APPENDIX A

Distribution List

APPENDIX A

Public Notice Distribution List

The University of Washington has distributed the public notice for this EIS Addendum to following groups and individuals. The public notice may be found immediately following the front cover of the EIS Addendum.

Periodicals

Seattle Times
UW Today

UWMC – Northwest Standing Advisory Committee

Maureen Sheehan, SDON, Committee Coordinator
Members

Community Property Owners

Property owners within 300' of the Northwest campus boundary (list available upon request)

Agencies

Washington State Department of Ecology, SEPA Center

City of Seattle – SDON: Maureen Sheehan; SDCI: Holly Godard, John Shaw

University of Washington

UW Medicine/UWMC - Lisa Brandenburg, Jacqueline Cabe, Marty Francois, Cynthia Hecker, Pamela Renna, Jürgen Unutzer

UW Facilities - Julie Blakeslee, Jeanette Henderson, Kristine Kenney, Michael McCormick, Jeannie Natta, Steve Tatge

Regional Affairs - Sally Clark, Aaron Hoard

Environmental Health & Safety - Doug Galluci

Transportation Services - Caryn Walline

APPENDIX B

D-Wing Building – Historic Preservation and SEPA Review Document

David Peterson *historic resource consulting*
PO Box 115 Seattle WA 98111 P:206-376-7761 david@dphrc.com

- APPENDIX A -
HISTORIC PRESERVATION AND SEPA REVIEW
Additional information to determine whether a structure appears to meet any of the criteria for landmark designation

(Seattle Department of Construction and Inspections & Department of Neighborhoods, CAM/TIP #3000)

October 16, 2019

I. Building Location:

D-Wing Building
Located at: Northwest Hospital, 1550 N. 115th Street, Seattle WA 98133 (Tax Parcel #302604-9130)

II. Physical Description: Provide a physical description of both the interior and exterior of the structure(s).

The subject building (now called the D-Wing) was the second building constructed on the campus, after the main hospital building (now called the B-Wing), which was designed by Seattle architects Lawrence & Hazen in 1959 and completed in 1960. The subject building, designed by architect E. L. Mills in 1965 and constructed in 1966. It was intended to be used for convalescent care, and was connected to the main building by an enclosed corridor. The corridor was largely demolished around 2005 for the construction of an addition on the B-Wing. A stub portion of the corridor remains on the subject building's north elevation.

The subject building originally featured primarily patient rooms along double loaded corridors, with 2 to 4 beds per room. Rooms either overlooked interior courtyards, or windows along exterior walls. The main entry, featuring a porte-cochere drop-off supported by four rectangular brick piers and exposed glulam beams, was on the east elevation.

However, by the early 2000s, the building had been converted primarily to administrative offices. A primary entrance today is located on the west elevation, closer to what is now the central core of the hospital campus, after years of additional growth and building construction on the campus.

The subject building is one-story wood frame construction with a small partial basement, on a concrete foundation. The building is roughly rectangular in plan, measuring 217 by 191 feet, and organized into double loaded corridors of suites of offices (originally patient rooms) which wrap two interior courtyards. A third exterior courtyard open on one side is located on the north elevation. Courtyards feature original concrete raised planters with possibly original plantings, and a concrete hardscape laid in a 7 by 4 foot and 7 by 8 foot grid pattern.

The flat, built-up roof features a deep soffitted overhang and metal coping. The roof surface today is covered with extensive, non-original HVAC vents and equipment.

Exterior cladding is marblecrete panels and red brick veneer laid in a running bond. Windows appear to be the original aluminum sash, with fixed and operable panels organized asymmetrically. Some lites throughout the building have been replaced with window air conditioning units.

The exterior of the building is largely intact, with few alterations. The interior has been completely renovated in recent years with modern finishes, including drop ceilings, carpet, and painted gypsum wallboard.

III. Architect or Builder: Provide information about the architect/builder; i.e., regarding education, career, other works in Seattle. If other structures were built in Seattle, indicate whether they remain and their location.

Drawings on file indicate that the architect of the subject building was E. L. Mills, an architect active in Tacoma in the 1950s-60s, but not well known in Seattle. Below is a brief biography of Mills by the Washington State Department of Archaeology and Historic Preservation's Michael C. Houser:

> **Edgar L. Mills (1921-1967)**
> Born on June 7, 1921 in Tacoma, Edgar L. Mills received his architectural education primarily by on-the-job training. For reasons unknown, he spent just one year at an undisclosed college. Instead, Mills gained valuable experience by working for the Tacoma architectural firm of Heath, Gove & Bell for a year-and-a half; then for the firm of Rueger & Rueger; and finally for the firm of Lea, Pearsons & Richards for five plus years.
>
> After receiving his architectural license in 1949, Mills formed a partnership with architect, Arnold F. Jensen. Together, the firm of Jensen & Mills quickly established a high profile practice in Tacoma and began receiving many important commissions in the South Sound area.
>
> Their projects include their own Architects Office (1955); a Radio Communications Building (1952); Holy Cross Catholic Church (1957); Apex Cleaners (1950); the Harrison Pistol Range (1953) for the Tacoma Police Department; Puyallup City Hall (1953); Evergreen Elementary School (1955) in Key Peninsula; Our Lady Queen of Heaven Catholic Church (1956) in Spanaway; and Bellarmine Catholic Prep School Gym (1958) in Tacoma.
>
> By 1959, Mills was a sole practitioner. Notable projects include St. Rose Catholic Church in Longview (1959); the South Tacoma Branch Library (1959); Tacoma Fire Station No. 7 (1959); and St. Nicholas Catholic Church (1959) in Gig Harbor; the Puyallup Public Library (1961); Meeker House Apartments (1961) in Puyallup; Holy Rosary Convent (1963); Allenmore Medical Center (1965); Skyline Presbyterian Church (1964); Lake Spanaway Golf Course Clubhouse (1966); and a doctors' hospital (1967) in Tacoma.
>
> Mills design for Cheney Stadium (1960) brought him much acclaim and his later plans for Elks Lodge No. 174 (1965) is one of his largest projects. The building houses a lodge room which can seat 1,000, a dining room, and lounge with dance floor, billiards and pool tables, bocce courts, an indoor swimming pool, handball/racquetball courts, an exercise room, and a softball field.
>
> Mills passed away in Tacoma on October 15, 1967.[1]

A significant medical complex designed by Mills was the Allenmore Medical Center (1965), which resembles the subject building in some respects, including the organization of rooms around interior courtyards. The building was later enlarged, in 1969.

No information was found for this report regarding why Mills was chosen to design the subject building.

[1] Houser, Michael C. "Mills, Edgar L. (1921-1967)," architects biographies, DoCoMoMo-WeWa.org.

IV. Statement of Significance: Current and past uses and owners of the structure(s). The role these uses and/or owners played in the community, city, state or nation.

Northwest Hospital was established in the 1940s by the Community Memorial Hospital Association, which purchased the subject site in 1949 from Budget Homes, a residential developer, in the rapidly growing postwar neighborhood north of Northgate. Funding in part came from the Hill-Burton Act.

In the post-World War II period, expansive suburban growth led to concerns about the distribution of medical facilities in American cities. The Hill-Burton Act, a bipartisan bill passed by the US Congress and signed into law by President Harry Truman in 1946, was monumental in scope and provided construction grants and loans to communities for health care facilities—especially in rural areas that had never had any, or in suburban areas that lacked such features and were too far from urban centers. During the Cold War era, there was also a concern about decentralizing medical facilities away from traditional "hospital cores" in older urban centers, due to concerns about nuclear attack. By 1975, Hill-Burton was responsible for the construction of nearly one-third of hospitals in the United States. The act was then rolled into larger legislation known as the Public Health Service Act, which functioned until 1997. By that time, approximately 6,800 facilities in 4,000 communities had in some part been financed by the law.

The subject site was undeveloped land in the 1940s, and was surrounded on two sides by the Evergreen-Washelli Cemetery. Perhaps for that reason, the original campus was oriented to the north, and accessed from the sparse neighborhood on N. 120th Street. By the 1960s, the surrounding neighborhood had filled in with residential development.

Over the years, additional buildings were constructed on the Northwest Hospital campus, to house additional medical facilities, offices, or parking, and the main entrance to the campus was relocated to the south side, reached from N. 115th Street.

In 2018, Northwest Hospital became part of the University of Washington medical system.

Bibliography/Sources

Ancestry.com, online information accessed via the Seattle Public Library, for census records, birth/death certificates, city directory data, and naturalization information.

City of Seattle Department of Construction and Inspections (SDCI), Microfilm Library, permit records and drawings, and parcel data. www.seattle.gov.

City of Seattle Department of Neighborhoods, Historic Resources Survey database, www.seattle.gov/neighborhoods/preservation/historicresources.

D.A. Sanborn. *Sanborn Fire Insurance Maps*. Seattle, Washington (various dates) maps accessed from Seattle Public Libraries, online. www.spl.org.

DoCoMoMo-WeWa (Documentation and Conservation of the Modern Movement, Western Washington), www.docomomo-wewa.org.

King County Assessor's Records, Puget Sound Regional Archives, at Bellevue Community College, Bellevue, WA.

King County Parcel Viewer website. www.metrokc.gov/gis/mapportal/Pviewer main.

Ochsner, Jeffrey Karl, ed. *Shaping Seattle Architecture: A Historical Guide to the Architects*. Seattle: University of Washington Press, 2014.

R.L. Polk and Company. *Polk's Directory to the City of Seattle.* Seattle: various dates.

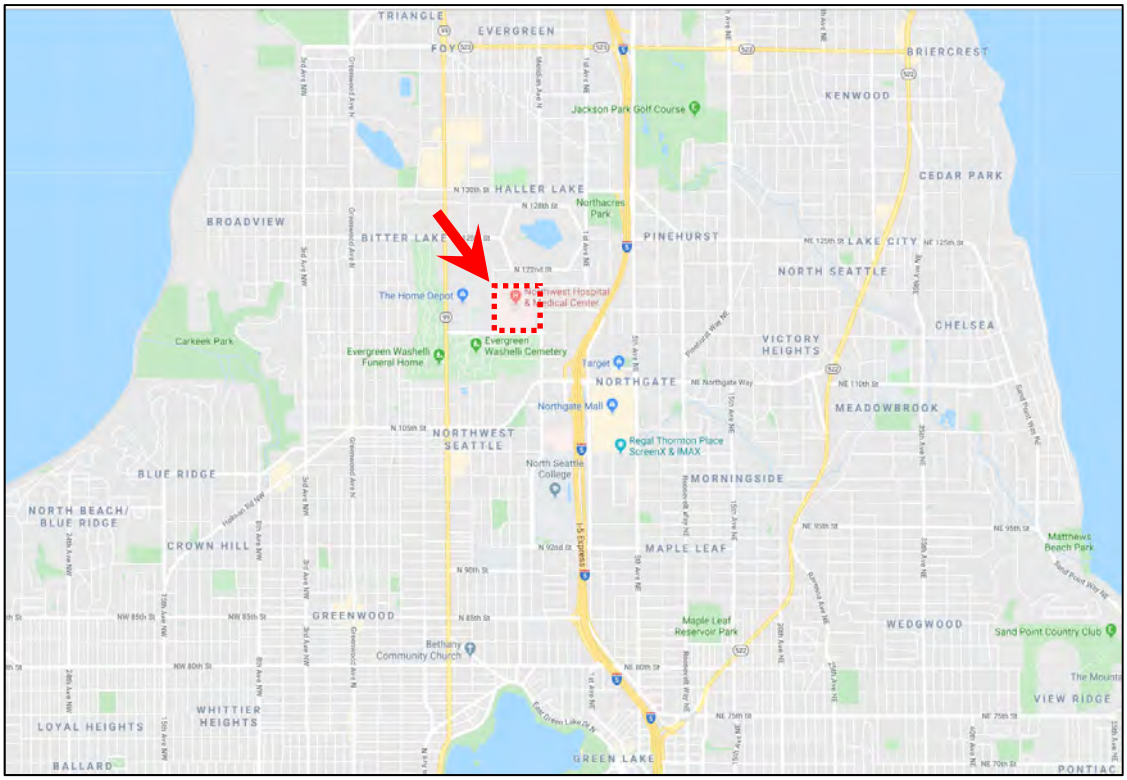
The Seattle Times newspaper. Seattle, Washington. Includes previous incarnations as *The Seattle Press Times*, *The Seattle Daily Times*, and *The Seattle Sunday Times*. Searchable database available through the Seattle Public Library.

"Memorial Hospital ground broken," July 24, 1959.
"New wing groundbreaking," December 5, 1965.

