0.6%	-	-	6.9%	82.5%	10.2%	0.3%	-	-	16.0%	66.0%	17.6%	0.4%	-	-	15.4%	72.5%	12.0%	0.2%	-	-	-
<b>% Total</b>	2.0%	12.4%	1.9%	0.1%	16.4%	-	3.3%	39.1%	4.8%	0.2%	47.4%	-	2.6%	10.6%	2.8%	0.1%	16.1%	-	3.1%	14.6%	2.4%	0%	20.1%	-	-
<b>PHF</b>	0.833	0.850	0.922	0.375	0.886	-	0.902	0.879	0.866	0.417	0.916	-	0.731	0.906	0.750	0.500	0.957	-	0.950	0.836	0.841	0.250	0.888	-	0.954
<b>Lights</b>	59	371	57	3	490	-	100	1182	148	5	1435	-	78	314	87	2	481	-	93	434	72	1	600	-	3006
<b>% Lights</b>	98.3%	97.4%	96.6%	100%	97.4%	-	99.0%	98.3%	99.3%	100%	98.4%	-	98.7%	96.3%	100%	100%	97.4%	-	97.9%	96.9%	97.3%	100%	97.1%	-	97.8%
<b>Articulated Trucks</b>	0	1	0	0	1	-	0	3	0	0	3	-	0	0	0	0	0	-	1	0	0	0	1	-	5
<b>% Articulated Trucks</b>	0%	0.3%	0%	0%	0.2%	-	0%	0.2%	0%	0%	0.2%	-	0%	0%	0%	0%	0%	-	1.1%	0%	0%	0%	0.2%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	1	9	2	0	12	-	1	18	1	0	20	-	1	12	0	0	13	-	1	14	2	0	17	-	62
<b>% Buses and Single-Unit Trucks</b>	1.7%	2.4%	3.4%	0%	2.4%	-	1.0%	1.5%	0.7%	0%	1.4%	-	1.3%	3.7%	0%	0%	2.6%	-	1.1%	3.1%	2.7%	0%	2.8%	-	2.0%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	2	-	-	-	-	-	7	-	-	-	-	-	9	-	-	-	-	-	9	-
<b>% Pedestrians</b>	-	-	-	-	-	100%	-	-	-	-	-	87.5%	-	-	-	-	-	90.0%	-	-	-	-	-	-	100%
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	0
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	0%	-	-	-	-	-	12.5%	-	-	-	-	-	10.0%	-	-	-	-	-	-	0%

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Belfort St - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

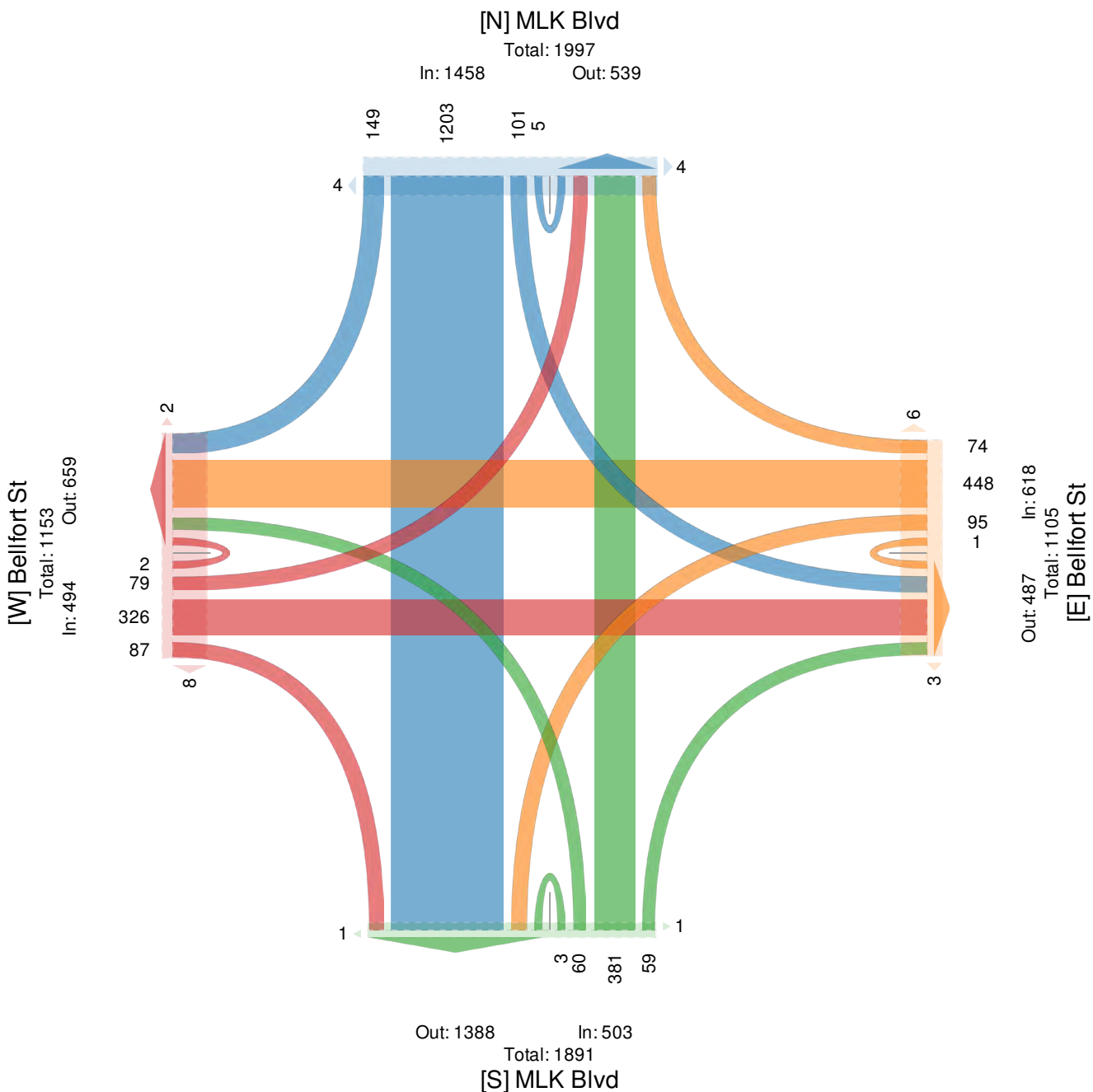
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692214, Location: 29.666315, -95.337195



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Reed Rd - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692215, Location: 29.65858, -95.336643



Provided by: C. J. Hensch & Associates Inc.  
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Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						Reed Rd Eastbound						Reed Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:00AM	137	999	86	0	1222	2	11	389	139	1	540	5	82	79	76	0	237	7	53	119	22	2	196	4	2195
8:00AM	107	560	18	1	686	2	13	306	101	1	421	0	67	65	75	0	207	0	25	68	14	2	109	1	1423
4:00PM	108	443	33	1	585	5	21	728	179	1	929	4	111	113	133	1	358	7	48	91	15	0	154	9	2026
5:00PM	89	419	44	0	552	3	13	1030	252	3	1298	1	105	155	156	0	416	0	70	129	15	1	215	10	2481
<b>Total</b>	441	2421	181	2	3045	12	58	2453	671	6	3188	10	365	412	440	1	1218	14	196	407	66	5	674	24	8125
<b>% Approach</b>	14.5%	79.5%	5.9%	0.1%	-	-	1.8%	76.9%	21.0%	0.2%	-	-	30.0%	33.8%	36.1%	0.1%	-	-	29.1%	60.4%	9.8%	0.7%	-	-	-
<b>% Total</b>	5.4%	29.8%	2.2%	0%	37.5%	-	0.7%	30.2%	8.3%	0.1%	39.2%	-	4.5%	5.1%	5.4%	0%	15.0%	-	2.4%	5.0%	0.8%	0.1%	8.3%	-	-
<b>Lights</b>	431	2334	176	2	2943	-	57	2358	659	5	3079	-	354	398	427	1	1180	-	193	391	66	5	655	-	7857
<b>% Lights</b>	97.7%	96.4%	97.2%	100%	96.7%	-	98.3%	96.1%	98.2%	83.3%	96.6%	-	97.0%	96.6%	97.0%	100%	96.9%	-	98.5%	96.1%	100%	100%	97.2%	-	96.7%
<b>Articulated Trucks</b>	0	5	0	0	5	-	0	10	1	0	11	-	0	0	1	0	1	-	0	0	0	0	0	-	17
<b>% Articulated Trucks</b>	0%	0.2%	0%	0%	0.2%	-	0%	0.4%	0.1%	0%	0.3%	-	0%	0%	0.2%	0%	0.1%	-	0%	0%	0%	0%	0%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	10	82	5	0	97	-	1	85	11	1	98	-	11	14	12	0	37	-	3	16	0	0	19	-	251
<b>% Buses and Single-Unit Trucks</b>	2.3%	3.4%	2.8%	0%	3.2%	-	1.7%	3.5%	1.6%	16.7%	3.1%	-	3.0%	3.4%	2.7%	0%	3.0%	-	1.5%	3.9%	0%	0%	2.8%	-	3.1%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	12	-	-	-	-	-	9	-	-	-	-	-	14	-	-	-	-	-	21	-
<b>% Pedestrians</b>	-	-	-	-	-	100%	-	-	-	-	-	90.0%	-	-	-	-	-	100%	-	-	-	-	-	87.5%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	3	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	0%	-	-	-	-	-	10.0%	-	-	-	-	-	0%	-	-	-	-	-	12.5%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Reed Rd - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

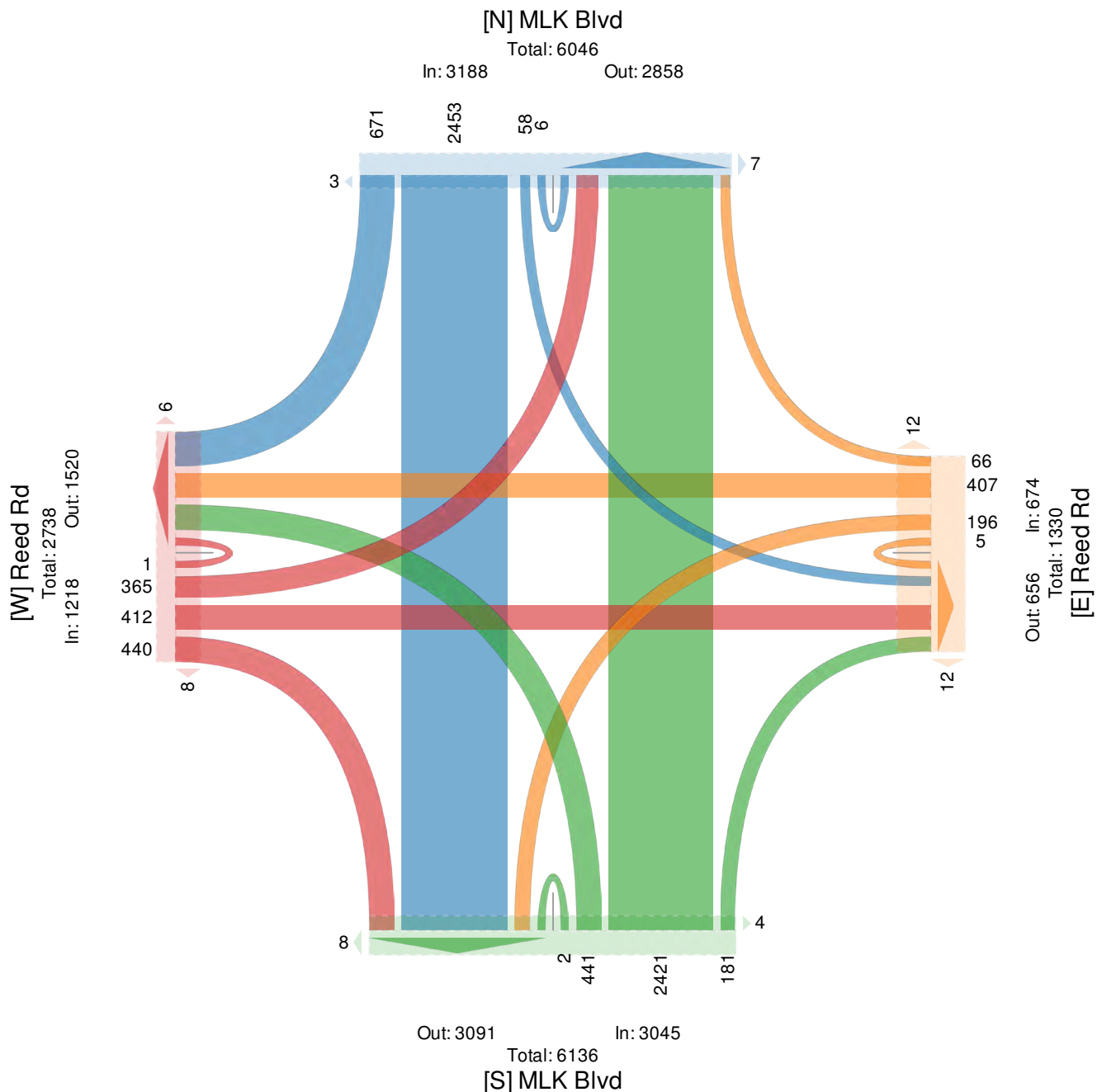
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692215, Location: 29.65858, -95.336643