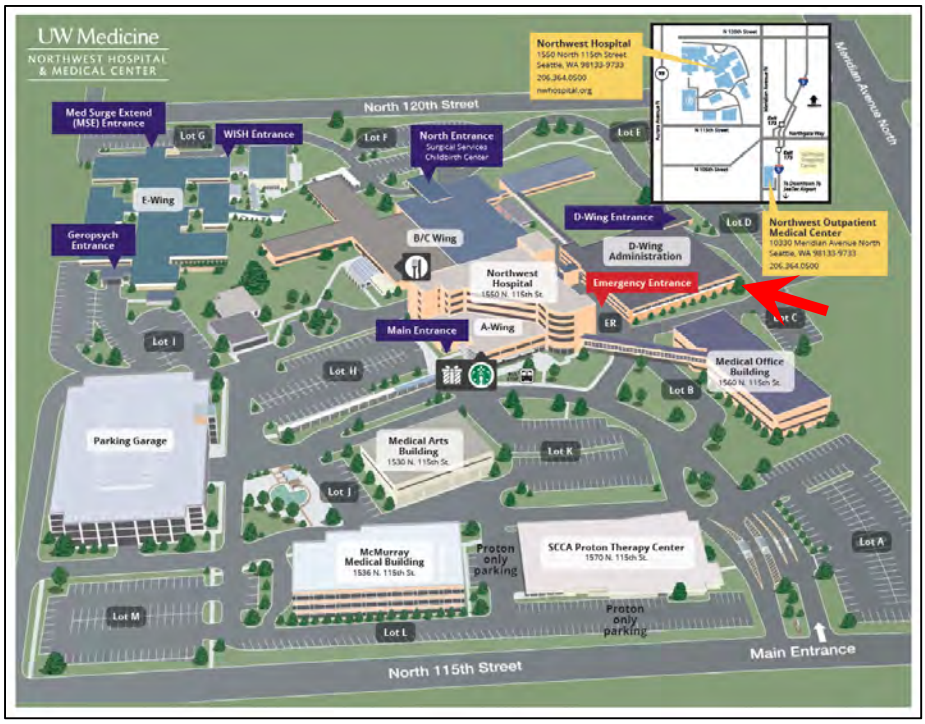
Tacoma News Tribune.

"Med-Dental building to open in one year," July 19, 1964.
"Open House- Allenmore Medical Center," June 24, 1966.
"Public may inspect new medical center," June 24, 1966.

V. Photographs: Clear exterior photos of all elevations of the building; interior photos of major or significant spaces; available historic photos; neighborhood context photos.
Note: All photos by author from summer 2019 unless noted otherwise.



Approximate location of subject hospital campus indicated by red box and arrow. North is up. (Google Maps 2019)



Axonometric map of the site in 2019. Subject building (D-Wing) indicated by arrow. (Northwest Hospital)



Aerial photo of the Northwest Hospital campus c.2018; north is up. Subject building indicated by arrow.

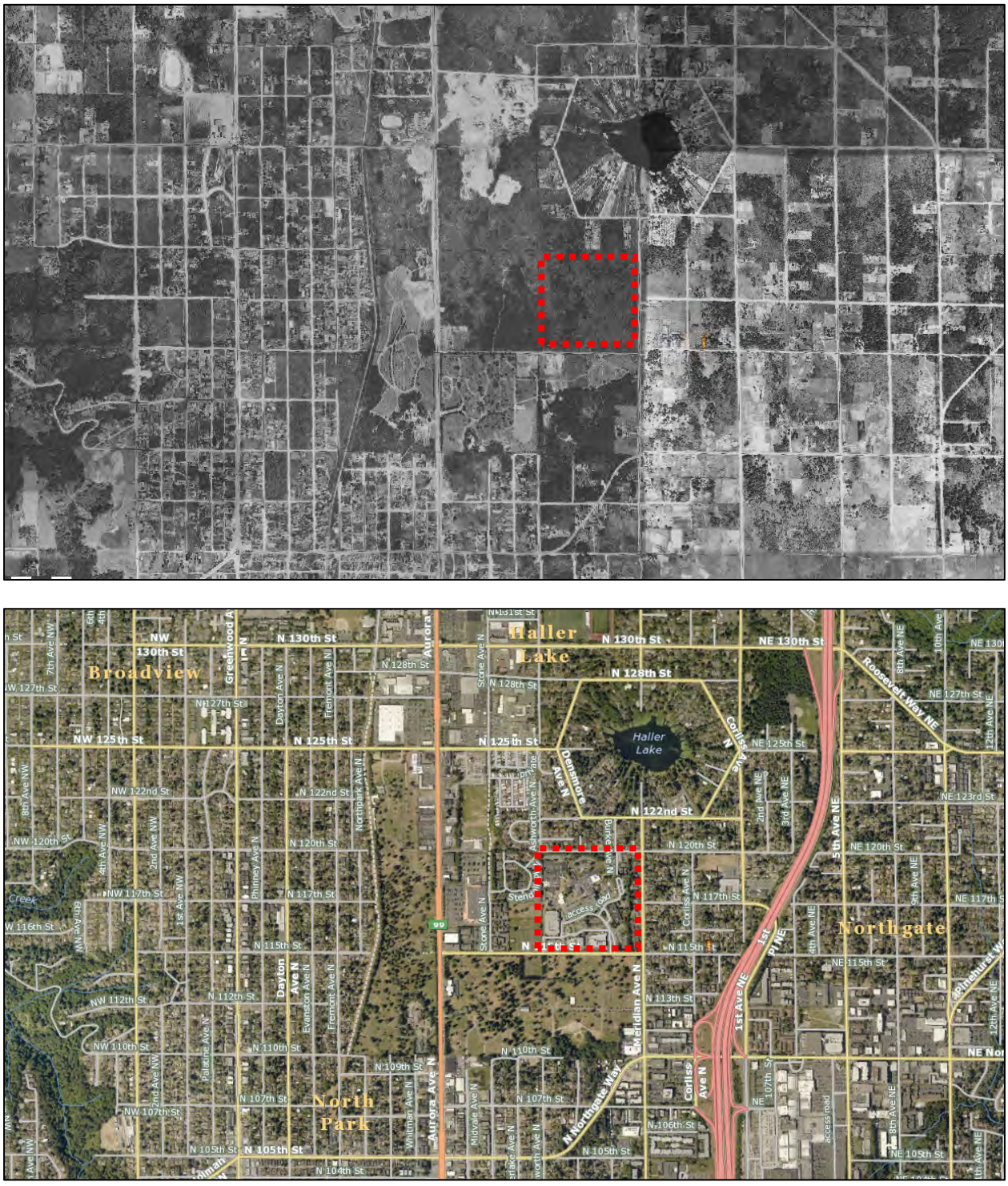
The subject tax parcel (#302604-9130) is indicated by the overlaid **yellow** dotted line. The overlaid **red** dotted line shows the overall boundary of the rest of the hospital's campus; faint solid red lines show additional tax parcels (indicated by "-91xx" tag) within the campus—some buildings and/or parking lots are located on their own tax parcel. (King County Tax Assessor GIS maps)



Aerial photo of the Northwest Hospital campus c.2018 showing construction dates; subject building indicated by arrow. North is up. (SDCI GIS)



Aerial photo of the Northwest Hospital campus c.2018 without annotations; north is up. (KCTA)



(Two images) Aerial photo of the neighborhood in 1936 and 2018. Subject site indicated by red dotted line. In the late 1930s, the area around the subject site was largely undeveloped farmland or treed lots, with the most residential development around Haller Lake to the north and the north part of Crown Hill to the southwest of the site. What is now the Evergreen-Washelli Cemetery, visible as an L-shaped green space to the southwest of the site, was originally established by the David Denny family in the early 1900s. After World War II, suburban development increased exponentially in this area of North Seattle. The subject site was purchased in 1949 from Budget Homes, a developer, and construction on the first building (now called the B-Wing) began in 1959 and was completed in 1960.



Site plan showing the Northwest Hospital buildings c.1975; north is up. Subject building indicated by arrow. Originally, the hospital campus was oriented to the north, with the main entrance accessed from N. 120th Street, as shown above. A curved, V-shaped parking lot oriented the visitor to what at that time was the main building and its "totem pole" entrance and porte-cochere. The main building (now called the B-Wing) was designed by Seattle architects Lawrence & Hazen, with construction beginning in 1959 and completion in 1960.

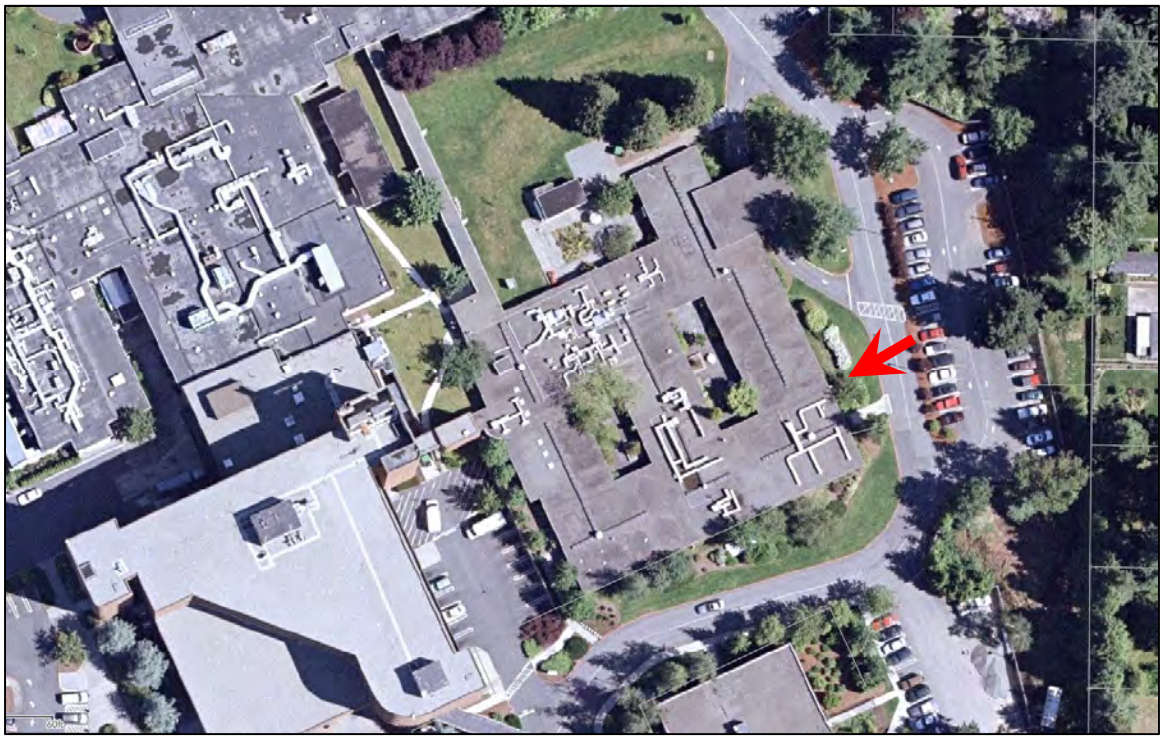
When the D-Wing (E.L. Mills, 1966) was originally constructed, an enclosed walkway connected it the main building or B-Wing. This was largely demolished c. 2005 for the construction of an addition to the D-Wing, although a stub remains on the north side of the subject building.

The cluster of buildings near the south property line were one-story doctors' offices called the Northwest Professional Center. Built in 1966 and demolished around 2000, they were also designed by architects Lawrence & Hazen. The E-Wing was also designed by Lawrence & Hazen, and completed in 1969.





(Two images) The original building on the Northwest Hospital campus, today known as the B-Wing (Lawrence & Hazen, 1959-60). The "totem pole" entrance on the north side of the building (shown in top photo) was the main entrance, which was accessed from the neighborhood to the north, off N. 120th Street. Today the hospital campus is accessed from the south, from N. 115th Street.



1999 aerial photo of the subject building (indicated by arrow), showing the enclosed walkway on the north side which connected it to the B-Wing, the original hospital building. Around 2005, the enclosed walkway was largely demolished for an addition to the B-Wing, although a stub still remains on the D-Wing's north elevation. (SDCI)







Other buildings on the Northwest Hospital campus.

Upper left: A-Wing (1982)

Upper right: Medical Office Building (1983)

Lower left: E-Wing (Lawrence & Hazen, 1969)



1967 view of the subject building, showing drop-off/porte-cochere on east elevation. Detail view of very poor original tax assessor photo. (KCTA)



1967 view of west elevation of enclosed walkway connecting B-Wing to D-Wing (original photo poor). (KCTA)



Context: view west, subject building indicated by red arrow.



Context: West entrance, northwest view; subject building indicated by arrows.