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Reed Rd - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692215, Location: 29.65858, -95.336643



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						Reed Rd Eastbound						Reed Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:15AM	35	276	43	0	354	0	1	115	38	0	154	0	20	18	21	0	59	0	15	31	5	1	52	1	619
7:30AM	36	255	14	0	305	0	2	91	34	0	127	1	22	25	22	0	69	2	20	30	10	0	60	1	561
7:45AM	39	286	10	0	335	0	2	116	36	0	154	0	22	17	17	0	56	1	8	32	4	1	45	0	590
8:00AM	39	203	7	0	249	0	2	99	25	0	126	0	23	16	17	0	56	0	7	28	2	0	37	0	468
<b>Total</b>	149	1020	74	0	1243	0	7	421	133	0	561	1	87	76	77	0	240	3	50	121	21	2	194	2	2238
<b>% Approach</b>	12.0%	82.1%	6.0%	0%	-	-	1.2%	75.0%	23.7%	0%	-	-	36.3%	31.7%	32.1%	0%	-	-	25.8%	62.4%	10.8%	1.0%	-	-	-
<b>% Total</b>	6.7%	45.6%	3.3%	0%	55.5%	-	0.3%	18.8%	5.9%	0%	25.1%	-	3.9%	3.4%	3.4%	0%	10.7%	-	2.2%	5.4%	0.9%	0.1%	8.7%	-	-
<b>PHF</b>	0.955	0.892	0.430	-	0.878	-	0.875	0.907	0.875	-	0.911	-	0.946	0.760	0.875	-	0.870	-	0.625	0.945	0.525	0.500	0.808	-	0.904
<b>Lights</b>	146	980	71	0	1197	-	7	390	131	0	528	-	81	74	73	0	228	-	50	116	21	2	189	-	2142
<b>% Lights</b>	98.0%	96.1%	95.9%	0%	96.3%	-	100%	92.6%	98.5%	0%	94.1%	-	93.1%	97.4%	94.8%	0%	95.0%	-	100%	95.9%	100%	100%	97.4%	-	95.7%
<b>Articulated Trucks</b>	0	4	0	0	4	-	0	2	0	0	2	-	0	0	0	0	0	-	0	0	0	0	0	-	6
<b>% Articulated Trucks</b>	0%	0.4%	0%	0%	0.3%	-	0%	0.5%	0%	0%	0.4%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.3%
<b>Buses and Single-Unit Trucks</b>	3	36	3	0	42	-	0	29	2	0	31	-	6	2	4	0	12	-	0	5	0	0	5	-	90
<b>% Buses and Single-Unit Trucks</b>	2.0%	3.5%	4.1%	0%	3.4%	-	0%	6.9%	1.5%	0%	5.5%	-	6.9%	2.6%	5.2%	0%	5.0%	-	0%	4.1%	0%	0%	2.6%	-	4.0%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	2	
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	-100%	-	-	-	-	-	-100%	-	-	-	-	-	-100%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Reed Rd - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM)

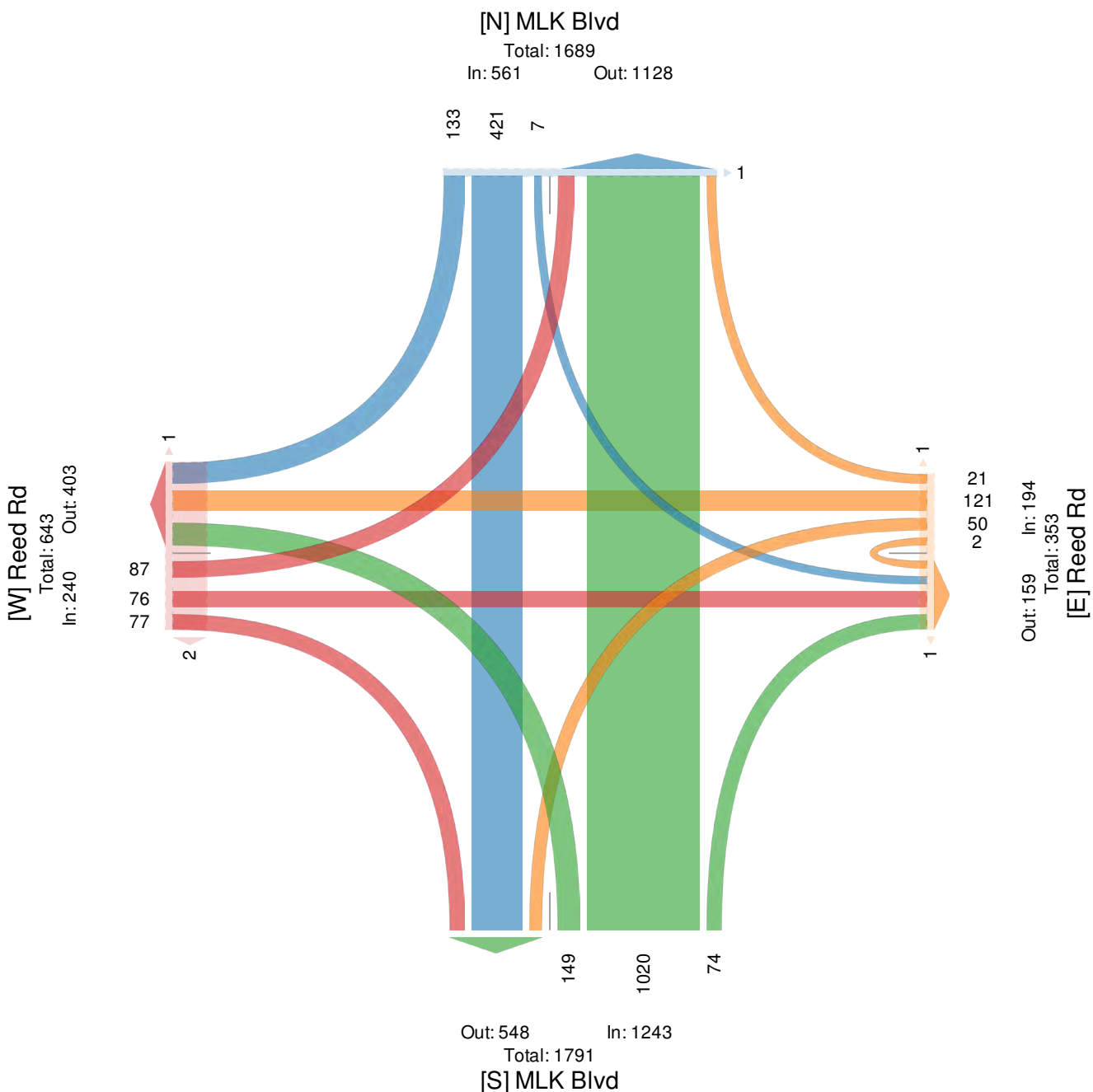
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692215, Location: 29.65858, -95.336643



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# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Reed Rd - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692215, Location: 29.65858, -95.336643



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						Reed Rd Eastbound						Reed Rd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 5:00PM	18	112	6	0	136	2	2	259	57	3	321	0	21	35	37	0	93	0	19	27	4	1	51	8	601
5:15PM	21	101	14	0	136	0	2	253	63	0	318	1	25	44	34	0	103	0	10	36	4	0	50	2	607
5:30PM	28	112	11	0	151	1	4	267	75	0	346	0	30	39	37	0	106	0	18	30	4	0	52	0	655
5:45PM	22	94	13	0	129	0	5	251	57	0	313	0	29	37	48	0	114	0	23	36	3	0	62	0	618
Total	89	419	44	0	552	3	13	1030	252	3	1298	1	105	155	156	0	416	0	70	129	15	1	215	10	2481
% Approach	16.1%	75.9%	8.0%	0%	-	-	1.0%	79.4%	19.4%	0.2%	-	-	25.2%	37.3%	37.5%	0%	-	-	32.6%	60.0%	7.0%	0.5%	-	-	-
% Total	3.6%	16.9%	1.8%	0%	22.2%	-	0.5%	41.5%	10.2%	0.1%	52.3%	-	4.2%	6.2%	6.3%	0%	16.8%	-	2.8%	5.2%	0.6%	0%	8.7%	-	-
PHF	0.795	0.935	0.786	-	0.914	-	0.650	0.964	0.840	0.250	0.938	-	0.875	0.881	0.813	-	0.912	-	0.761	0.896	0.938	0.250	0.867	-	0.947
Lights	85	407	43	0	535	-	13	1013	249	2	1277	-	103	150	153	0	406	-	68	125	15	1	209	-	2427
% Lights	95.5%	97.1%	97.7%	0%	96.9%	-	100%	98.3%	98.8%	66.7%	98.4%	-	98.1%	96.8%	98.1%	0%	97.6%	-	97.1%	96.9%	100%	100%	97.2%	-	97.8%
Articulated Trucks	0	1	0	0	1	-	0	4	1	0	5	-	0	0	1	0	1	-	0	0	0	0	0	-	7
% Articulated Trucks	0%	0.2%	0%	0%	0.2%	-	0%	0.4%	0.4%	0%	0.4%	-	0%	0%	0.6%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0.3%
Buses and Single-Unit Trucks	4	11	1	0	16	-	0	13	2	1	16	-	2	5	2	0	9	-	2	4	0	0	6	-	47
% Buses and Single-Unit Trucks	4.5%	2.6%	2.3%	0%	2.9%	-	0%	1.3%	0.8%	33.3%	1.2%	-	1.9%	3.2%	1.3%	0%	2.2%	-	2.9%	3.1%	0%	0%	2.8%	-	1.9%
Bicycles on Road	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	10	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Reed Rd - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM) - Overall Peak Hour

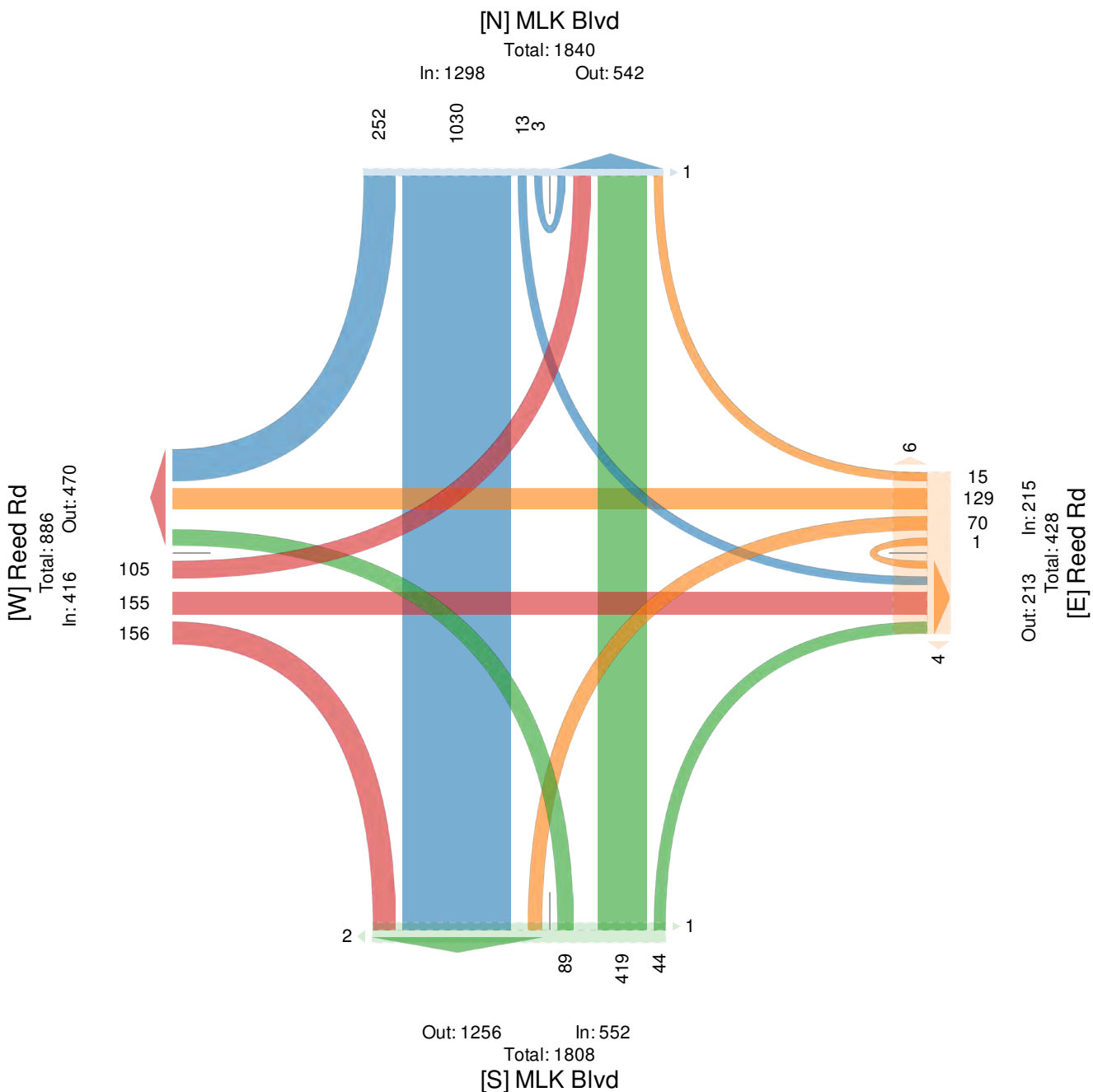
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692215, Location: 29.65858, -95.336643



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Airport Blvd - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692216, Location: 29.643836, -95.336851



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,

Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						Airport Blvd Eastbound						Airport Blvd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:00AM	178	1080	54	2	1314	1	86	415	73	0	574	0	80	219	94	0	393	4	35	322	147	0	504	3	2785
8:00AM	118	576	38	2	734	0	75	300	42	2	419	0	45	168	65	1	279	1	38	292	111	0	441	0	1873
4:00PM	107	441	44	7	599	3	95	660	117	0	872	0	55	265	91	3	414	9	63	389	109	0	561	2	2446
5:00PM	80	375	44	2	501	1	123	878	199	1	1201	1	84	268	77	3	432	1	60	424	103	1	588	0	2722
<b>Total</b>	483	2472	180	13	3148	5	379	2253	431	3	3066	1	264	920	327	7	1518	15	196	1427	470	1	2094	5	9826
<b>% Approach</b>	15.3%	78.5%	5.7%	0.4%	-	-	12.4%	73.5%	14.1%	0.1%	-	-	17.4%	60.6%	21.5%	0.5%	-	-	9.4%	68.1%	22.4%	0%	-	-	-
<b>% Total</b>	4.9%	25.2%	1.8%	0.1%	32.0%	-	3.9%	22.9%	4.4%	0%	31.2%	-	2.7%	9.4%	3.3%	0.1%	15.4%	-	2.0%	14.5%	4.8%	0%	21.3%	-	-
<b>Lights</b>	462	2388	175	13	3038	-	363	2164	424	2	2953	-	255	890	313	7	1465	-	194	1403	464	1	2062	-	9518
<b>% Lights</b>	95.7%	96.6%	97.2%	100%	96.5%	-	95.8%	96.0%	98.4%	66.7%	96.3%	-	96.6%	96.7%	95.7%	100%	96.5%	-	99.0%	98.3%	98.7%	100%	98.5%	-	96.9%
<b>Articulated Trucks</b>	1	6	0	0	7	-	4	6	1	0	11	-	0	7	1	0	8	-	0	6	0	0	6	-	32
<b>% Articulated Trucks</b>	0.2%	0.2%	0%	0%	0.2%	-	1.1%	0.3%	0.2%	0%	0.4%	-	0%	0.8%	0.3%	0%	0.5%	-	0%	0.4%	0%	0%	0.3%	-	0.3%
<b>Buses and Single-Unit Trucks</b>	19	78	5	0	102	-	12	83	6	1	102	-	9	23	13	0	45	-	2	18	6	0	26	-	275
<b>% Buses and Single-Unit Trucks</b>	3.9%	3.2%	2.8%	0%	3.2%	-	3.2%	3.7%	1.4%	33.3%	3.3%	-	3.4%	2.5%	4.0%	0%	3.0%	-	1.0%	1.3%	1.3%	0%	1.2%	-	2.8%
<b>Bicycles on Road</b>	1	0	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1
<b>% Bicycles on Road</b>	0.2%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	14	-	-	-	-	-	4	-
<b>% Pedestrians</b>	-	-	-	-	-	80.0%	-	-	-	-	-	100%	-	-	-	-	-	93.3%	-	-	-	-	-	80.0%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	20.0%	-	-	-	-	-	0%	-	-	-	-	-	6.7%	-	-	-	-	-	20.0%	-

\*Pedestrians and Bicycles on Crosswalk L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Airport Blvd - TMC

Wed Sep 11, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

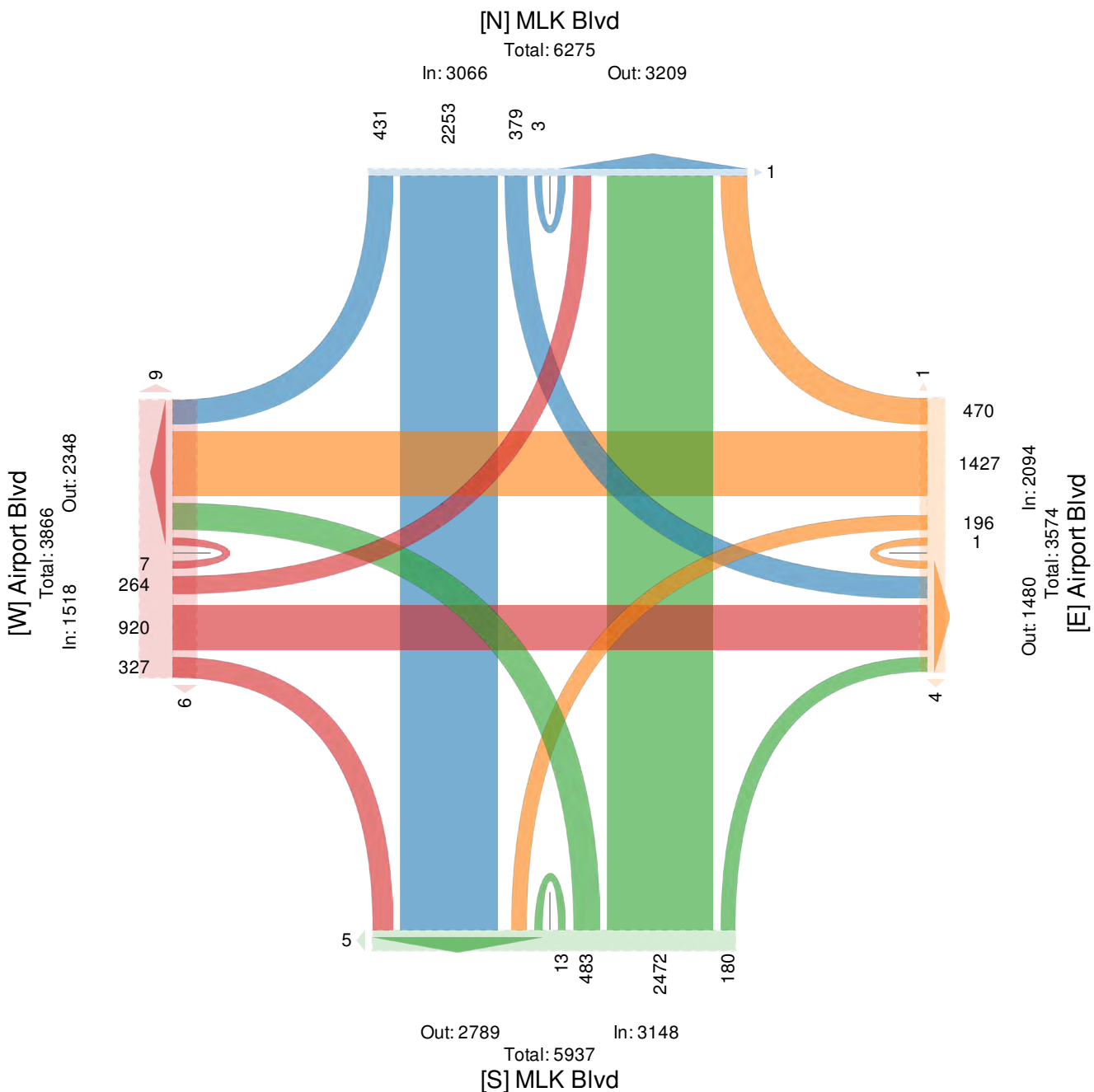
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692216, Location: 29.643836, -95.336851



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Airport Blvd - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692216, Location: 29.643836, -95.336851



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						Airport Blvd Eastbound						Airport Blvd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 7:15AM	53	260	20	0	333	0	22	111	17	0	150	0	23	58	29	0	110	0	10	76	39	0	125	1	718
7:30AM	42	293	11	1	347	0	27	128	16	0	171	0	16	41	27	0	84	0	11	87	40	0	138	0	740
7:45AM	41	306	7	0	354	0	24	99	17	0	140	0	23	58	24	0	105	3	6	87	39	0	132	1	731
8:00AM	41	230	17	0	288	0	24	111	12	0	147	0	18	58	16	1	93	1	11	92	39	0	142	0	670
<b>Total</b>	177	1089	55	1	1322	0	97	449	62	0	608	0	80	215	96	1	392	4	38	342	157	0	537	2	2859
<b>% Approach</b>	13.4%	82.4%	4.2%	0.1%	-	-	16.0%	73.8%	10.2%	0%	-	-	20.4%	54.8%	24.5%	0.3%	-	-	7.1%	63.7%	29.2%	0%	-	-	-
<b>% Total</b>	6.2%	38.1%	1.9%	0%	46.2%	-	3.4%	15.7%	2.2%	0%	21.3%	-	2.8%	7.5%	3.4%	0%	13.7%	-	1.3%	12.0%	5.5%	0%	18.8%	-	-
<b>PHF</b>	0.835	0.890	0.688	0.250	0.934	-	0.898	0.877	0.912	-	0.889	-	0.870	0.927	0.828	0.250	0.891	-	0.864	0.929	0.981	-	0.945	-	0.966
<b>Lights</b>	174	1051	53	1	1279	-	92	420	61	0	573	-	76	210	91	1	378	-	37	338	156	0	531	-	2761
<b>% Lights</b>	98.3%	96.5%	96.4%	100%	96.7%	-	94.8%	93.5%	98.4%	0%	94.2%	-	95.0%	97.7%	94.8%	100%	96.4%	-	97.4%	98.8%	99.4%	0%	98.9%	-	96.6%
<b>Articulated Trucks</b>	0	2	0	0	2	-	0	1	0	0	1	-	0	1	0	0	1	-	0	0	0	0	0	-	4
<b>% Articulated Trucks</b>	0%	0.2%	0%	0%	0.2%	-	0%	0.2%	0%	0%	0.2%	-	0%	0.5%	0%	0%	0.3%	-	0%	0%	0%	0%	0%	-	0.1%
<b>Buses and Single-Unit Trucks</b>	3	36	2	0	41	-	5	28	1	0	34	-	4	4	5	0	13	-	1	4	1	0	6	-	94
<b>% Buses and Single-Unit Trucks</b>	1.7%	3.3%	3.6%	0%	3.1%	-	5.2%	6.2%	1.6%	0%	5.6%	-	5.0%	1.9%	5.2%	0%	3.3%	-	2.6%	1.2%	0.6%	0%	1.1%	-	3.3%
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
<b>% Bicycles on Road</b>	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	1	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	50.0%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	50.0%	-

\* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Airport Blvd - TMC

Wed Sep 11, 2019

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

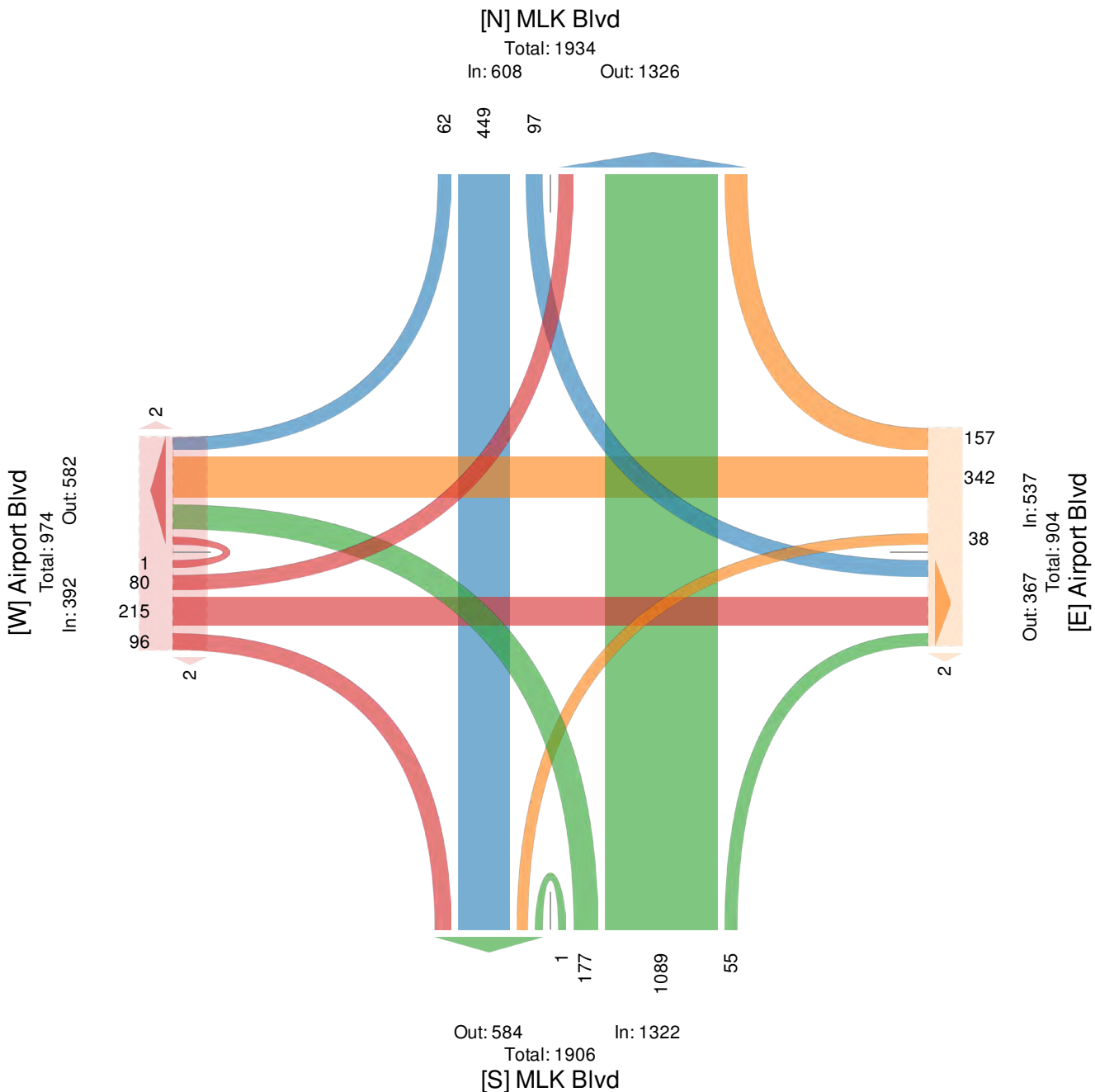
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692216, Location: 29.643836, -95.336851