West elevation, west entrance.



West entrance.



West elevation, southwest view.



South elevation, looking east.



South elevation.



South elevation.



South elevation, view east.



East elevation; porte-cochere visible at right.



East elevation, view south.



East elevation, view north.



Porte-cochere detail.



Front (east) entrance to building.



View east from front entrance to building.



View north from front entrance to building.



North elevation (partial view).



North elevation (partial view).



Exterior courtyard on north elevation.



Exterior courtyard on north elevation.



Exterior courtyard on north elevation, view west.



Exterior courtyard on north elevation, view east.



Shed/garage on north edge of exterior courtyard.



North elevation on exterior courtyard.



Exterior courtyard, detail of door on north elevation.



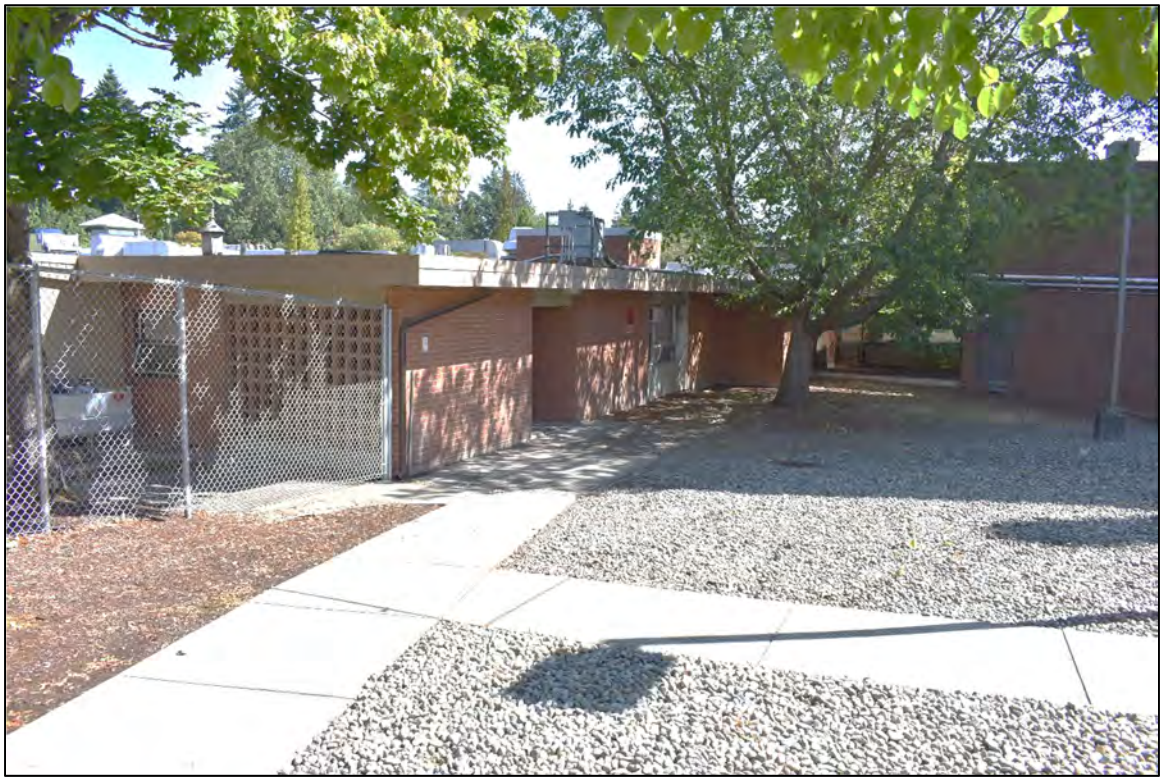
Exterior courtyard, detail of soffit.



Equipment area on north elevation.



Equipment area on north elevation. Building element at right is the remaining stub of the original enclosed walkway (largely demolished c.2005) which connected the subject building to the B-Wing.



Partial west elevation, view south.



Area inside fencing on west elevation.



Service entrance on west elevation.



c.1982 overhead walkway and stairs connecting the west elevation of the subject building (at left) to the east elevation of the A-Wing main hospital building (not visible, out of frame at right).



East entrance foyer; the porte-cochere is visible outside.



East entrance check-in.



Main desk on corridor, view west



Typical interior corridor.



Transition foyer/hall to main hospital building; chapel visible at left door.



Interior, chapel.



Typical multiple office suite.



Typical multiple office suite, which occupy the space between interior corridors and the two interior courtyards, or between the corridors and exterior building wall.



Large conference room, overlooking one of the two interior courtyards.



Typical office space.



Office window detail.



Entrance to large interior courtyard, accessed from conference room. Although many rooms overlook the two courtyards, there are only a few points of entry to the courtyards.



Large interior courtyard, view south.



Large interior courtyard, view east.



Large interior courtyard, view north.





Southeast corner of large interior courtyard, showing plantings.



Large interior courtyard, detail of soffit and wall.



Large interior courtyard, detail of soffit, windows, and fin wall.



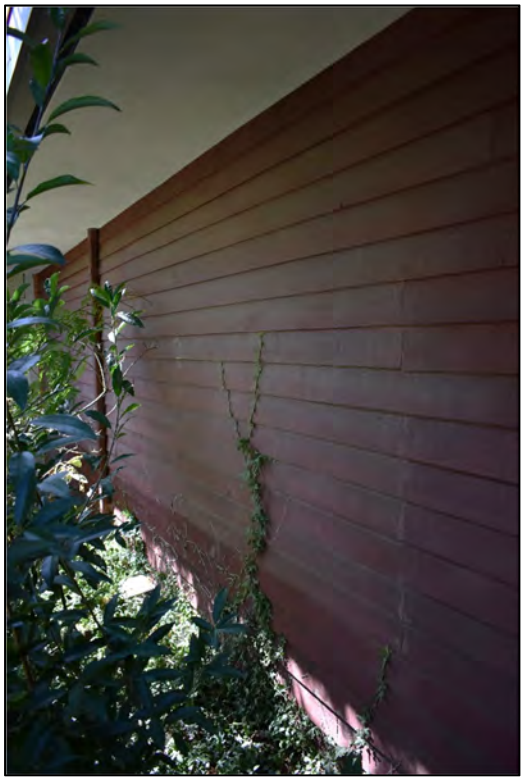
Large interior courtyard, detail of planters



Small interior courtyard, view west.



Small interior courtyard, view south.





Building details on small interior courtyard.



Other work by E. L. Mills - Medical Clinic (1957), 1215 S. 11th Street, Tacoma (Google Streetview)



Other work by E.L. Mills - Allenmore Medical Center (1965), 1901 S. Union, Tacoma (Tacoma Public Library)



Other work by E.L. Mills - Allenmore Medical Center (1965), 1901 S. Union, Tacoma (Tacoma Public Library)

The Allenmore Medical Center, also opened in 1965, was a medical-dental building with a 50-bed hospital. It was built on a 22-acre tract on what had been part of the old Allenmore golf course. The $2,000,000 center was designed by E.L. Mills & Associates and built by Norman Strom Construction.

MK 1/5 — 36 — BLDG #2 ✓ — ME-31 A 1/5 — 9130 — P

FOLIO 6167C

PERMIT NO. BN 23962 25204

DATE 12-30-65 5-19-66

ADDITION Tax Lots

Section NE 30 Twp 26 Range 4 EWM. Block ____ Lot or ____ Tax Lot 8 Tract ____

Address 1501-87 N 120 St

Exempt

REST HOME

Fee Owner Northwest Hospital — Architect E L MILLS — Contractor Absher Const

Zoning RM RD7200 — Condition of Exterior G/A — Interior G/A — Foundation G/A — Floor Plan: Good ____ Accept. ____ Poor ____

USE Rest Home

1	No. Stories
	No. Stores
71	No. Rooms
	Basement
5	No. Offices
	No. Apartmts.
	1 rm. ☐ 2 rm. ☐ 3 rm.
	4 rm. ☐ 5 rm. ☐ 6 rm.

Unit Sq. Ft.

TYPE OF CONSTRUCTION

✓	Frame
	Metal-Prefab
	Ordinary Masonry
	Mill Construction
	Class A Rein. Conc.
	Stru. Steel and Conc.
	Struct. Steel, Frame

or

QUALITY-TYPE

Good ✓ Med. Cheap

FOUNDATION

	Mud Sill ☐ Post Pier
✓	Conc. ☐ Brick
	Load Hgt. ☐ Piling

BASEMENT

	Full ✓✓ % Part.
	Sub-Basement
	Size 4949 ☐
	Garage ☐ No. Cars
	Floors
	Plastered ☐ Pl. Bd.
	No. Apartments
	Service Rooms

Rm Conc ✓

EXTERIOR WALL CONST.

	Single ☐ Double
✓	Stud Walls
J	Brick ____ Pil. ☐
	Conc. ____ Pil. ☐
	Rein. Conc. Skeleton
	Str. Stl.-Frame
	Pre-Fab Metal
	Tilt-Up
	____ Filler Wall
	____ Curtain Wall

EXTERIOR FACING

	Siding
	Stucco ____ Shakes
40% ✓	Marblecrete
60% ✓	Brick ☑ Veneer
	Conc. ☐ Conc. Blk.

FLOOR CONSTRUCTION

Joist ____ x ____ x ____ O.C.

	Mill 2" T&G Car Deck
✓	R-Conc. 28" Elev.
	Steel 7 x 17 3/8 GLB.

or kitchen + over Basement

ROOF COVERING

✓	Blt.-Up Tar.&Gr.
	Comp. ____ Metal

or

ROOF CONSTRUCTION

	Frame-Joist
✓	Mill-Deck T&G 3-Ply Hatten
	Rein. Conc. 5¼ x 16'4" GLB
	Steel Fr. ____ Metal Deck
	Trusses ____ Span
	Wood ____ Steel

FLOOR FINISHES

	Fir ☐	Maple ☐	
	Oak 4700# CARPET	2x6TG ☐	
	Lino ☐	3x6TG ☐	
	Cement ☐	Lgtwgt. Conc. ☐	
	Terrazzo		
	Asphalt Tile ☐	Vinyl Tile ☐	

or Terrazzo REM

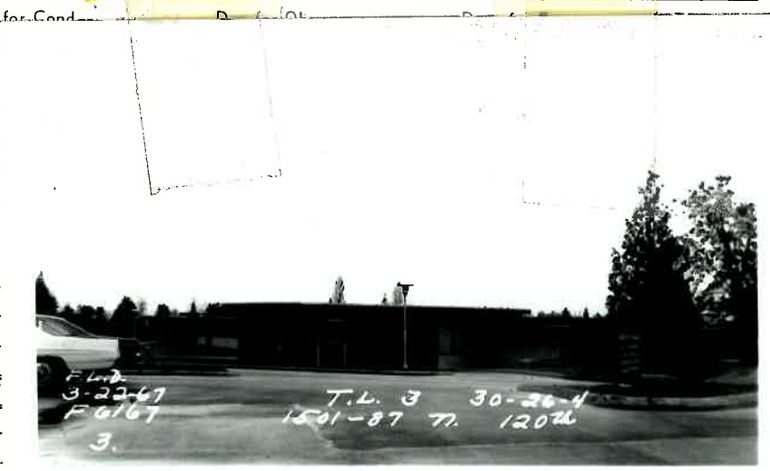
☐ Tile ☐ Lino ☐ Form.

	Bath Floor
	Bath Walls
	Tub Recess
	Drain Bds.
	Vanities
✓	Terrazzo

Date Built 1966 — Date Add. Built ____ — ☑ Finished ☐ Unfinished ☐ Remodeled

Effective Age 3 Years — Future Life ____ Years

Dep. for Cond. ____ — Dep. for ____



PLUMBING

103	No. Fixtures
36	Toilets ____ Urinals
8	Tubs Leg. or Pem.
35	Basins ____ Dr. Ftns.
6	Sinks
	Washers ____ Dryers
18	Showers (~~tub~~) (stall)
1	H.W. Tanks ____ Ldy. Trays
	D-Washers ____ Disposals
✓	Sprinkler Sys. Bomtron

HEATING

	Elec. ____ Oil ✓ Gas
✓	H.W. ____ St. ____ H.A.
	B.Bd. ____ Suspended
	FHA ____ Pipeless HW
	A. Cond. ____ Wall Unit
	Comb. Unit ____ Custom
	Refrig. ____ Convector
	Heat Pump ____ Fireplace

YEAR	ASSESSED VALUE
1968	129650 FLDG7
1971	303620

MISC. TANKS, Etc.

HOISTS: Elec. Hydr.

Elevator 3500 mate. Inter. Comm System ✓

ELEVATORS

✓	Pass. ____ Frght.
✓	Auto. ____ Elec.
	Man. ____ Hydr.
	Doors-Auto ____ Man.
	Escalators
2	Stops ____ Speed

Cap'y. 3500

DOCKS AND PIERS

	Hvy. ____ Med. ____ Lgt.
	Untrtd. Pile Tmbr.
	Conc. Piles & Bms.
	Trtd. Pile Tmbr.
	Paved
	Dolphins

Deck

WIRING

	Knob & Tube
	Flex. Cable
✓	Conduit
	Pwr. Wiring
	Range Wiring
	Outlets

INTERIOR WALLS & CEILING

Stud	Wood	Metal
Plaster	✓ DryWall	
✓ Acc. Tile	Celotex	
Ceiled	Plywood	
Solid	Block	
✓ Sound Proofed		Lamin.
✓ Finished	Unfinished	
Painted	Varnished	

INSULATION

✓ Exter.	✓ Partitions
✓ Roof	Floor

INTERIOR TRIM

Fir	✓ Birch
Mah.	Oak
✓ Metal	
Wood	Metal Doors
Wood	Metal Sash
Stained	Varnish
✓ Painted	Unfin.

SB	C.Hgt.
B	9'
1	8'
2	
3	
4	
5	
6	
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21	
22	
23	
24	
25	
26	

GROUND FLOOR AREA 29724 ✓ 1st fl

TOTAL FLOOR AREA 34,673 4949 BASE

~~24673 sq ft~~

416,076 cubic ft

See Sup'l Sheet

20M 11/63

MK 1/5 — 36 — BLDG #2 ✓ — ME-3 11 A 1/5 — 9130 — P

FOLIO 6167C
PERMIT NO. BN 23962 25204
DATE 1/

ADDITION Tax Lots
Section NE 30 Twp 26 Range 4 EWM. Block ____ Lot or ____
Tax Lot 8 Tract ____

Exempt

Fee Owner Northwest H
Zoning RM RD7200 Conditi

Absher Const
Accept. ____ Poor ____

USE Rest Home

1	No. Stories
	No. Stores
71	No. Rooms
	Basement
5	No. Offices
	No. Apartmts.
	1 rm. ☐ 2 rm. ☐ 3 rm.
	4 rm. ☐ 5 rm. ☐ 6 rm.

Unit Sq. Ft.

TYPE OF CONSTRUCTION

✓	Frame
	Metal-Prefab
	Ordinary Masonry
	Mill Construction
	Class A Rein. Conc.
	Stru. Steel and Conc.
	Struct. Steel, Frame

or

QUALITY-TYPE

Good ✓ Med. Cheap

FOUNDATION

	Mud Sill ☐ Post Pier
✓	Conc. ☐ Brick
	Load Hgt. ☐ Piling

BASEMENT

	Full ✓ ✓ % Part.
	Sub-Basement
	Size 4949#
	Garage ☐ No. Cars
	Floors
	Plastered ☐ Pl. Bd.
	No. Apartments
	Service Rooms
	Rec Conc ✓

EXTERIOR WALL CONST.

	Single ☐ Double
✓	Stud Walls
J	Brick ____ Pil. ☐
	Conc. ____ Pil. ☐
	Rein. Conc. Skeleton
	Str. Stl.-Frame
	Pre-Fab Metal
	Tilt-Up
	____ Filler Wall
	____ Curtain Wall

EXTERIOR FACING

	Siding
	Stucco ____ Shakes
40% ✓	Marblecrete
60% ✓	Brick ☑ Veneer
	Conc. ☐ Conc. Blk.

FLOOR CONSTRUCTION

Joist x ____ x ____ O.C.

	Mill 2" T+G Car Deck 3/8 Plywood
✓	R-Conc. ____ Elev.
	Steel 7 X 17 #/ft GLB.

or Kitchen + over Basement

ROOF COVERING

✓	Blt.-Up ____ Tar & Gr.
	Comp. ____ Metal

or

ROC

✓	

Date
Effe
Dep. for Cons. ____ Dep for Ob. ____ Dep. for Es. ____ Total ____

FAC

L	
I	
4	



MISC. TANKS, Etc.

HOISTS: Elec. Hydr.
Elevator 3500 moto.
Inter. Comm System

INTERIOR WALLS & CEILING

Stud	Wood	Metal
Plaster	✓ DryWall	
✓ Acc. Tile	Celotex	
Ceiled	Plywood	
Solid	Block	
✓ Sound Proofed		Lamin.
✓ Finished		Unfinished
Painted		Varnished

INSULATION

✓ Exter.	✓ Partitions
✓ Roof	____ Floor

INTERIOR TRIM

	Fir ✓ Birch
	Mah. ____ Oak
✓	Metal
	Wood ____ Metal Doors
	Wood ____ Metal Sash
	Stained ____ Varnish
✓	Painted ____ Unfin.

ELEVATORS

✓	Pass. ____ Frght.
✓	Auto. ____ Elec.
	Man. ____ Hydr.
Doors - Auto ____ Man.	
	Escalators
2	Stops ____ Speed
Cap'y. 3500	

DOCKS AND PIERS

	Hvy. ____ Med. ____ Lgt.
	Untrtd. Pile Tmbr.
	Conc. Piles & Bms.
	Trtd. Pile Tmbr.
	Paved
	Dolphins
Deck	

WIRING

	Knob & Tube
	Flex. Cable
✓	Conduit
	Pwr. Wiring
	Range Wiring
	Outlets

SB	C. Hgt.
B	9'
1	8'
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	

GROUND FLOOR AREA 29724 ✓ 1st fl
TOTAL FLOOR AREA 34,673 4949 BASE
~~34673#~~
416,076 cubic ft

See Sup'l Sheet

PLUMBING

103	No. Fixtures
36	Toilets ____ Urinals
8	Tubs Leg. or Pem.
35	Basins ____ Dr. Ftns.
6	Sinks
	Washers ____ Dryers
18	Showers (~~tub~~) (stall)
1	H.W. Tanks ____ Ldy. Trays
	D-Washers ____ Disposals
✓	Sprinkler Sys. Bsmt Fac.

HEATING

	Elec. ____ Oil ✓ Gas
✓	H.W. ____ St. ____ H.A.
	B.Bd. ____ Suspended
	FHA ____ Pipeless HW
	A. Cond. ____ Wall Unit
	Comb. Unit ____ Custom
	Refrig. ____ Convector
	Heat Pump ____ Fireplace

YEAR	ASSESSED VALUE
1968	129650 FLDG7
1971	303620

20M 11/63 33

MK 115 — 36 — BLDG #2 ✓ — ME-3 11 A 4 15 — 9130 P

FOLIO 6167C
PERMIT NO. BN 23962 25204
DATE 12

ADDITION Tax Lots
Section NE 30 Twp 26 Range 4 EWM. Block ____ Lot or ____
Tax Lot 8 Tract ____

Exempt

Fee Owner Northwest H
Zoning RM RD7200 Conditi

Absher Const
Accept. ____ Poor ____

USE Rest Home	ROC
1 No. Stories	
____ No. Stores	✓
71 No. Rooms	
____ Basement Unit Sq. Ft.	
5 No. Offices	
____ No. Apartmts.	
____ 1 rm. ☐ 2 rm. ☐ 3 rm.	
____ 4 rm. ☐ 5 rm. ☐ 6 rm.	

Date
Effe
Dep.

TYPE OF CONSTRUCTION
- ✓ Frame
- ____ Metal-Prefab
- ____ Ordinary Masonry
- ____ Mill Construction
- ____ Class A Rein. Conc.
- ____ Stru. Steel and Conc.
- ____ Struct. Steel, Frame

or

QUALITY-TYPE
Good ✓ Med. ____ Cheap

FOUNDATION
- ____ Mud Sill ☐ Post Pier
- ✓ Conc. ☐ Brick
- Load Hgt. ☐ Piling

BASEMENT
- Full ✓✓ % Part.
- Sub-Basement
- Size 4949 ☐
- Garage ☐ No. Cars
- Floors
- Plastered ☐ Pl. Bd.
- No. Apartments
- Service Rooms
- Rein Conc ✓

EXTERIOR WALL CONST.
- ____ Single ☐ Double
- ✓ Stud Walls
- ____ Brick ____ Pil. ☐
- ____ Conc. ____ Pil. ☐
- ____ Rein. Conc. Skeleton
- ____ Str. Stl.-Frame
- ____ Pre-Fab Metal
- ____ Tilt-Up
- ____ Filler Wall
- ____ Curtain Wall

EXTERIOR FACING
- ____ Siding
- ____ Stucco ____ Shakes
- 40% ✓ Marblecrete
- 60% ✓ Brick ✓ Veneer
- ____ Conc. ☐ Conc. Blk.

FLOOR CONSTRUCTION
Joist ____ x ____ O.C.
- ____ Mill 2" T&G-Car Deck
- ✓ R-Conc. 2" Plywood Elev.
- ____ Steel 7 x 17 78 GLB.

or Kitchen + over Basement

ROOF COVERING
- ✓ Blt.-Up ____ Tar.&Gr.
- ____ Comp. ____ Metal

or

FACTOR	ITEM	DIMENSIONS	SQ. FT. AREA	FACTOR	COST
13.75	Base. Nursing Home	191 X 217-	29,724	8.27	245,817
(27) .30	Rest (Bsmt- Heat	85 X 89- X	4,949	2.72	13,461
13.78	x60% =	X			
3.26	Bsmt Base.				
.10	Paint				
.33	Partitions				
.30	Elect				
.80	Heat				
74	Sprinklers				
4.53	x60% = 2.72				
		500 000	TOTAL		259,278
		50 000	LESS DEPRECIATION		
			DEPR. FULL VALUE		
			ASSESSED VAL.		129639

MISC. TANKS, Etc.
HOISTS: Elec. Hydr.
Elevator 3500 Manfg.
Intercom System

ELEVATORS
- ✓ Pass. ____ Frght.
- ✓ Auto. ____ Elec.
- ____ Man. ____ Hydr.
- Doors-Auto ____ Man.
- ____ Escalators
- 2 Stops ____ Speed
- Cap'y. 3500

DOCKS AND PIERS
- ____ Hvy. ____ Med. ____ Lgt.
- ____ Untrtd. Pile Tmbr.
- ____ Conc. Piles & Bms.
- ____ Trtd. Pile Tmbr.
- ____ Paved
- ____ Dolphins
- Deck

WIRING
- ____ Knob & Tube
- ____ Flex. Cable
- ✓ Conduit
- ____ Pwr. Wiring
- ____ Range Wiring
- ____ Outlets

INTERIOR WALLS & CEILING

Stud	Wood Metal
Plaster	✓ DryWall
✓ Acc. Tile	Celotex
Ceiled	Plywood
Solid	Block
✓ Sound Proofed	Lamin.
✓ Finished	Unfinished
Painted	Varnished

INSULATION
- ✓ Exter. ✓ Partitions
- ✓ Roof ____ Floor

INTERIOR TRIM

Fir	✓ Birch
Mah.	Oak
✓ Metal	
Wood ____	Metal Doors
Wood ____	Metal Sash
Stained ____	Varnish
✓ Painted ____	Unfin.