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US





# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Airport Blvd - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692216, Location: 29.643836, -95.336851



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	MLK Blvd Northbound						MLK Blvd Southbound						Airport Blvd Eastbound						Airport Blvd Westbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2019-09-11 5:00PM	26	97	12	1	136	0	26	207	54	0	287	0	13	51	19	1	84	0	22	126	27	0	175	0	682
5:15PM	25	88	7	1	121	1	32	215	52	0	299	1	23	58	17	1	99	0	11	109	21	0	141	0	660
5:30PM	15	106	8	0	129	0	34	225	41	0	300	0	24	71	22	0	117	0	13	87	30	1	131	0	677
5:45PM	14	84	17	0	115	0	31	231	52	1	315	0	24	88	19	1	132	1	14	102	25	0	141	0	703
<b>Total</b>	80	375	44	2	501	1	123	878	199	1	1201	1	84	268	77	3	432	1	60	424	103	1	588	0	2722
<b>% Approach</b>	16.0%	74.9%	8.8%	0.4%	-	-	10.2%	73.1%	16.6%	0.1%	-	-	19.4%	62.0%	17.8%	0.7%	-	-	10.2%	72.1%	17.5%	0.2%	-	-	-
<b>% Total</b>	2.9%	13.8%	1.6%	0.1%	18.4%	-	4.5%	32.3%	7.3%	0%	44.1%	-	3.1%	9.8%	2.8%	0.1%	15.9%	-	2.2%	15.6%	3.8%	0%	21.6%	-	-
<b>PHF</b>	0.760	0.884	0.647	0.500	0.919	-	0.904	0.950	0.921	0.250	0.953	-	0.875	0.761	0.875	0.750	0.818	-	0.682	0.841	0.858	0.250	0.840	-	0.968
<b>Lights</b>	75	365	43	2	485	-	119	861	198	1	1179	-	81	253	75	3	412	-	60	415	102	1	578	-	2654
<b>% Lights</b>	93.8%	97.3%	97.7%	100%	96.8%	-	96.7%	98.1%	99.5%	100%	98.2%	-	96.4%	94.4%	97.4%	100%	95.4%	-	100%	97.9%	99.0%	100%	98.3%	-	97.5%
<b>Articulated Trucks</b>	0	1	0	0	1	-	1	3	1	0	5	-	0	3	0	0	3	-	0	3	0	0	3	-	12
<b>% Articulated Trucks</b>	0%	0.3%	0%	0%	0.2%	-	0.8%	0.3%	0.5%	0%	0.4%	-	0%	1.1%	0%	0%	0.7%	-	0%	0.7%	0%	0%	0.5%	-	0.4%
<b>Buses and Single-Unit Trucks</b>	4	9	1	0	14	-	3	14	0	0	17	-	3	12	2	0	17	-	0	6	1	0	7	-	55
<b>% Buses and Single-Unit Trucks</b>	5.0%	2.4%	2.3%	0%	2.8%	-	2.4%	1.6%	0%	0%	1.4%	-	3.6%	4.5%	2.6%	0%	3.9%	-	0%	1.4%	1.0%	0%	1.2%	-	2.0%
<b>Bicycles on Road</b>	1	0	0	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1
<b>% Bicycles on Road</b>	1.3%	0%	0%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-
<b>% Pedestrians</b>	-	-	-	-	-	0%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	100%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### MLK Blvd at Airport Blvd - TMC

Wed Sep 11, 2019

PM Peak (5 PM - 6 PM)

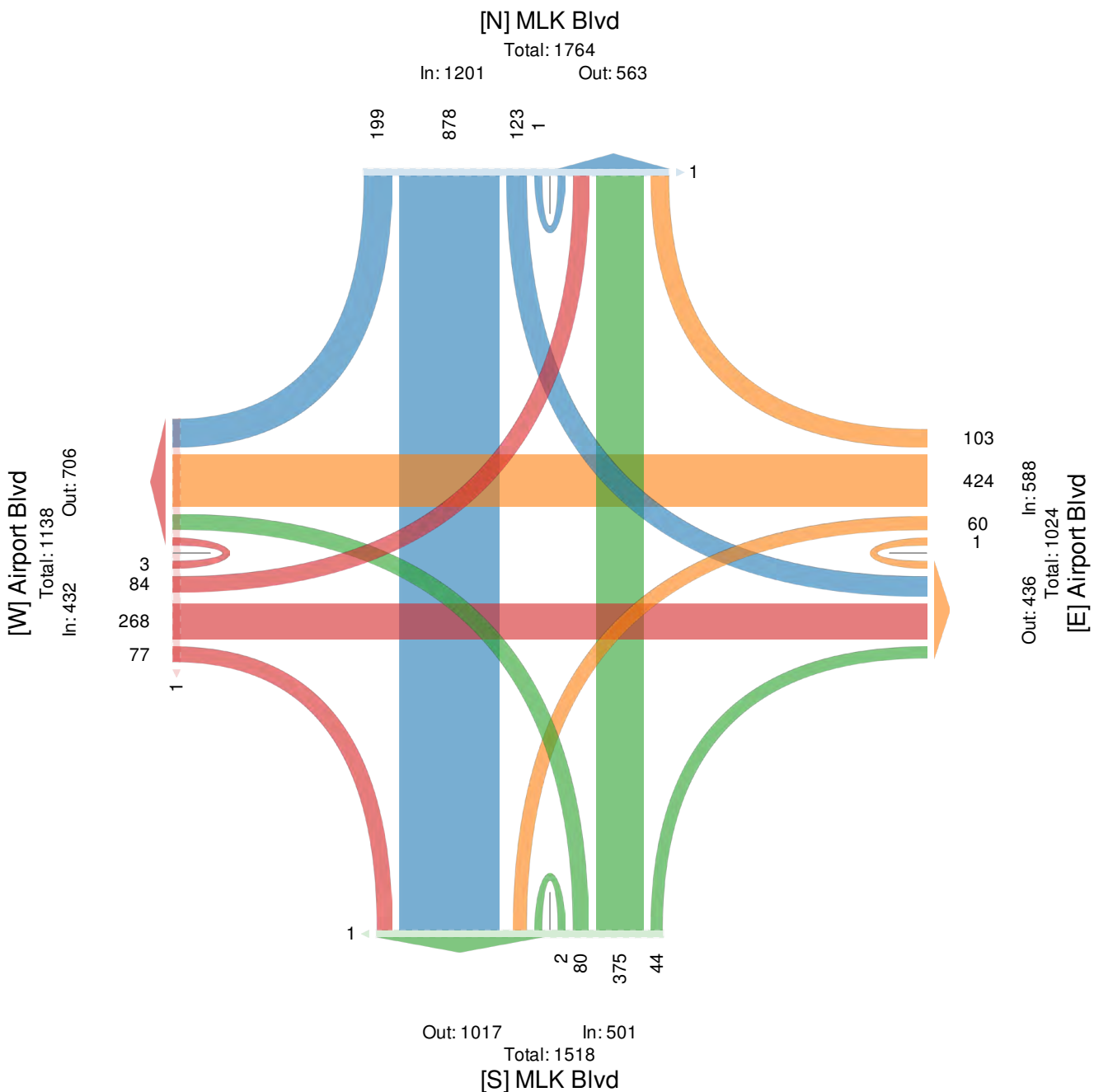
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692216, Location: 29.643836, -95.336851



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 699781, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Old Spanish Trail Northbound						Old Spanish Trail Southbound		Griggs St Eastbound				
Time	L	T	R	HR	App	Ped*	App	Ped*	L	T	U	App	Ped*
2019-09-24 7:00AM	1	9	97	0	107	0	0	2	24	102	0	126	0
8:00AM	2	11	114	0	127	0	0	2	18	113	0	131	1
4:00PM	9	28	406	1	444	0	0	0	27	305	1	333	1
5:00PM	4	16	465	1	486	0	0	1	28	385	1	414	0
Total	16	64	1082	2	1164	0	0	5	97	905	2	1004	2
% Approach	1.4%	5.5%	93.0%	0.2%	-	-	-	-	9.7%	90.1%	0.2%	-	-
% Total	0.4%	1.5%	24.7%	0%	26.5%	-	0%	-	2.2%	20.6%	0%	22.9%	-
Lights	16	54	1058	2	1130	-	0	-	94	874	2	970	-
% Lights	100%	84.4%	97.8%	100%	97.1%	-	-	-	96.9%	96.6%	100%	96.6%	-
Articulated Trucks	0	1	1	0	2	-	0	-	0	2	0	2	-
% Articulated Trucks	0%	1.6%	0.1%	0%	0.2%	-	-	-	0%	0.2%	0%	0.2%	-
Buses and Single-Unit Trucks	0	9	20	0	29	-	0	-	3	29	0	32	-
% Buses and Single-Unit Trucks	0%	14.1%	1.8%	0%	2.5%	-	-	-	3.1%	3.2%	0%	3.2%	-
Bicycles on Road	0	0	3	0	3	-	0	-	0	0	0	0	-
% Bicycles on Road	0%	0%	0.3%	0%	0.3%	-	-	-	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	-	0	-	4	-	-	-	-	2
% Pedestrians	-	-	-	-	-	-	-	80.0%	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	-	0	-	1	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	20.0%	-	-	-	-	0%

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 699781, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Griggs St Westbound					England St Northeastbound					Southeast Northwestbound							
Time	T	R	U	App	Ped*	HL	BL	BR	R	App	Ped*	BL	BR	HR	U	App	Ped*	Int
2019-09-24 7:00AM	716	7	0	723	0	0	0	0	3	3	0	1	8	3	0	12	7	971
8:00AM	537	5	2	544	0	0	0	0	3	3	0	0	5	9	0	14	2	819
4:00PM	454	10	0	464	1	0	0	0	4	4	0	1	2	5	0	8	7	1253
5:00PM	416	14	0	430	2	0	0	0	7	7	1	1	4	1	0	6	7	1343
Total	2123	36	2	2161	3	0	0	0	17	17	1	3	19	18	0	40	23	4386
% Approach	98.2%	1.7%	0.1%	-	-	0%	0%	0%	100%	-	-	7.5%	47.5%	45.0%	0%	-	-	-
% Total	48.4%	0.8%	0%	49.3%	-	0%	0%	0%	0.4%	0.4%	-	0.1%	0.4%	0.4%	0%	0.9%	-	-
Lights	2086	35	2	2123	-	0	0	0	17	17	-	3	18	18	0	39	-	4279
% Lights	98.3%	97.2%	100%	98.2%	-	0%	0%	0%	100%	100%	-	100%	94.7%	100%	0%	97.5%	-	97.6%
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	4
% Articulated Trucks	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.1%
Buses and Single-Unit Trucks	37	0	0	37	-	0	0	0	0	0	-	0	1	0	0	1	-	99
% Buses and Single-Unit Trucks	1.7%	0%	0%	1.7%	-	0%	0%	0%	0%	0%	-	0%	5.3%	0%	0%	2.5%	-	2.3%
Bicycles on Road	0	1	0	1	-	0	0	0	0	0	-	0	0	0	0	0	-	4
% Bicycles on Road	0%	2.8%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.1%
Pedestrians	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	18	-
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	78.3%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	5	-
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	21.7%	-

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 699781, Location: 29.702878, -95.352255