SB	C.Hgt.
B	9'
1	8'
2	
3	
4	
5	
6	
7	
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GROUND FLOOR AREA 29724 ✓ 1st fl
TOTAL FLOOR AREA 34673 4949 BASE
24673 ✓

416,076 cubic ft

See Sup'l Sheet

PLUMBING

103	No. Fixtures
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8	Tubs Leg. or Pem.
35	Basins ____ Dr. Ftns.
6	Sinks
____	Washers ____ Dryers
18	Showers (~~tub~~) (stall)
1	H.W. Tanks ____ Ldy. Trays
____	D-Washers ____ Disposals
✓	Sprinkler Sys. Bsmt Only

HEATING

____	Elec. ____ Oil ✓ Gas
✓	H.W. ____ St. ____ H.A.
____	B.Bd. ____ Suspended
____	FHA ____ Pipeless HW
____	A. Cond. ____ Wall Unit
____	Comb. Unit ____ Custom
____	Refrig. ____ Convector
____	Heat Pump ____ Fireplace

YEAR	ASSESSED VALUE
1968	129650 FLOOR
1971	303670

20M 11/63 33

FOLIO 6167C ADDITION MK 1/5 Tax Lots 37 12 & 15 9130 P

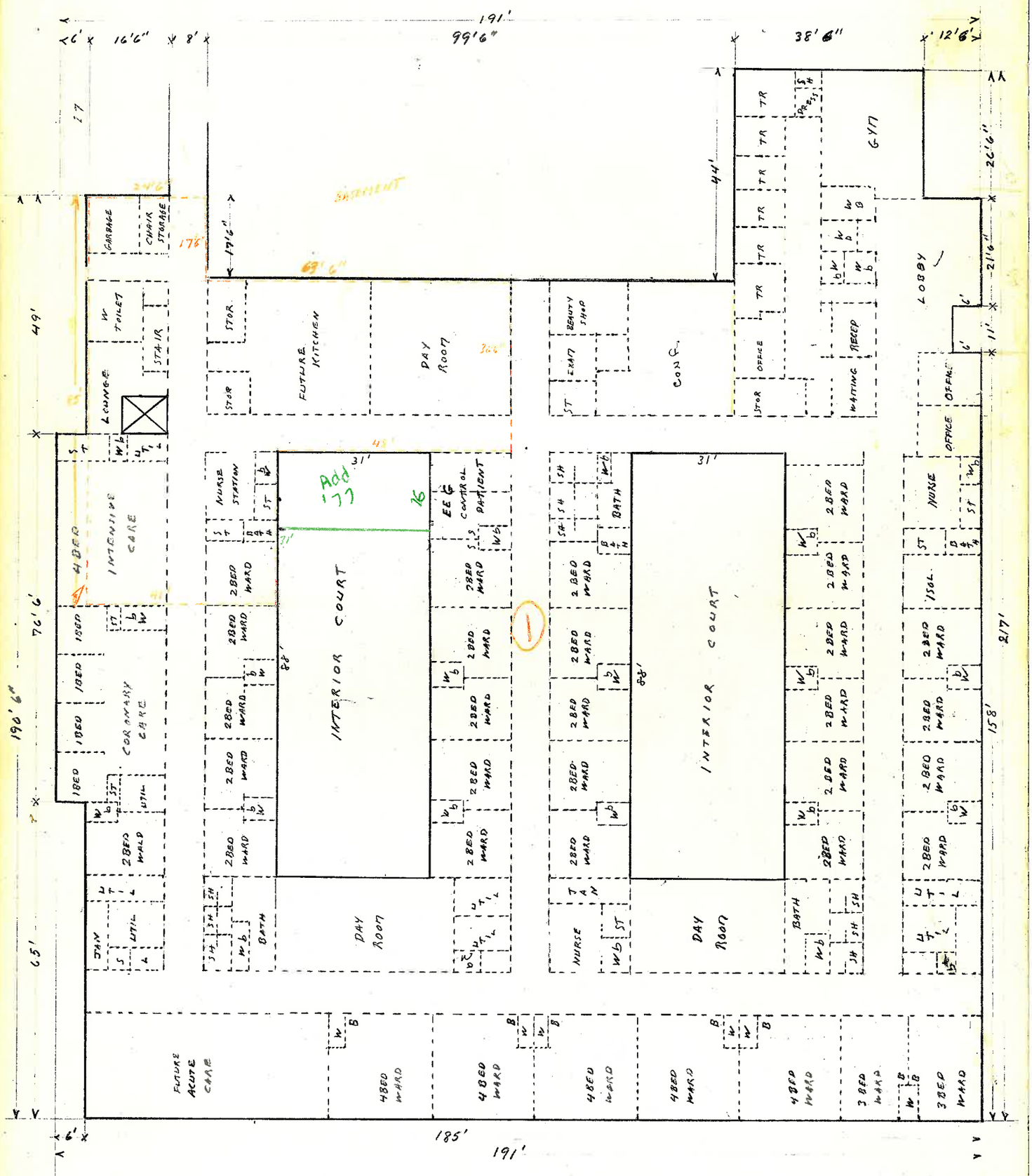
BN 23962 25204 Section NE 30 Twp. 26 Range 4 Ewm. Block Tax Lot Lot or Tract

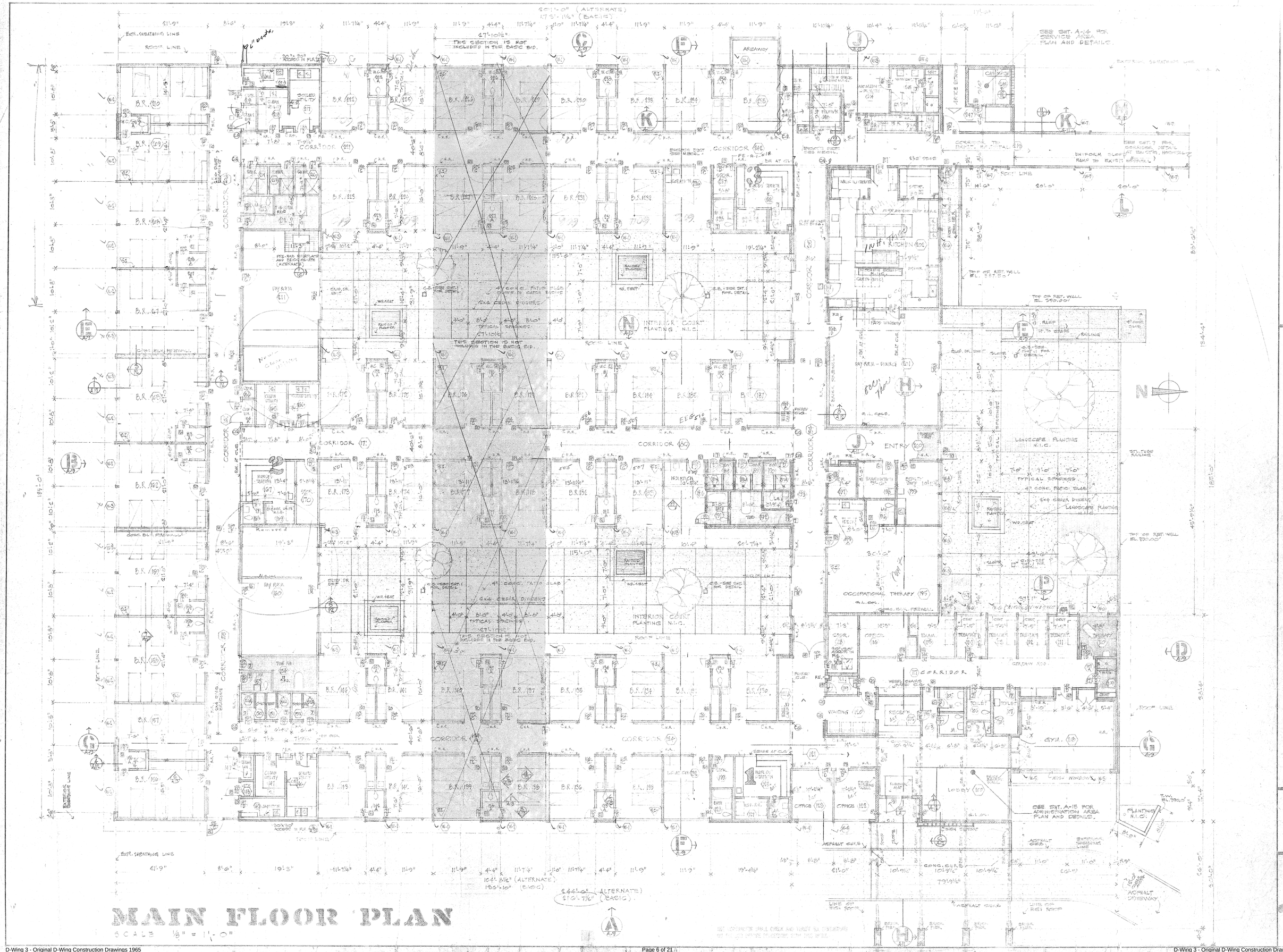
DATE 12-30-65 5-19-66

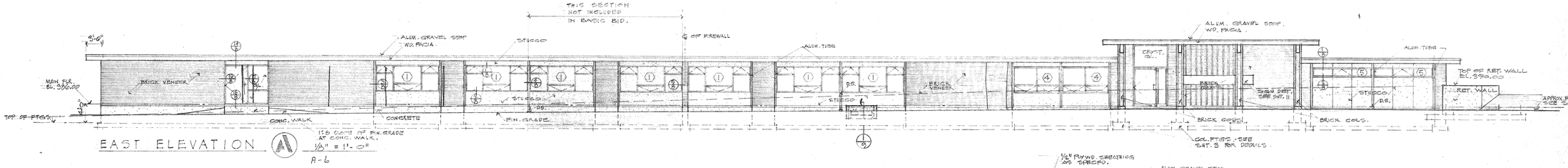
ADDRESS 1501 - 87 N 120 St

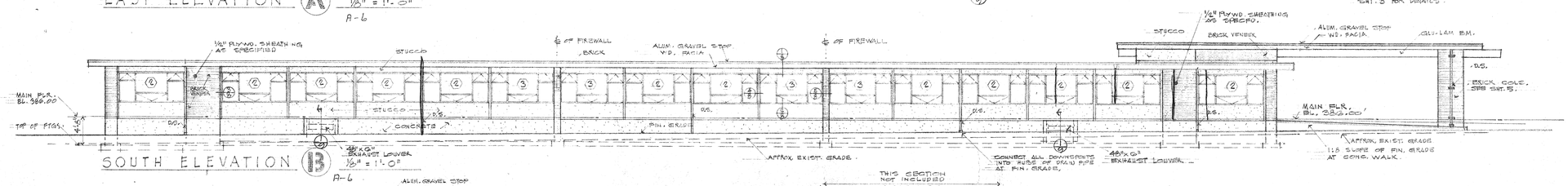
BLDG #2

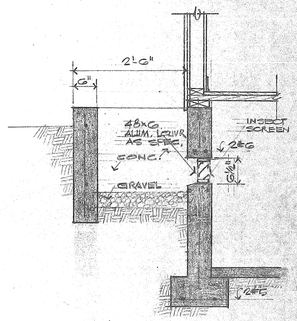
Fee Owner Northwest Hospital

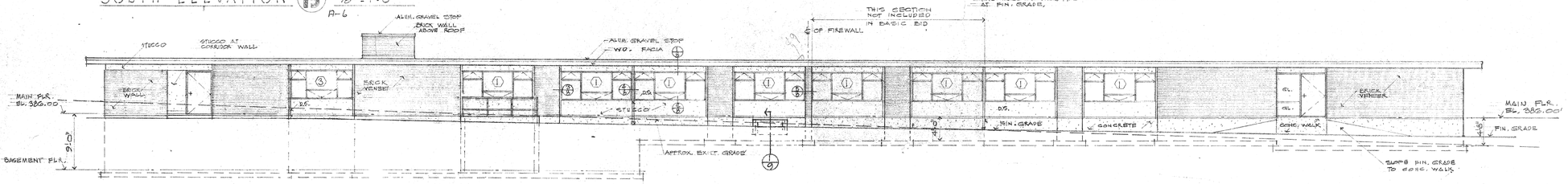


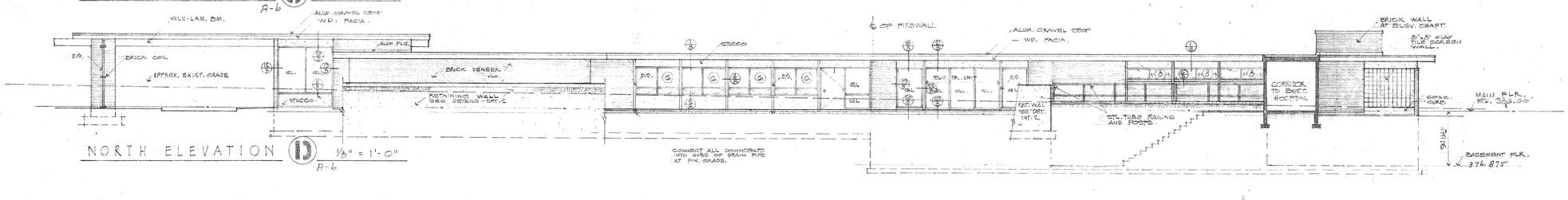

MAIN FLOOR PLAN
SCALE 1/8" = 1'-0"
e. L. MILLS AND ASSOCIATES • ARCHITECTS
309 SO. TACOMA AVE. • TACOMA 4, WASHINGTON • FU 3-542
NURSING & CONVALESCENT UNIT
NORTHWEST HOSPITAL • SEATTLE WASHINGTON
DATE MAY 1965
SHEET 6 OF 16
THIS SECTION IS NOT INCLUDED IN THE BASIC BID.
SEE SHT. A-14 FOR SERVICE AREA PLAN AND DETAILS.
SEE SHT. A-15 FOR ADMINISTRATION AREA PLAN AND DETAILS.
INTERIOR COURT PLANTING N.I.C.
OCCUPATIONAL THERAPY
LANDSCAPE PLANTING N.I.C.
ASPHALT DRIVEWAY

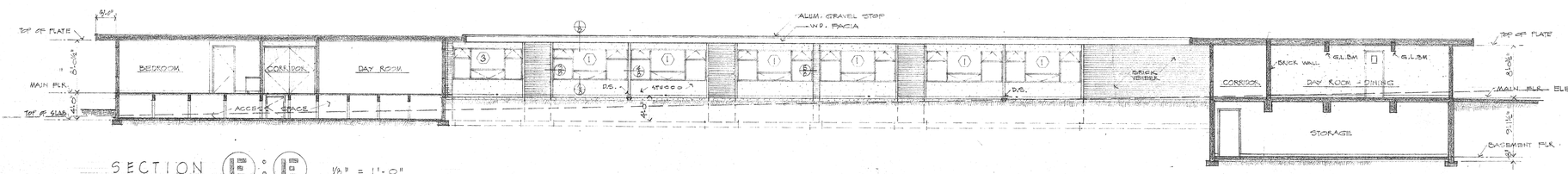


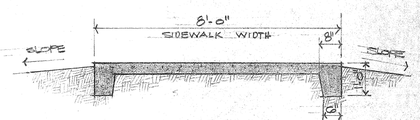


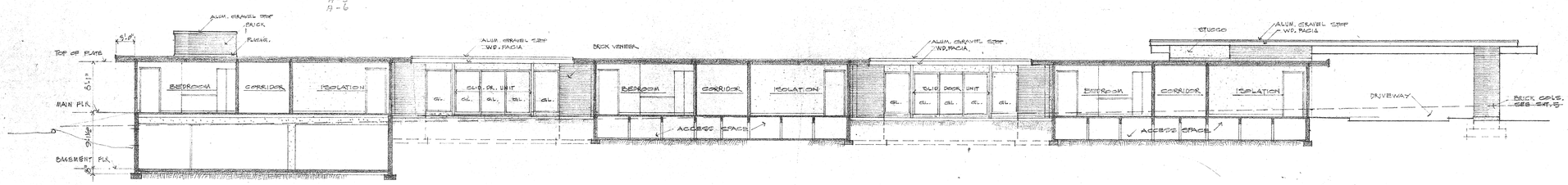


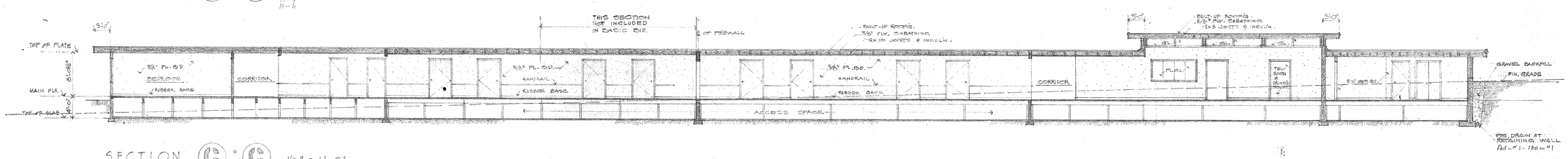












EXTERIOR ELEVATIONS

SCALE 1/8" = 1'-0"

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON THE JOB BEFORE PROCEEDING WITH THIS WORK.

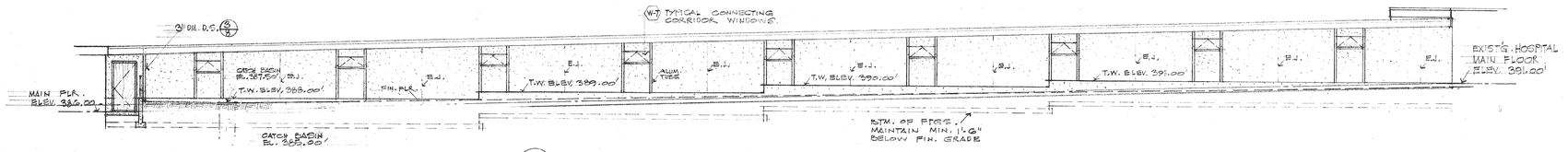
REGISTERED ARCHITECT E. L. MILLS STATE OF WASHINGTON

e.l. mills AND ASSOCIATES • ARCHITECTS 308 SO. TACOMA AVE. • TACOMA 3, WASHINGTON • FU 3-5421

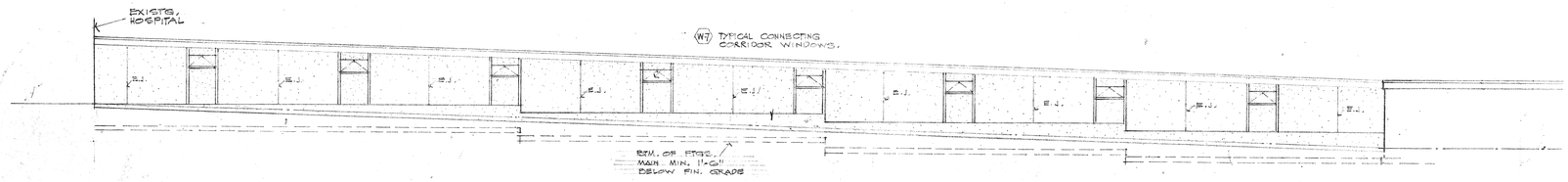
NURSING & CONVALESCENT UNIT NORTHWEST HOSPITAL - SEATTLE, WASHINGTON

DATE MAY 1965 JOB 6402

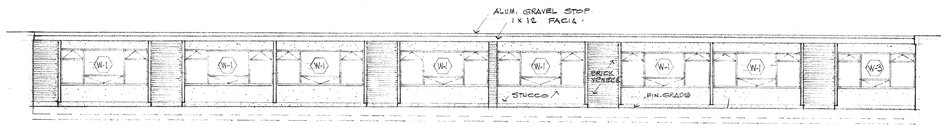
SHEET 4 OF 16



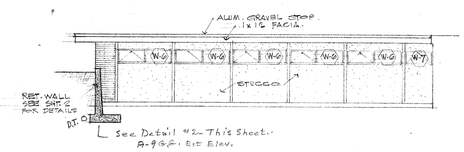
EAST ELEVATION (L) 1/8" = 1'-0"
S-A-6 (opposite H) Below



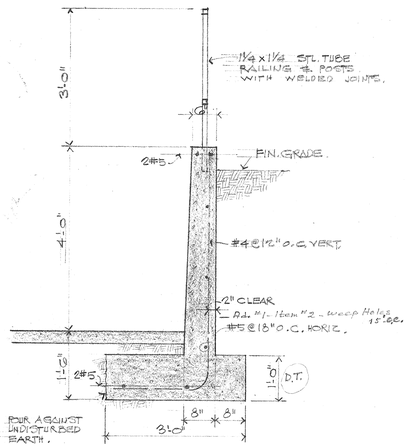
WEST ELEVATION (M) 1/8" = 1'-0"
S-A-6 (opposite L) Above



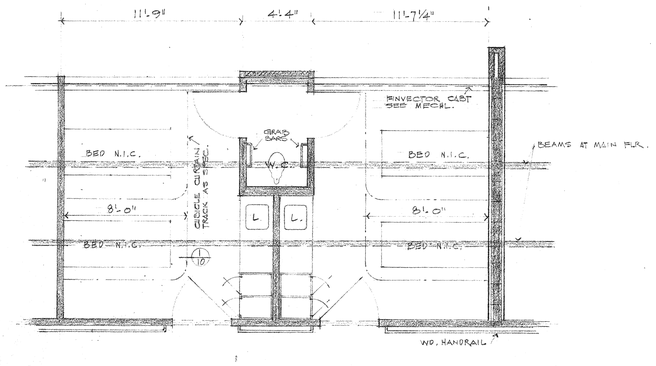
ELEVATION (N) TYPICAL INTERIOR COURT 1/8" = 1'-0"
A-6



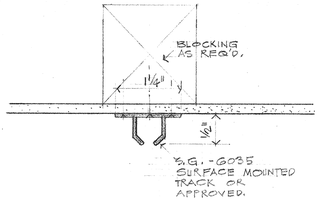
ELEVATION (P) 1/8" = 1'-0"
A-6



RETAINING WALL 2
Sh.- A-3 North End.

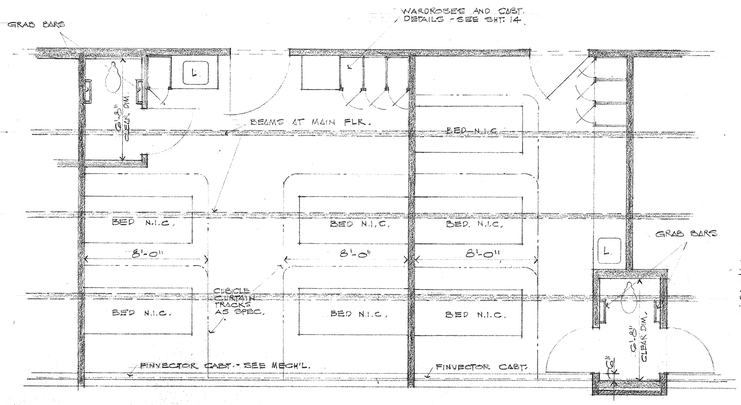


PLAN - TYPICAL 2 BEDROOM UNITS
SCALE 1/4" = 1'-0"

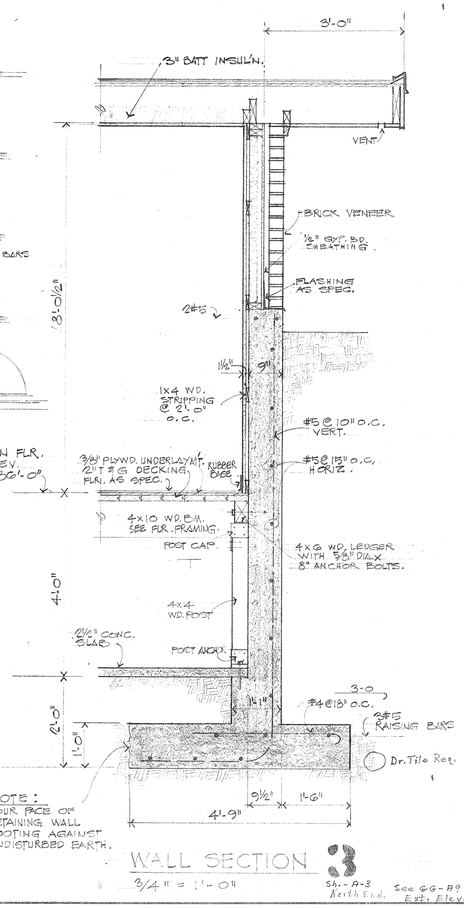


CUBICLE TRACK DET. 1
SCALE - F. S.

NOTE -
THE GENERAL CONTRACTOR SHALL INSTALL CABINET WORK, DOORS, CUBICLE TRACKS, AND OTHER ITEMS IN ONE TYPICAL 2 BDRM. UNIT, 3 BDRM. UNIT AND 4 BDRM. UNIT COMPLETE, AND VERIFY ALL ITEMS WITH THE OWNER BEFORE PROCEEDING WITH WORK IN THE TYPICAL BEDROOMS.



PLAN - TYPICAL 3 AND 4 BEDROOM UNITS
SCALE 1/4" = 1'-0"



NOTE:
POUR FACE OF RETAINING WALL FOOTING AGAINST UNDISTURBED EARTH.

WALL SECTION 3
3/4" = 1'-0"
Sh.- A-3 North End.
See GG-A9 Ext. Elev.

EXTERIOR ELEVATIONS & BDRM. UNIT PLANS

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON THE JOB BEFORE PROCEEDING WITH THIS WORK.