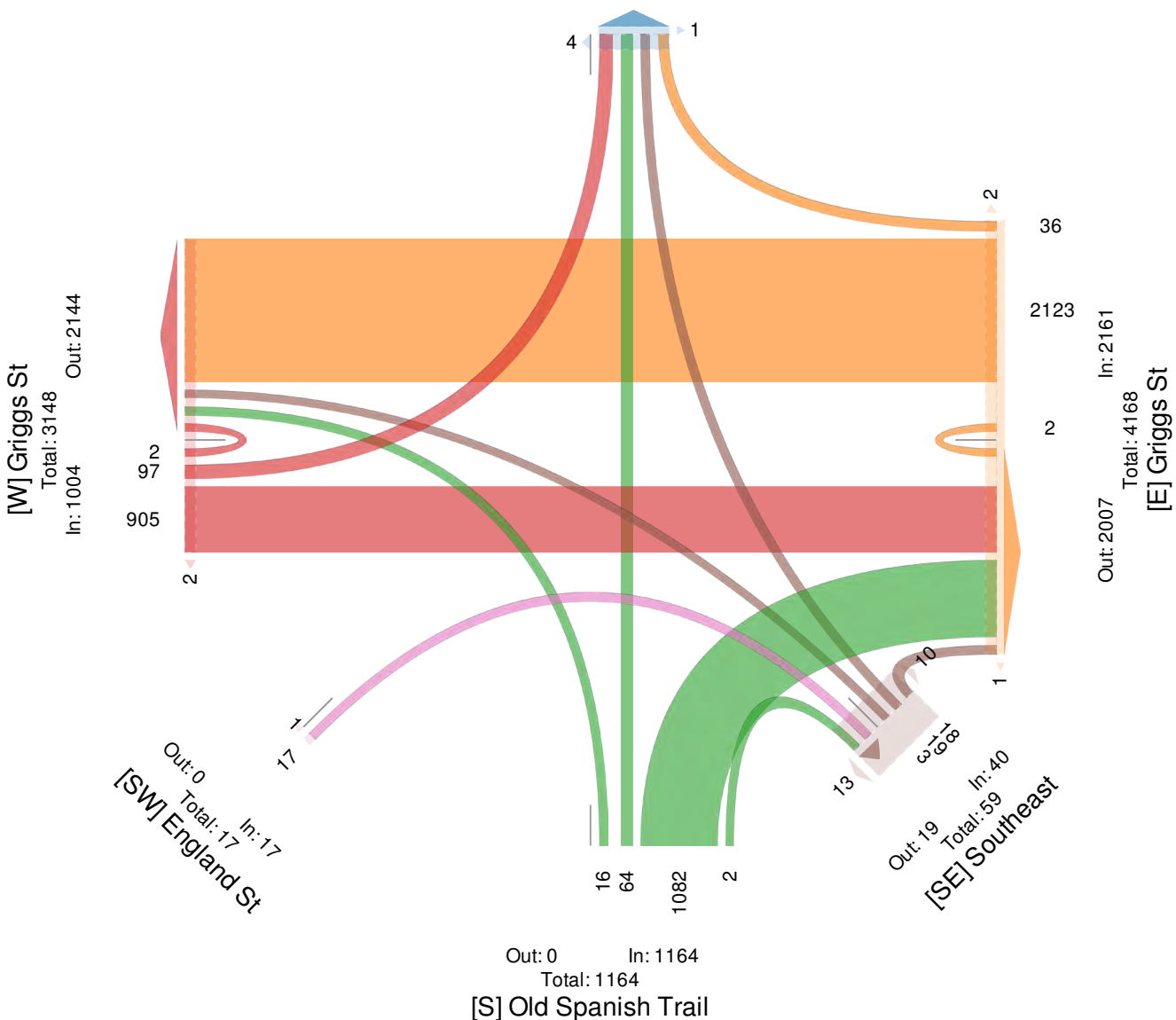


Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

[N] Old Spanish Trail

Total: 216

In: 0 Out: 216



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 699781, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Old Spanish Trail Northbound						Old Spanish Trail Southbound		Griggs St Eastbound				
Time	L	T	R	HR	App	Ped*	App	Ped*	L	T	U	App	Ped*
2019-09-24 7:15AM	0	2	21	0	23	0	0	0	5	27	0	32	0
7:30AM	0	3	28	0	31	0	0	0	4	29	0	33	0
7:45AM	1	2	20	0	23	0	0	2	7	22	0	29	0
8:00AM	1	5	33	0	39	0	0	1	5	33	0	38	1
Total	2	12	102	0	116	0	0	3	21	111	0	132	1
% Approach	1.7%	10.3%	87.9%	0%	-	-	-	-	15.9%	84.1%	0%	-	-
% Total	0.2%	1.2%	10.3%	0%	11.7%	-	0%	-	2.1%	11.2%	0%	13.3%	-
PHF	0.500	0.600	0.773	-	0.744	-	-	-	0.750	0.841	-	0.868	-
Lights	2	8	100	0	110	-	0	-	20	104	0	124	-
% Lights	100%	66.7%	98.0%	0%	94.8%	-	-	-	95.2%	93.7%	0%	93.9%	-
Articulated Trucks	0	1	0	0	1	-	0	-	0	0	0	0	-
% Articulated Trucks	0%	8.3%	0%	0%	0.9%	-	-	-	0%	0%	0%	0%	-
Buses and Single-Unit Trucks	0	3	2	0	5	-	0	-	1	7	0	8	-
% Buses and Single-Unit Trucks	0%	25.0%	2.0%	0%	4.3%	-	-	-	4.8%	6.3%	0%	6.1%	-
Bicycles on Road	0	0	0	0	0	-	0	-	0	0	0	0	-
% Bicycles on Road	0%	0%	0%	0%	0%	-	-	-	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	-	0	-	2	-	-	-	-	1
% Pedestrians	-	-	-	-	-	-	-	66.7%	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	-	0	-	1	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	33.3%	-	-	-	-	0%

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 699781, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Griggs St Westbound					England St Northeastbound					Southeast Northwestbound							
Time	T	R	U	App	Ped*	HL	BL	BR	R	App	Ped*	BL	BR	HR	U	App	Ped*	Int
2019-09-24 7:15AM	195	3	0	198	0	0	0	0	0	0	0	0	3	0	0	3	1	256
7:30AM	197	1	0	198	0	0	0	0	2	2	0	0	3	2	0	5	0	269
7:45AM	182	1	0	183	0	0	0	0	1	1	0	1	1	1	0	3	2	239
8:00AM	146	2	0	148	0	0	0	0	2	2	0	0	0	4	0	4	1	231
Total	720	7	0	727	0	0	0	0	5	5	0	1	7	7	0	15	4	995
% Approach	99.0%	1.0%	0%	-	-	0%	0%	0%	100%	-	-	6.7%	46.7%	46.7%	0%	-	-	-
% Total	72.4%	0.7%	0%	73.1%	-	0%	0%	0%	0.5%	0.5%	-	0.1%	0.7%	0.7%	0%	1.5%	-	-
PHF	0.914	0.583	-	0.918	-	-	-	-	0.625	0.625	-	0.250	0.583	0.438	-	0.750	-	0.925
Lights	701	7	0	708	-	0	0	0	5	5	-	1	6	7	0	14	-	961
% Lights	97.4%	100%	0%	97.4%	-	0%	0%	0%	100%	100%	-	100%	85.7%	100%	0%	93.3%	-	96.6%
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	1
% Articulated Trucks	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.1%
Buses and Single-Unit Trucks	19	0	0	19	-	0	0	0	0	0	-	0	1	0	0	1	-	33
% Buses and Single-Unit Trucks	2.6%	0%	0%	2.6%	-	0%	0%	0%	0%	0%	-	0%	14.3%	0%	0%	6.7%	-	3.3%
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% Bicycles on Road	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	4	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX

**B**

## TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

## Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

## All Movements

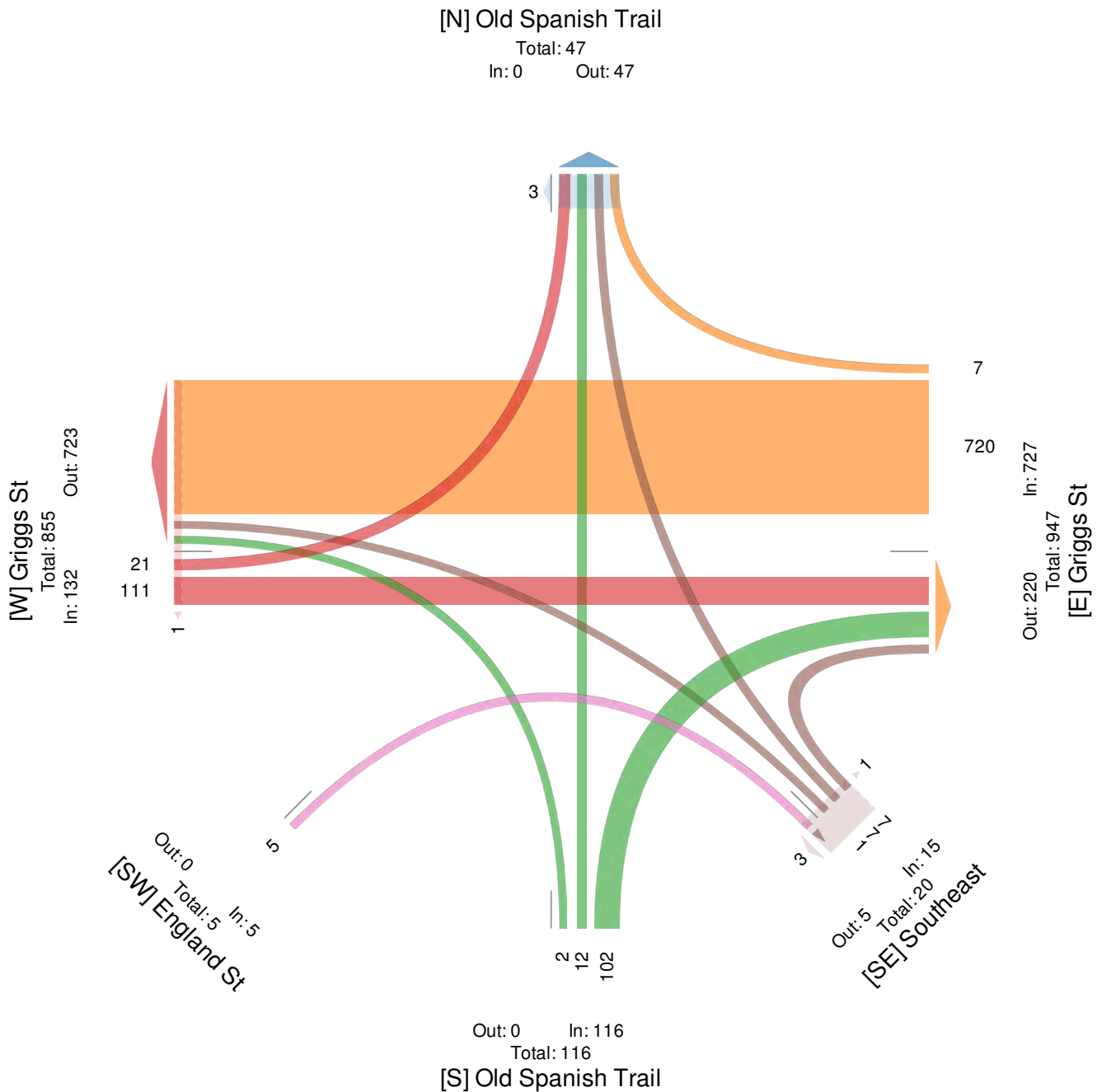
ID: 699781, Location: 29.702878, -95.352255

CJ Hensch &  
Associates, Inc.

Provided by: C. J. Hensch &  
Associates Inc.

5215 Sycamore Ave.,

Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 699781, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Old Spanish Trail Northbound						Old Spanish Trail Southbound		Griggs St Eastbound				
Time	L	T	R	HR	App	Ped*	App	Ped*	L	T	U	App	Ped*
2019-09-24 4:30PM	4	10	124	1	139	0	0	0	10	79	0	89	1
4:45PM	1	5	113	0	119	0	0	0	3	88	0	91	0
5:00PM	0	2	129	0	131	0	0	1	10	104	0	114	0
5:15PM	0	1	119	0	120	0	0	0	5	103	0	108	0
<b>Total</b>	5	18	485	1	509	0	0	1	28	374	0	402	1
<b>% Approach</b>	1.0%	3.5%	95.3%	0.2%	-	-	-	-	7.0%	93.0%	0%	-	-
<b>% Total</b>	0.4%	1.3%	35.2%	0.1%	36.9%	-	0%	-	2.0%	27.1%	0%	29.2%	-
<b>PHF</b>	0.313	0.450	0.956	0.250	0.910	-	-	-	0.700	0.899	-	0.882	-
<b>Lights</b>	5	17	472	1	495	-	0	-	26	362	0	388	-
<b>% Lights</b>	100%	94.4%	97.3%	100%	97.2%	-	-	-	92.9%	96.8%	0%	96.5%	-
<b>Articulated Trucks</b>	0	0	1	0	1	-	0	-	0	1	0	1	-
<b>% Articulated Trucks</b>	0%	0%	0.2%	0%	0.2%	-	-	-	0%	0.3%	0%	0.2%	-
<b>Buses and Single-Unit Trucks</b>	0	1	9	0	10	-	0	-	2	11	0	13	-
<b>% Buses and Single-Unit Trucks</b>	0%	5.6%	1.9%	0%	2.0%	-	-	-	7.1%	2.9%	0%	3.2%	-
<b>Bicycles on Road</b>	0	0	3	0	3	-	0	-	0	0	0	0	-
<b>% Bicycles on Road</b>	0%	0%	0.6%	0%	0.6%	-	-	-	0%	0%	0%	0%	-
<b>Pedestrians</b>	-	-	-	-	-	0	-	1	-	-	-	-	1
<b>% Pedestrians</b>	-	-	-	-	-	-	-	100%	-	-	-	-	100%
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	0	-	0	-	-	-	-	0
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	0%	-	-	-	-	0%