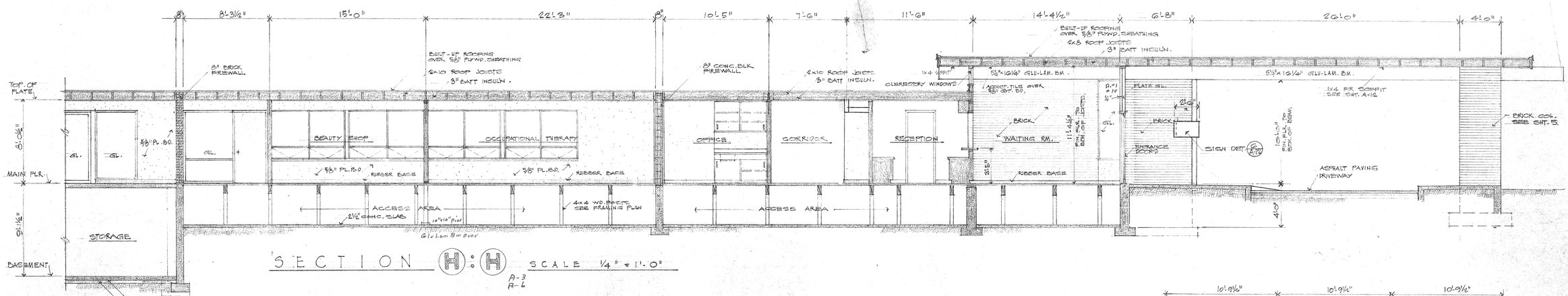
REGISTERED ARCHITECT E. L. MILLS

e. L. mills AND ASSOCIATES • ARCHITECTS
308 SO. TACOMA AVE. • TACOMA 3, WASHINGTON • FU 3-5421

NURSING & CONVALESCENT UNIT
NORTHWEST HOSPITAL • SEATTLE, WASHINGTON

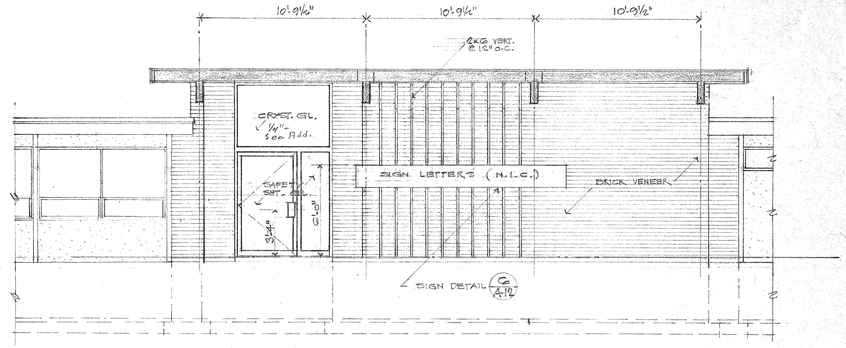
DATE MAY 1965
JOB G-402

SHEET 4 OF 19



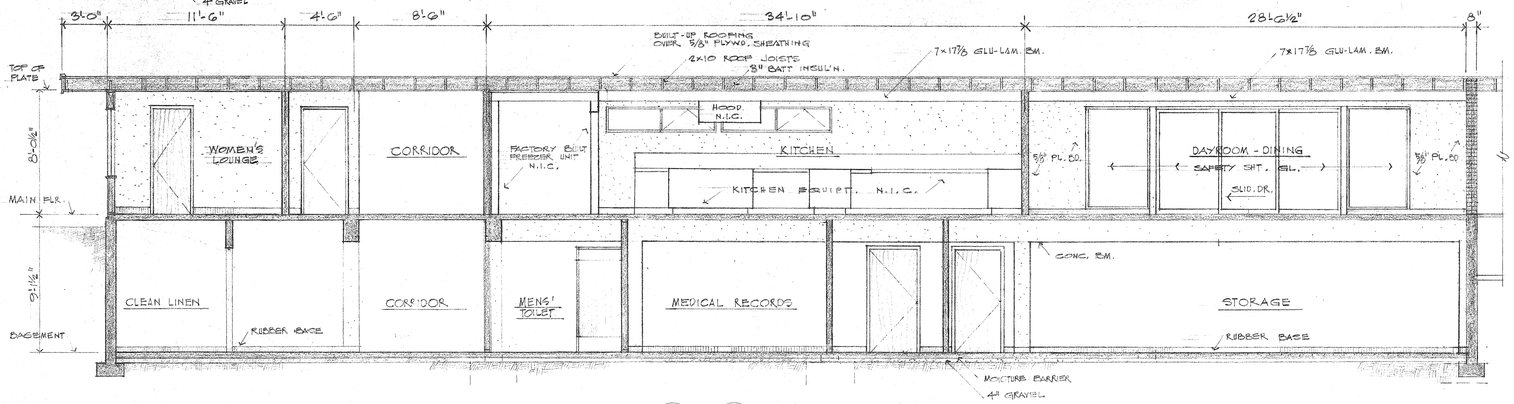
SECTION H:H SCALE 1/4" = 1'-0"

A-3
A-6



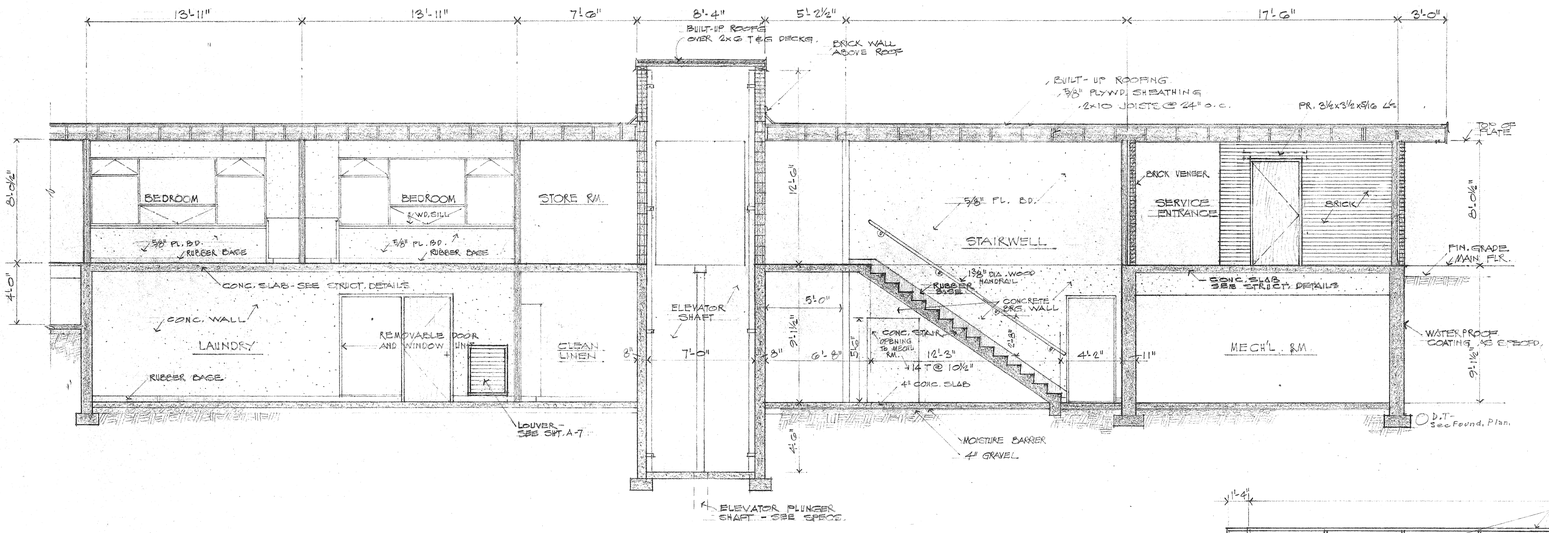
SECTION L:L SCALE 1/4" = 1'-0"

S-A-6



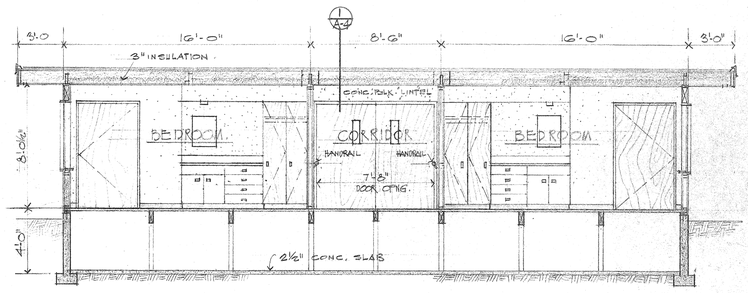
SECTION J:J SCALE 1/4" = 1'-0"

A-3
A-6

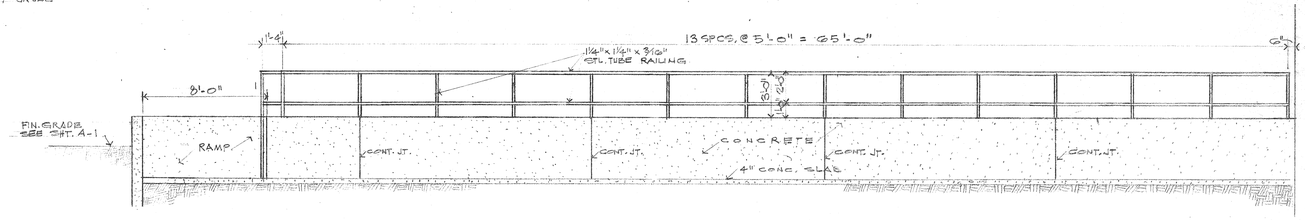


SECTION K:K SCALE 1/4" = 1'-0"

A-3
A-6



SECTION M:M SCALE 1/4" = 1'-0"



RETAINING WALL ELEV. (P)

SCALE 1/4" = 1'-0"

SECTIONS

THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON THE JOB BEFORE PROCEEDING WITH THIS WORK.

e. L. MILLS AND ASSOCIATES • ARCHITECTS
308 SO. TACOMA AVE. • TACOMA 2, WASHINGTON • FU 3-1421

NURSING & CONVALESCENT UNIT
NORTHWEST HOSPITAL • SEATTLE, WASHINGTON

DATE MAY 1965
JOB 6402
SHEET 11 OF 16

APPENDIX C

GHG Emissions Worksheet

City of Seattle Department of Planning and Development
SEPA GHG Emissions Worksheet
Version 1.7 12/26/07

Introduction

The Washington State Environmental Policy Act (SEPA) requires environmental review of development proposals that may have a significant adverse impact on the environment. If a proposed development is subject to SEPA, the project proponent is required to complete the SEPA Checklist. The Checklist includes questions relating to the development's air emissions. The emissions that have traditionally been considered cover smoke, dust, and industrial and automobile emissions. With our understanding of the climate change impacts of GHG emissions, the City of Seattle requires the applicant to also estimate these emissions.

Emissions created by Development

GHG emissions associated with development come from multiple sources:

- The extraction, processing, transportation, construction and disposal of materials and landscape disturbance (Embodied Emissions)
- Energy demands created by the development after it is completed (Energy Emissions)
- Transportation demands created by the development after it is completed (Transportation Emissions)

GHG Emissions Worksheet

This GHG Emissions Worksheet has been developed to assist applicants in answering the SEPA Checklist question relating to GHG emissions. The worksheet was originally developed by King County, but the City of Seattle and King County are working together on future updates to maintain consistency of methodologies across jurisdictions.

The SEPA GHG Emissions worksheet estimates all GHG emissions that will be created over the life span of a project. This includes emissions associated with obtaining construction materials, fuel used during construction, energy consumed during a buildings operation, and transportation by building occupants.

Using the Worksheet

1. Descriptions of the different residential and commercial building types can be found on the second tabbed worksheet ("Definition of Building Types"). If a development proposal consists of multiple projects, e.g. both single family and multi-family residential structures or a commercial development that consists of more than on type of commercial activity, the appropriate information should be estimated for each type of building or activity.

2. For paving, estimate the total amount of paving (in thousands of square feet) of the project.

3. The Worksheet will calculate the amount of GHG emissions associated with the project and display the amount in the "Total Emissions" column on the worksheet. The applicant should use this information when completing the SEPA checklist.

4. The last three worksheets in the Excel file provide the background information that is used to calculate the total GHG emissions.

5. The methodology of creating the estimates is transparent; if there is reason to believe that a better estimate can be obtained by changing specific values, this can and should be done. Changes to the values should be documented with an explanation of why and the sources relied upon.

6. Print out the “Total Emissions” worksheet and attach it to the SEPA checklist. If the applicant has made changes to the calculations or the values, the documentation supporting those changes should also be attached to the SEPA checklist.