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 699781, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Griggs St Westbound					England St Northeastbound					Southeast Northwestbound							
Time	T	R	U	App	Ped*	HL	BL	BR	R	App	Ped*	BL	BR	HR	U	App	Ped*	Int
2019-09-24 4:30PM	115	3	0	118	0	0	0	0	2	2	0	0	0	1	0	1	1	349
4:45PM	107	4	0	111	0	0	0	0	0	0	0	0	0	2	0	2	1	323
5:00PM	109	5	0	114	1	0	0	0	1	1	0	0	2	1	0	3	2	363
5:15PM	113	2	0	115	0	0	0	0	0	0	1	0	1	0	0	1	1	344
Total	444	14	0	458	1	0	0	0	3	3	1	0	3	4	0	7	5	1379
% Approach	96.9%	3.1%	0%	-	-	0%	0%	0%	100%	-	-	0%	42.9%	57.1%	0%	-	-	-
% Total	32.2%	1.0%	0%	33.2%	-	0%	0%	0%	0.2%	0.2%	-	0%	0.2%	0.3%	0%	0.5%	-	-
PHF	0.965	0.700	-	0.970	-	-	-	-	0.375	0.375	-	-	0.375	0.500	-	0.583	-	0.956
Lights	442	14	0	456	-	0	0	0	3	3	-	0	3	4	0	7	-	1349
% Lights	99.5%	100%	0%	99.6%	-	0%	0%	0%	100%	100%	-	0%	100%	100%	0%	100%	-	97.8%
Articulated Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	2
% Articulated Trucks	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.1%
Buses and Single-Unit Trucks	2	0	0	2	-	0	0	0	0	0	-	0	0	0	0	0	-	25
% Buses and Single-Unit Trucks	0.5%	0%	0%	0.4%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	1.8%
Bicycles on Road	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	3
% Bicycles on Road	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0.2%
Pedestrians	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	4	-
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	80.0%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	20.0%	-

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

PM Peak (4:30 PM - 5:30 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

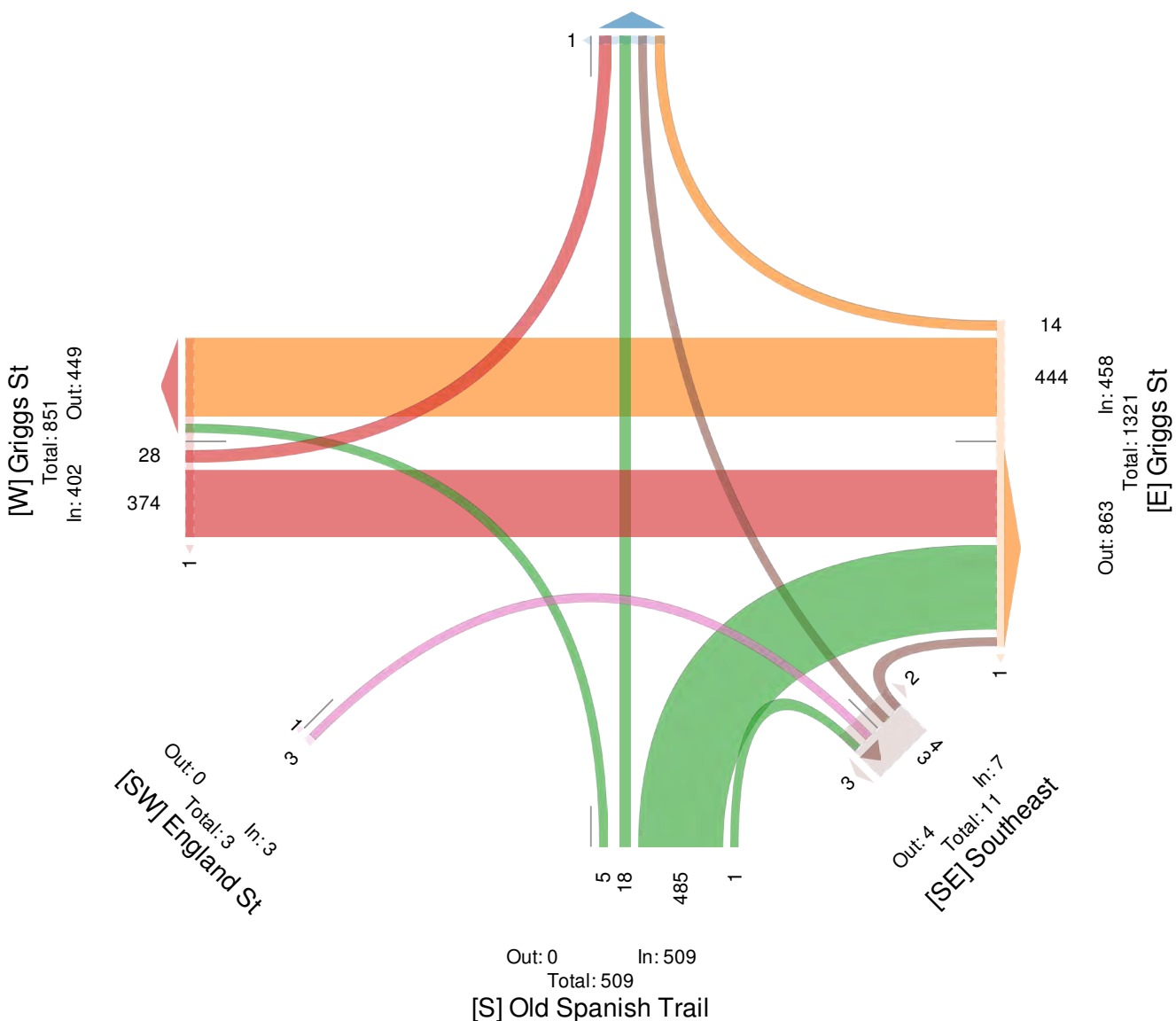
ID: 699781, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

[N] Old Spanish Trail

Total: 63  
In: 0 Out: 63



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692201, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Old Spanish Trail Northbound		Old Spanish Trail Southbound								Griggs St Eastbound							
Time	App	Ped*	L	BL	T	R	HR	App	Ped*	HL	T	BR	R	U	App	Ped*		
2019-09-24 7:00AM	0	0	0	2	6	38	8	54	2	0	119	1	0	0	120	2		
8:00AM	0	0	2	2	10	19	15	48	2	0	123	1	0	0	124	2		
4:00PM	0	0	3	5	20	32	11	71	0	0	328	1	1	0	330	1		
5:00PM	0	1	10	4	20	28	13	75	1	0	385	2	1	0	388	0		
Total	0	1	15	13	56	117	47	248	5	0	955	5	2	0	962	5		
% Approach	-	-	6.0%	5.2%	22.6%	47.2%	19.0%	-	-	0%	99.3%	0.5%	0.2%	0%	-	-		
% Total	0%	-	0.4%	0.4%	1.6%	3.4%	1.4%	7.2%	-	0%	27.6%	0.1%	0.1%	0%	27.8%	-		
Lights	0	-	15	13	46	114	47	235	-	0	924	5	2	0	931	-		
% Lights	-	-	100%	100%	82.1%	97.4%	100%	94.8%	-	0%	96.8%	100%	100%	0%	96.8%	-		
Articulated Trucks	0	-	0	0	0	0	0	0	-	0	2	0	0	0	2	-		
% Articulated Trucks	-	-	0%	0%	0%	0%	0%	0%	-	0%	0.2%	0%	0%	0%	0.2%	-		
Buses and Single-Unit Trucks	0	-	0	0	10	3	0	13	-	0	29	0	0	0	29	-		
% Buses and Single-Unit Trucks	-	-	0%	0%	17.9%	2.6%	0%	5.2%	-	0%	3.0%	0%	0%	0%	3.0%	-		
Bicycles on Road	0	-	0	0	0	0	0	0	-	0	0	0	0	0	0	-		
% Bicycles on Road	-	-	0%	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	0%	-		
Pedestrians	-	1	-	-	-	-	-	-	4	-	-	-	-	-	-	5		
% Pedestrians	-	100%	-	-	-	-	-	-	80.0%	-	-	-	-	-	-	100%		
Bicycles on Crosswalk	-	0	-	-	-	-	-	-	1	-	-	-	-	-	-	0		
% Bicycles on Crosswalk	-	0%	-	-	-	-	-	-	20.0%	-	-	-	-	-	-	0%		

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692201, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Griggs St Westbound							Southeast Northwestbound		England St Southeastbound							
Time	HL	L	T	BR	U	App	Ped*	App	Ped*	BL	T	BR	HR	U	App	Ped*	Int
2019-09-24 7:00AM	0	385	318	16	0	719	0	0	0	8	0	14	2	0	24	4	917
8:00AM	0	308	204	23	0	535	1	0	0	4	0	5	11	0	20	4	727
4:00PM	0	241	204	15	0	460	0	0	2	8	0	9	10	0	27	0	888
5:00PM	0	225	196	15	0	436	0	0	1	12	1	11	4	0	28	1	927
<b>Total</b>	0	1159	922	69	0	2150	1	0	3	32	1	39	27	0	99	9	3459
<b>% Approach</b>	0%	53.9%	42.9%	3.2%	0%	-	-	-	-	32.3%	1.0%	39.4%	27.3%	0%	-	-	-
<b>% Total</b>	0%	33.5%	26.7%	2.0%	0%	62.2%	-	0%	-	0.9%	0%	1.1%	0.8%	0%	2.9%	-	-
<b>Lights</b>	0	1137	909	69	0	2115	-	0	-	31	1	39	27	0	98	-	3379
<b>% Lights</b>	0%	98.1%	98.6%	100%	0%	98.4%	-	-	-	96.9%	100%	100%	100%	0%	99.0%	-	97.7%
<b>Articulated Trucks</b>	0	2	0	0	0	2	-	0	-	0	0	0	0	0	0	-	4
<b>% Articulated Trucks</b>	0%	0.2%	0%	0%	0%	0.1%	-	-	-	0%	0%	0%	0%	0%	0%	-	0.1%
<b>Buses and Single-Unit Trucks</b>	0	20	12	0	0	32	-	0	-	1	0	0	0	0	1	-	75
<b>% Buses and Single-Unit Trucks</b>	0%	1.7%	1.3%	0%	0%	1.5%	-	-	-	3.1%	0%	0%	0%	0%	1.0%	-	2.2%
<b>Bicycles on Road</b>	0	0	1	0	0	1	-	0	-	0	0	0	0	0	0	-	1
<b>% Bicycles on Road</b>	0%	0%	0.1%	0%	0%	0%	-	-	-	0%	0%	0%	0%	0%	0%	-	0%
<b>Pedestrians</b>	-	-	-	-	-	-	1	-	3	-	-	-	-	-	-	9	-
<b>% Pedestrians</b>	-	-	-	-	-	-	100%	-	100%	-	-	-	-	-	-	100%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	-	0	-	0	-	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	0%	-	0%	-	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

Full Length (7 AM-9 AM, 4 PM-6 PM)

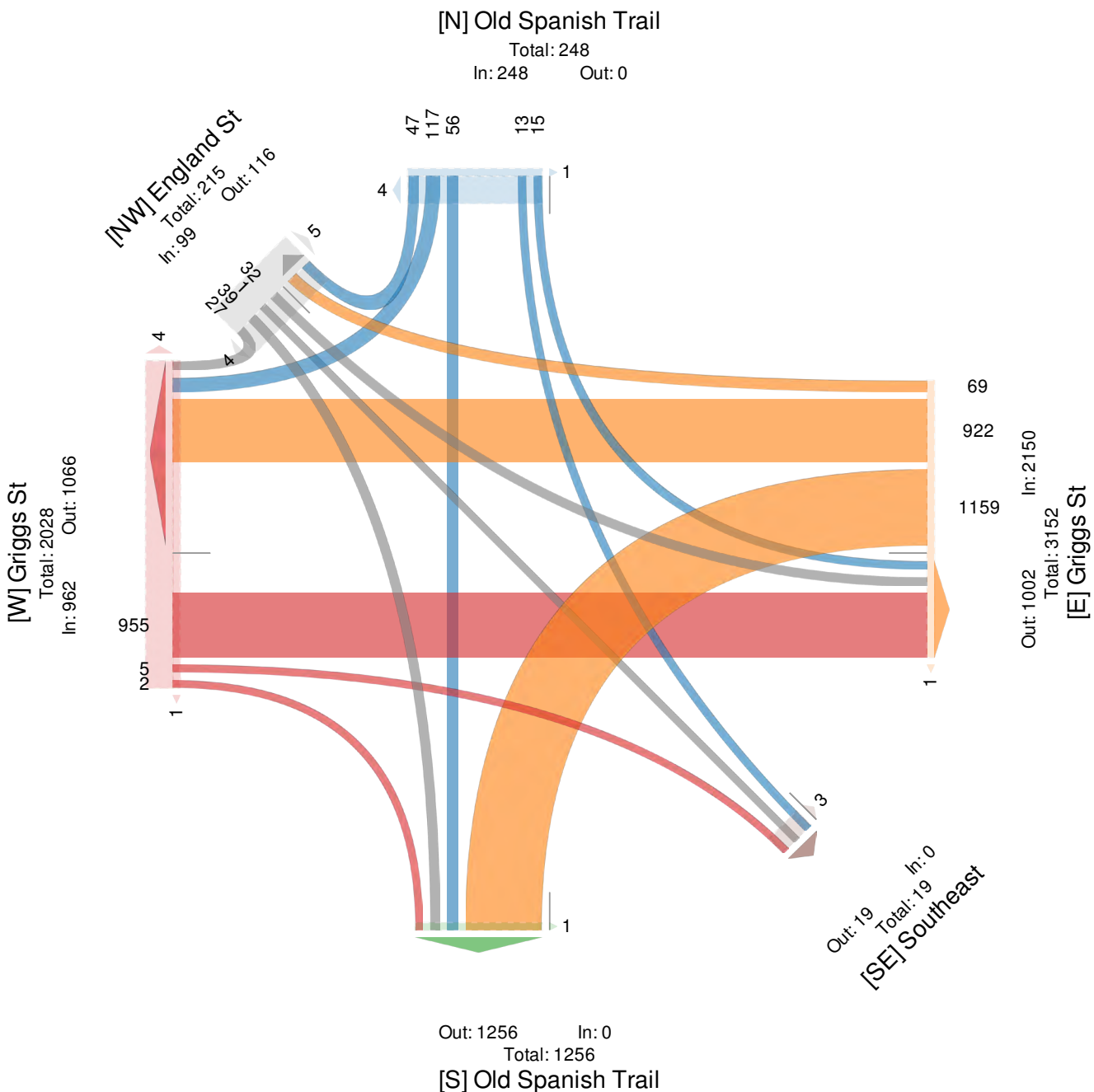
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692201, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692201, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Old Spanish Trail Northbound		Old Spanish Trail Southbound								Griggs St Eastbound							
Time	App	Ped*	L	BL	T	R	HR	App	Ped*	HL	T	BR	R	U	App	Ped*		
2019-09-24 7:15AM	0	0	0	0	1	9	1	11	0	0	29	0	0	0	29	0		
7:30AM	0	0	0	2	3	9	2	16	0	0	29	0	0	0	29	1		
7:45AM	0	0	0	0	2	11	4	17	2	0	30	1	0	0	31	0		
8:00AM	0	0	2	1	2	2	2	9	2	0	30	0	0	0	30	1		
<b>Total</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>8</b>	<b>31</b>	<b>9</b>	<b>53</b>	<b>4</b>	<b>0</b>	<b>118</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>119</b>	<b>2</b>		
<b>% Approach</b>	-	-	3.8%	5.7%	15.1%	58.5%	17.0%	-	-	0%	99.2%	0.8%	0%	0%	-	-		
<b>% Total</b>	<b>0%</b>	-	0.2%	0.3%	0.9%	3.4%	1.0%	<b>5.8%</b>	-	0%	12.8%	0.1%	0%	0%	<b>12.9%</b>	-		
<b>PHF</b>	-	-	0.250	0.375	0.667	0.705	0.563	<b>0.779</b>	-	-	0.983	0.250	-	-	<b>0.960</b>	-		
<b>Lights</b>	<b>0</b>	-	2	3	4	30	9	<b>48</b>	-	0	111	1	0	0	<b>112</b>	-		
<b>% Lights</b>	-	-	100%	100%	50.0%	96.8%	100%	<b>90.6%</b>	-	0%	94.1%	100%	0%	0%	<b>94.1%</b>	-		
<b>Articulated Trucks</b>	<b>0</b>	-	0	0	0	0	0	<b>0</b>	-	0	0	0	0	0	<b>0</b>	-		
<b>% Articulated Trucks</b>	-	-	0%	0%	0%	0%	0%	<b>0%</b>	-	0%	0%	0%	0%	0%	<b>0%</b>	-		
<b>Buses and Single-Unit Trucks</b>	<b>0</b>	-	0	0	4	1	0	<b>5</b>	-	0	7	0	0	0	<b>7</b>	-		
<b>% Buses and Single-Unit Trucks</b>	-	-	0%	0%	50.0%	3.2%	0%	<b>9.4%</b>	-	0%	5.9%	0%	0%	0%	<b>5.9%</b>	-		
<b>Bicycles on Road</b>	<b>0</b>	-	0	0	0	0	0	<b>0</b>	-	0	0	0	0	0	<b>0</b>	-		
<b>% Bicycles on Road</b>	-	-	0%	0%	0%	0%	0%	<b>0%</b>	-	0%	0%	0%	0%	0%	<b>0%</b>	-		
Pedestrians	-	0	-	-	-	-	-	-	3	-	-	-	-	-	-	2		
% Pedestrians	-	-	-	-	-	-	-	-	75.0%	-	-	-	-	-	-	100%		
Bicycles on Crosswalk	-	0	-	-	-	-	-	-	1	-	-	-	-	-	-	0		
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	25.0%	-	-	-	-	-	-	0%		

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

AM Peak (7:15 AM - 8:15 AM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692201, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Le g Direction	Griggs St Westbound								Southeast Northwestbound		England St Southeastbound								
Time	HL	L	T	BR	U	App	Ped*	App	Ped*	BL	T	BR	HR	U	App	Ped*	Int		
2019-09-24 7:15AM	0	90	94	5	0	189	0	0	0	3	0	5	0	0	8	0	237		
7:30AM	0	113	83	5	0	201	0	0	0	2	0	2	2	0	6	2	252		
7:45AM	0	100	81	5	0	186	0	0	0	1	0	4	0	0	5	1	239		
8:00AM	0	90	49	5	0	144	1	0	0	3	0	3	2	0	8	3	191		
Total	0	393	307	20	0	720	1	0	0	9	0	14	4	0	27	6	919		
% Approach	0%	54.6%	42.6%	2.8%	0%	-	-	-	-	33.3%	0%	51.9%	14.8%	0%	-	-	-		
% Total	0%	42.8%	33.4%	2.2%	0%	78.3%	-	0%	-	1.0%	0%	1.5%	0.4%	0%	2.9%	-	-		
PHF	-	0.869	0.816	1.000	-	0.896	-	-	-	0.750	-	0.700	0.500	-	0.844	-	0.912		
Lights	0	383	298	20	0	701	-	0	-	8	0	14	4	0	26	-	887		
% Lights	0%	97.5%	97.1%	100%	0%	97.4%	-	-	-	88.9%	0%	100%	100%	0%	96.3%	-	96.5%		
Articulated Trucks	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0	-	0		
% Articulated Trucks	0%	0%	0%	0%	0%	0%	-	-	-	0%	0%	0%	0%	0%	0%	-	0%		
Buses and Single-Unit Trucks	0	10	9	0	0	19	-	0	-	1	0	0	0	0	1	-	32		
% Buses and Single-Unit Trucks	0%	2.5%	2.9%	0%	0%	2.6%	-	-	-	11.1%	0%	0%	0%	0%	3.7%	-	3.5%		
Bicycles on Road	0	0	0	0	0	0	-	0	-	0	0	0	0	0	0	-	0		
% Bicycles on Road	0%	0%	0%	0%	0%	0%	-	-	-	0%	0%	0%	0%	0%	0%	-	0%		
Pedestrians	-	-	-	-	-	-	1	-	0	-	-	-	-	-	-	6	-		
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	100%	-		
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	0	-	-	-	-	-	-	0	-		
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	0%	-		

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

AM Peak (7:15 AM - 8:15 AM)

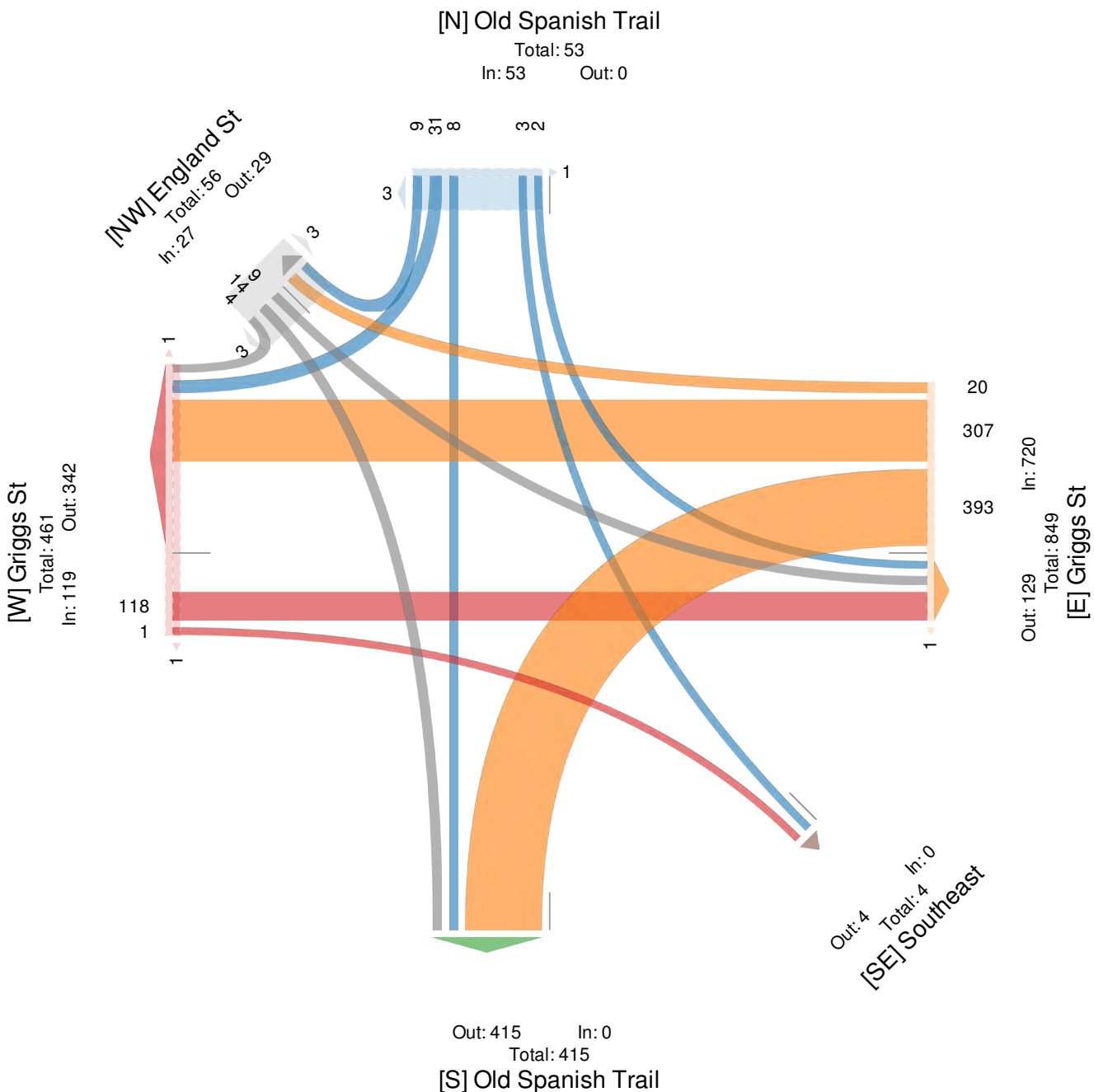
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692201, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692201, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Old Spanish Trail Northbound		Old Spanish Trail Southbound							Griggs St Eastbound						
Time	App	Ped*	L	BL	T	R	HR	App	Ped*	HL	T	BR	R	U	App	Ped*
2019-09-24 4:45PM	0	0	0	0	7	8	3	18	0	0	92	0	0	0	92	0
5:00PM	0	0	5	1	3	9	2	20	1	0	104	0	1	0	105	0
5:15PM	0	1	1	0	6	7	2	16	0	0	104	0	0	0	104	0
5:30PM	0	0	3	2	5	7	5	22	0	0	91	1	0	0	92	0
<b>Total</b>	<b>0</b>	<b>1</b>	<b>9</b>	<b>3</b>	<b>21</b>	<b>31</b>	<b>12</b>	<b>76</b>	<b>1</b>	<b>0</b>	<b>391</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>393</b>	<b>0</b>
<b>% Approach</b>	-	-	11.8%	3.9%	27.6%	40.8%	15.8%	-	-	0%	99.5%	0.3%	0.3%	0%	-	-
<b>% Total</b>	<b>0%</b>	-	0.9%	0.3%	2.2%	3.3%	1.3%	<b>8.0%</b>	-	0%	41.0%	0.1%	0.1%	0%	<b>41.2%</b>	-
<b>PHF</b>	-	-	0.450	0.375	0.750	0.861	0.600	<b>0.864</b>	-	-	0.940	0.250	0.250	-	<b>0.936</b>	-
<b>Lights</b>	<b>0</b>	-	9	3	18	30	12	<b>72</b>	-	0	380	1	1	0	<b>382</b>	-
<b>% Lights</b>	-	-	100%	100%	85.7%	96.8%	100%	<b>94.7%</b>	-	0%	97.2%	100%	100%	0%	<b>97.2%</b>	-
<b>Articulated Trucks</b>	<b>0</b>	-	0	0	0	0	0	<b>0</b>	-	0	1	0	0	0	<b>1</b>	-
<b>% Articulated Trucks</b>	-	-	0%	0%	0%	0%	0%	<b>0%</b>	-	0%	0.3%	0%	0%	0%	<b>0.3%</b>	-
<b>Buses and Single-Unit Trucks</b>	<b>0</b>	-	0	0	3	1	0	<b>4</b>	-	0	10	0	0	0	<b>10</b>	-
<b>% Buses and Single-Unit Trucks</b>	-	-	0%	0%	14.3%	3.2%	0%	<b>5.3%</b>	-	0%	2.6%	0%	0%	0%	<b>2.5%</b>	-
<b>Bicycles on Road</b>	<b>0</b>	-	0	0	0	0	0	<b>0</b>	-	0	0	0	0	0	<b>0</b>	-
<b>% Bicycles on Road</b>	-	-	0%	0%	0%	0%	0%	<b>0%</b>	-	0%	0%	0%	0%	0%	<b>0%</b>	-
<b>Pedestrians</b>	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	0
<b>% Pedestrians</b>	-	100%	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0
<b>% Bicycles on Crosswalk</b>	-	0%	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn



# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692201, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US

Leg Direction	Griggs St Westbound							Southeast Northwestbound		England St Southeastbound							
Time	HL	L	T	BR	U	App	Ped*	App	Ped*	BL	T	BR	HR	U	App	Ped*	Int
2019-09-24 4:45PM	0	53	47	2	0	102	0	0	2	3	0	2	2	0	7	0	219
5:00PM	0	58	52	4	0	114	0	0	0	1	0	4	1	0	6	1	245
5:15PM	0	57	57	2	0	116	0	0	1	4	0	3	0	0	7	0	243
5:30PM	0	70	49	3	0	122	0	0	0	5	1	3	1	0	10	0	246
<b>Total</b>	0	238	205	11	0	454	0	0	3	13	1	12	4	0	30	1	953
<b>% Approach</b>	0%	52.4%	45.2%	2.4%	0%	-	-	-	-	43.3%	3.3%	40.0%	13.3%	0%	-	-	-
<b>% Total</b>	0%	25.0%	21.5%	1.2%	0%	47.6%	-	0%	-	1.4%	0.1%	1.3%	0.4%	0%	3.1%	-	-
<b>PHF</b>	-	0.850	0.895	0.688	-	0.936	-	-	-	0.650	0.250	0.750	0.500	-	0.750	-	0.971
<b>Lights</b>	0	235	204	11	0	450	-	0	-	13	1	12	4	0	30	-	934
<b>% Lights</b>	0%	98.7%	99.5%	100%	0%	99.1%	-	-	-	100%	100%	100%	100%	0%	100%	-	98.0%
<b>Articulated Trucks</b>	0	1	0	0	0	1	-	0	-	0	0	0	0	0	0	-	2
<b>% Articulated Trucks</b>	0%	0.4%	0%	0%	0%	0.2%	-	-	-	0%	0%	0%	0%	0%	0%	-	0.2%
<b>Buses and Single-Unit Trucks</b>	0	2	0	0	0	2	-	0	-	0	0	0	0	0	0	-	16
<b>% Buses and Single-Unit Trucks</b>	0%	0.8%	0%	0%	0%	0.4%	-	-	-	0%	0%	0%	0%	0%	0%	-	1.7%
<b>Bicycles on Road</b>	0	0	1	0	0	1	-	0	-	0	0	0	0	0	0	-	1
<b>% Bicycles on Road</b>	0%	0%	0.5%	0%	0%	0.2%	-	-	-	0%	0%	0%	0%	0%	0%	-	0.1%
<b>Pedestrians</b>	-	-	-	-	-	-	0	-	3	-	-	-	-	-	-	1	-
<b>% Pedestrians</b>	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	-	-	0	-	0	-	-	-	-	-	-	0	-
<b>% Bicycles on Crosswalk</b>	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-

\*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

# APPENDIX B TURNING MOVEMENT COUNTS

## MLK Healthy Connections Study

### Griggs St at Old Spanish Trail - TMC

Tue Sep 24, 2019

PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour

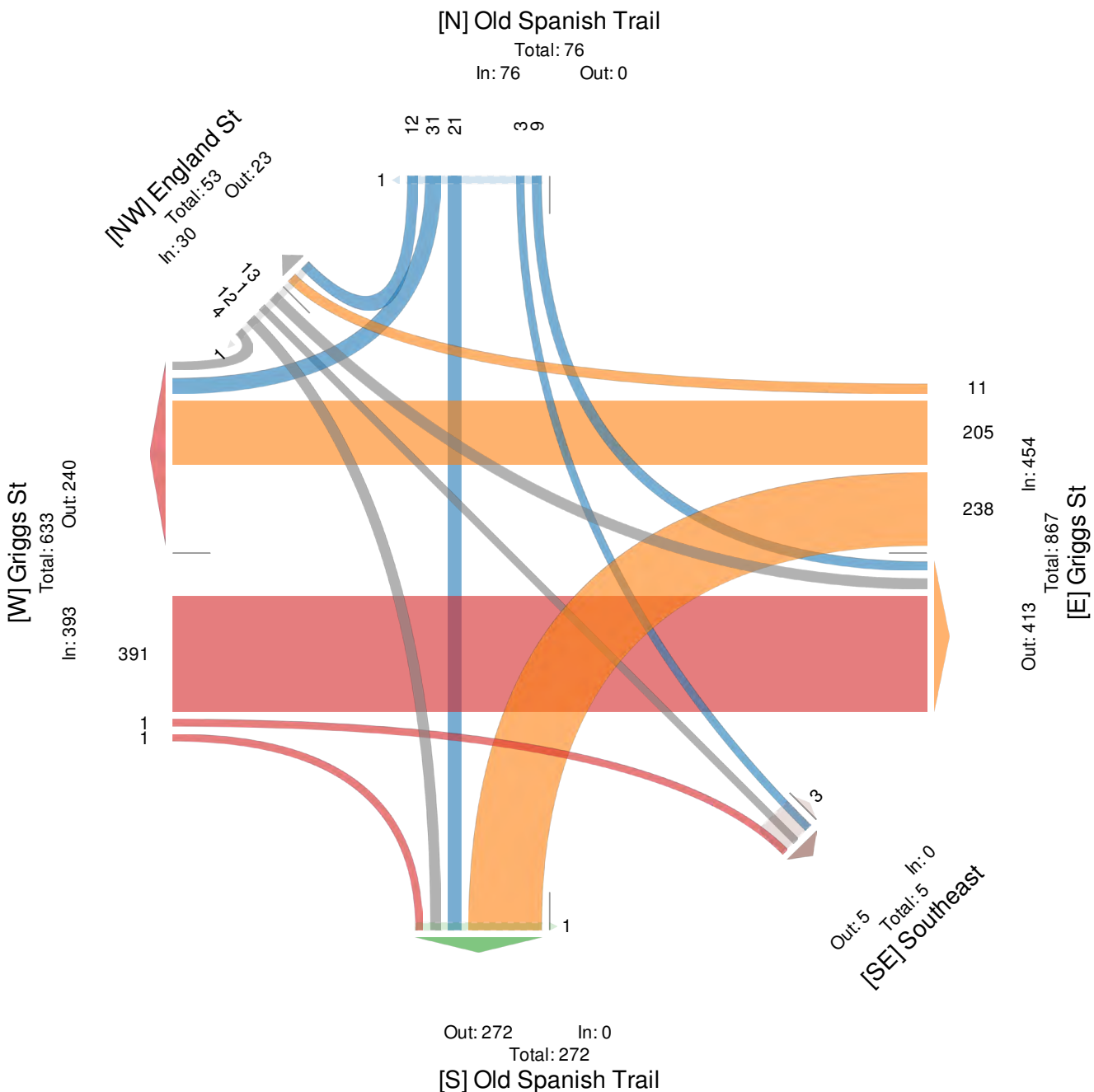
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)

All Movements

ID: 692201, Location: 29.702878, -95.352255



Provided by: C. J. Hensch & Associates Inc.  
5215 Sycamore Ave.,  
Pasadena, TX, 77503, US



# APPENDIX **C** LEVEL OF SERVICE

## MLK Healthy Connections Study

### MORNING LEVEL OF SERVICE

Intersection	Existing			Recommended		
	LOS	Delay (secs)	V/C	LOS	Delay (secs)	V/C
Calhoun Rd at S MacGregor Way	B	10.1	0.543	B	10.1	0.543
Calhoun Rd at Old Spanish Trl	B	12.5	0.385	B	10.5	0.4
Griggs Rd at Calhoun Rd	A	9.4	0.384	A	9.5	0.395
Griggs Rd at MLK Blvd	C	21.7	0.552	C	26.7	0.636
MLK Blvd at Yellowstone/Beekman	A	9	0.351	B	10.4	0.469
MLK Blvd at WB IH-610 Frontage	D	37.5	0.605	D	39.4	0.662
MLK Blvd at EB IH-610 Frontage	D	37.9	0.595	D	41.1	0.615
MLK Blvd at Van Fleet St	A	6.7	0.334	A	7.9	0.464
MLK Blvd at Bellfort St	B	18	0.469	C	21.4	0.565
MLK Blvd at Reed Rd	B	16.3	0.489	B	16.3	0.489
MLK Blvd at Airport Blvd	C	27.2	0.637	C	27.2	0.637
Griggs Rd at Scott St	A	9.6	0.808	B	10.3	0.576
Griggs Rd at Cullen Blvd	B	12.7	0.283	B	12.4	0.334

# APPENDIX **C** LEVEL OF SERVICE

## MLK Healthy Connections Study

### EVENING LEVEL OF SERVICE

Intersection	Existing			Recommended		
	LOS	Delay (secs)	V/C	LOS	Delay (secs)	V/C
Calhoun Rd at S MacGregor Way	A	5.8	0.336	A	5.8	0.336
Calhoun Rd at Old Spanish Trl	C	29.9	0.473	C	31.9	0.507
Griggs Rd at Calhoun Rd	A	0.343	8.2	A	8.8	0.378
Griggs Rd at MLK Blvd	C	20.9	0.533	D	41.5	0.753
MLK Blvd at Yellowstone/Beekman	B	17.1	0.631	B	17.3	0.631
MLK Blvd at WB IH-610 Frontage	C	24.5	0.72	C	32.7	0.802
MLK Blvd at EB IH-610 Frontage	B	12	0.5	B	14.5	0.637
MLK Blvd at Van Fleet St	A	6.3	0.405	A	7.8	0.457
MLK Blvd at Belfort St	C	34	0.564	D	38	0.7
MLK Blvd at Reed Rd	C	30.1	0.639	C	0.591	27.5
MLK Blvd at Airport Blvd	C	24.8	0.613	C	24.8	0.613
Griggs Rd at Scott St	B	14.1	0.713	B	11	0.676
Griggs Rd at Cullen Blvd	B	17.9	0.5	D	49.9	0.748

# APPENDIX D

## QUEUE ANALYSIS

### MLK Healthy Connections Study

In conjunction with the capacity analysis conducted to model the LOS at the study intersections, an analysis of the existing and recommended conditions has been conducted to estimate the length of cars queuing at the study intersections.

In addition to LOS, capacity analysis also provides data on the length of the queue of cars waiting at a given intersection due to the traffic control device and traffic volumes present at the intersection. The queue length can be expressed as either vehicles per lane or feet per lane which is a measure of the vehicles per lane time the modeled length of each vehicle. The analysis provides the queue length as either the 50<sup>th</sup> percentile queue length or the 95<sup>th</sup> percentile queue length with the former being as long or longer than the actual queue 50% of the time and the latter being as long or longer as the actual queue 95% of the time. The 95<sup>th</sup> percentile is the more critical of the two values and represents a worst case queue length. The queue length methodology is based on the 2010 Highway Capacity Manual from the Transportation Board. The analysis was completed PTV Vistro 7.00 and details can be found in the report index.

Many recommended changes to the intersections in the corridor include reductions in or reassignments of lanes. Changes in the number of lanes available for turning movements and for storage of queuing cars alters the length of the queues of cars waiting at many intersections. A queue analysis was conducted in conjunction with the LOS analysis to quantify these changes. The results of the most critical modeled 95<sup>th</sup> percentile queues for recommended conditions and the corresponding existing 95<sup>th</sup> percentile queue length for the AM and PM peak hours are summarized in the table below, respectively.

Intersection	AM Peak Hour			PM Peak Hour		
	Recommended		Existing	Recommended		Existing
	Lane Group	Length (ft)	Length (ft)	Lane Group	Length (ft)	Length (ft)
Calhoun Rd at S MacGregor Way	NB TR	44.06	44.06	SB TR	10.5	10.5
Calhoun Rd at Old Spanish Trl	NB LTR	49.48 (NB TR)	50.82	EB TR	309.27	328.04
Griggs Rd at Calhoun Rd	WB T	15.75	60.13	EB T	24.84	46.1
Griggs Rd at MLK Blvd	WB T	217.9	308.15	EB TR	156.08	688.77
MLK Blvd at Yellowstone/Beekman	NB T	41.04	88.88	EB R	200.42	200.42
MLK Blvd at WB IH-610 Frontage	WB TR	632.01	632.01	WB LT	441	543.88
MLK Blvd at EB IH-610 Frontage	NB TR	496.4	542.72	SB T	108.49	229.78
MLK Blvd at Van Fleet St	NB T	41.62	87.69	SB TR	62.5	169.48
MLK Blvd at Bellfort St	NB L	68.23	53.33	SB T	328.1	586.89
MLK Blvd at Reed Rd	NB T	195.3	195.3	SB T	277.11	277.11
MLK Blvd at Airport Blvd	NB T	358.41	358.41	NB T	316.35	316.35
Griggs Rd at Scott St	WB LTR	115.17 (WB TR)	153.05	SB L	236.12	168.57
Griggs Rd at Cullen Blvd	WB T	44.4	67.73	EB TR	167.94 (EB T)	901.15