University of Washington/UWMC - Northwest BHTF Project

Section I: Buildings

Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Emissions Per Unit or Per Thousand Square Feet (MTCO2e)			Lifespan Emissions (MTCO2e)
			Embodied	Energy	Transportation	
Single-Family Home	0		98	672	792	**0**
Multi-Family Unit in Large Building	0		33	357	766	**0**
Multi-Family Unit in Small Building	0		54	681	766	**0**
Mobile Home	0		41	475	709	**0**
Education		0.0	39	646	361	**0**
Food Sales		0.0	39	1,541	282	**0**
Food Service		0.0	39	1,994	561	**0**
Health Care Inpatient		210.0	39	1,938	582	**537306**
Health Care Outpatient		0.0	39	737	571	**0**
Lodging		0.0	39	777	117	**0**
Retail (Other Than Mall)		0.0	39	577	247	**0**
Office		0.0	39	723	588	**0**
Public Assembly		0.0	39	733	150	**0**
Public Order and Safety		0.0	39	899	374	**0**
Religious Worship		0.0	39	339	129	**0**
Service		0.0	39	599	266	**0**
Warehouse and Storage		0.0	39	352	181	**0**
Other		0.0	39	1,278	257	**0**
Vacant		0.0	39	162	47	**0**

Section II: Pavement

Pavement		0.00				**0**

Total Project Emissions: **537306**

Version 1.7 12/26/07

Definition of Building Types

Type (Residential) or Principal Activity (Commercial)	Description
Single-Family Home.....	Unless otherwise specified, this includes both attached and detached buildings
Multi-Family Unit in Large Building	Apartments in buildings with more than 5 units
Multi-Family Unit in Small Building	Apartments in building with 2-4 units
Mobile Home.....	
Education	Buildings used for academic or technical classroom instruction, such as elementary, middle, or high schools, and classroom buildings on college or university campuses. Buildings on education campuses for which the main use is not classroom are included in the category relating to their use. For example, administration buildings are part of "Office," dormitories are "Lodging," and libraries are "Public Assembly."
Food Sales	Buildings used for retail or wholesale of food.
Food Service	Buildings used for preparation and sale of food and beverages for consumption.
Health Care Inpatient	Buildings used as diagnostic and treatment facilities for inpatient care.
Health Care Outpatient	Buildings used as diagnostic and treatment facilities for outpatient care. Doctor's or dentist's office are included here if they use any type of diagnostic medical equipment (if they do not, they are categorized as an office building).
Lodging	Buildings used to offer multiple accommodations for short-term or long-term residents, including skilled nursing and other residential care buildings.
Retail (Other Than Mall).....	Buildings used for the sale and display of goods other than food.
Office	Buildings used for general office space, professional office, or administrative offices. Doctor's or dentist's office are included here if they do not use any type of diagnostic medical equipment (if they do, they are categorized as an outpatient health care building).
Public Assembly	Buildings in which people gather for social or recreational activities, whether in private or non-private meeting halls.
Public Order and Safety	Buildings used for the preservation of law and order or public safety.
Religious Worship	Buildings in which people gather for religious activities, (such as chapels, churches, mosques, synagogues, and temples).
Service	Buildings in which some type of service is provided, other than food service or retail sales of goods
Warehouse and Storage	Buildings used to store goods, manufactured products, merchandise, raw materials, or personal belongings (such as self-storage).
Other	Buildings that are industrial or agricultural with some retail space; buildings having several different commercial activities that, together, comprise 50 percent or more of the floorspace, but whose largest single activity is agricultural, industrial/ manufacturing, or residential; and all other miscellaneous buildings that do not fit into any other category.
Vacant	Buildings in which more floorspace was vacant than was used for any single commercial activity at the time of interview. Therefore, a vacant building may have some occupied floorspace.

Sources: .....

Residential 2001 Residential Energy Consumption Survey
Square footage measurements and comparisons
http://www.eia.doe.gov/emeu/recs/sqft-measure.html

Commercial Commercial Buildings Energy Consumption Survey (CBECS),
Description of CBECS Building Types
http://www.eia.doe.gov/emeu/cbecs/pba99/bldgtypes.html

Embodied Emissions Worksheet

Section I: Buildings

Type (Residential) or Principal Activity (Commercial)	# thousand sq feet/ unit or building	Life span related embodied GHG missions (MTCO2e/ unit)	Life span related embodied GHG missions (MTCO2e/ thousand square feet) - See calculations in table below
Single-Family Home	2.53	98	39
Multi-Family Unit in Large Building	0.85	33	39
Multi-Family Unit in Small Building	1.39	54	39
Mobile Home	1.06	41	39
Education	25.6	991	39
Food Sales	5.6	217	39
Food Service	5.6	217	39
Health Care Inpatient	241.4	9,346	39
Health Care Outpatient	10.4	403	39
Lodging	35.8	1,386	39
Retail (Other Than Mall)	9.7	376	39
Office	14.8	573	39
Public Assembly	14.2	550	39
Public Order and Safety	15.5	600	39
Religious Worship	10.1	391	39
Service	6.5	252	39
Warehouse and Storage	16.9	654	39
Other	21.9	848	39
Vacant	14.1	546	39

Section II: Pavement

All Types of Pavement			50

	Columns and Beams	Intermediate Floors	Exterior Walls	Windows	Interior Walls	Roofs		
Average GWP (lbs CO2e/sq ft): Vancouver, Low Rise Building	5.3	7.8	19.1	51.2	5.7	21.3		
Average Materials in a 2,272-square foot single family home	0.0	2269.0	3206.0	285.0	6050.0	3103.0	Total Embodied Emissions (MTCO2e)	Total Embodied Emissions (MTCO2e/ thousand sq feet)
MTCO2e	0.0	8.0	27.8	6.6	15.6	30.0	88.0	38.7

Sources

All data in black text — King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

Residential floorspace per unit
2001 Residential Energy Consumption Survey (National Average, 2001)
Square footage measurements and comparisons
http://www.eia.doe.gov/emeu/recs/sqft-measure.html

Floorspace per building
EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)
Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003
http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

Average GWP (lbs CO2e/sq ft): Vancouver, Low Rise Building
Athena EcoCalculator
Athena Assembly Evaluation Tool v2.3- Vancouver Low Rise Building
Assembly Average GWP (kg) per square meter
http://www.athenasmi.ca/tools/ecoCalculator/index.html
Lbs per kg 2.20
Square feet per square meter 10.76

Average Materials in a 2,272-square foot single family home
Buildings Energy Data Book: 7.3 Typical/Average Household
Materials Used in the Construction of a 2,272-Square-Foot Single-Family Home, 2000
http://buildingsdatabook.eren.doe.gov/?id=view_book_table&TableID=2036&t=xls
See also: NAHB, 2004 Housing Facts, Figures and Trends, Feb. 2004, p. 7.

Average window size
Energy Information Administration/Housing Characteristics 1993
Appendix B, Quality of the Data. Pg. 5.
ftp://ftp.eia.doe.gov/pub/consumption/residential/rx93hcf.pdf

Pavement Emissions Factors
MTCO2e/thousand square feet of asphalt
or concrete pavement

50 (see below)

Embodied GHG Emissions……Worksheet Background Information

Buildings
Embodied GHG emissions are emissions that are created through the extraction, processing, transportation, construction and disposal of building materials as well as emissions created through landscape disturbance (by both soil disturbance and changes in above ground biomass).

Estimating embodied GHG emissions is new field of analysis; the estimates are rapidly improving and becoming more inclusive of all elements of construction and development.

The estimate included in this worksheet is calculated using average values for the main construction materials that are used to create a typical family home. In 2004, the National Association of Home Builders calculated the average materials that are used in a typical 2,272 square foot single-family household. The quantity of materials used is then multiplied by the average GHG emissions associated with the life-cycle GHG emissions for each material.

This estimate is a rough and conservative estimate; the actual embodied emissions for a project are likely to be higher. For example, at this stage, due to a lack of comprehensive data, the estimate does not include important factors such as landscape disturbance or the emissions associated with the interior components of a building (such as furniture).

King County realizes that the calculations for embodied emissions in this worksheet are rough. For example, the emissions associated with building 1,000 square feet of a residential building will not be the same as 1,000 square feet of a commercial building. However, discussions with the construction community indicate that while there are significant differences between the different types of structures, this method of estimation is reasonable; it will be improved as more data become available.

Additionally, if more specific information about the project is known, King County recommends two online embodied emissions calculators that can be used to obtain a more tailored estimate for embodied emissions: www.buildcarbonneutral.org and www.athenasmi.ca/tools/ecoCalculator/.

Pavement
Four recent life cycle assessments of the environmental impacts of roads form the basis for the per unit embodied emissions of pavement. Each study is constructed in slightly different ways; however, the aggregate results of the reports represent a reasonable estimate of the GHG emissions that are created from the manufacture of paving materials, construction related emissions, and maintenance of the pavement over its expected life cycle. For specifics, see the worksheet.

Special Section: Estimating the Embodied Emissions for Pavement

Four recent life cycle assessments of the environmental impacts of roads form the basis for the per unit embodied emissions of pavement. Each study is constructed in slightly different ways; however, the aggregate results of the reports represent a reasonable estimate of the GHG emissions that are created from the manufacture of paving materials, construction related emissions, and maintenance of the pavement over its expected life cycle.

The results of the studies are presented in different units and measures; considerable effort was undertaken to be able to compare the results of the studies in a reasonable way. For more details about the below methodology, contact matt.kuharic@kingcounty.gov.

The four studies, Meil (2001), Park (2003), Stripple (2001) and Treolar (2001) produced total GHG emissions of 4-34 MTCO2e per thousand square feet of finished paving (for similar asphalt and concrete based pavements). This estimate does not including downstream maintenance and repair of the highway. The average (for all concrete and asphalt pavements in the studies, assuming each study gets one data point) is ~17 MTCO2e/thousand square feet.

Three of the studies attempted to thoroughly account for the emissions associated with long term maintenance (40 years) of the roads. Stripple (2001), Park et al. (2003) and Treolar (2001) report 17, 81, and 68 MTCO2e/thousand square feet, respectively, after accounting for maintenance of the roads.

Based on the above discussion, King County makes the conservative estimate that 50 MTCO2e/thousand square feet of pavement (over the development's life cycle) will be used as the embodied emission factor for pavement until better estimates can be obtained. This is roughly equivalent to 3,500 MTCO2e per lane mile of road (assuming the lane is 13 feet wide).

It is important to note that these studies estimate the embodied emissions for roads. Paving that does not need to stand up to the rigors of heavy use (such as parking lots or driveways) would likely use less materials and hence have lower embodied emissions.

Sources:

Meil, J. A Life Cycle Perspective on Concrete and Asphalt Roadways: Embodied Primary Energy and Global Warming Potential. 2006. Available: http://www.cement.ca/cement.nsf/eee9ec7bbd630126852566c40052107b/6ec79dc8ae03a782852572b90061b914/$FILE/ATTK0WE3/athena%20report%20Feb.%202%202007.pdf

Park, K, Hwang, Y., Seo, S., M.ASCE, and Seo, H. , "Quantitative Assessment of Environmental Impacts on Life Cycle of Highways," Journal of Construction Engineering and Management , Vol 129, January/February 2003, pp 25-31, (DOI: 10.1061/(ASCE)0733-9364(2003)129:1(25)).

Stripple, H. Life Cycle Assessment of Road. A Pilot Study for Inventory Analysis. Second Revised Edition. IVL Swedish Environmental Research Institute Ltd. 2001. Available: http://www.ivl.se/rapporter/pdf/B1210E.pdf

Treloar, G., Love, P.E.D., and Crawford, R.H. Hybrid Life-Cycle Inventory for Road Construction and Use. Journal of Construction Engineering and Management. P. 43-49. January/February 2004.

Energy Emissions Worksheet

Type (Residential) or Principal Activity (Commercial)	Energy consumption per building per year (million Btu)	Carbon Coefficient for Buildings	MTCO2e per building per year	Floorspace per Building (thousand square feet)	MTCE per thousand square feet per year	MTCO2e per thousand square feet per year	Average Building Life Span	Lifespan Energy Related MTCO2e emissions per unit	Lifespan Energy Related MTCO2e emissions per thousand square feet
Single-Family Home	107.3	0.108	11.61	2.53	4.6	16.8	57.9	672	266
Multi-Family Unit in Large Building	41.0	0.108	4.44	0.85	5.2	19.2	80.5	357	422
Multi-Family Unit in Small Building	78.1	0.108	8.45	1.39	6.1	22.2	80.5	681	489
Mobile Home	75.9	0.108	8.21	1.06	7.7	28.4	57.9	475	448
Education	2,125.0	0.124	264.2	25.6	10.3	37.8	62.5	16,526	646
Food Sales	1,110.0	0.124	138.0	5.6	24.6	90.4	62.5	8,632	1,541
Food Service	1,436.0	0.124	178.5	5.6	31.9	116.9	62.5	11,168	1,994
Health Care Inpatient	60,152.0	0.124	7,479.1	241.4	31.0	113.6	62.5	467,794	1,938
Health Care Outpatient	985.0	0.124	122.5	10.4	11.8	43.2	62.5	7,660	737
Lodging	3,578.0	0.124	444.9	35.8	12.4	45.6	62.5	27,826	777
Retail (Other Than Mall)	720.0	0.124	89.5	9.7	9.2	33.8	62.5	5,599	577
Office	1,376.0	0.124	171.1	14.8	11.6	42.4	62.5	10,701	723
Public Assembly	1,338.0	0.124	166.4	14.2	11.7	43.0	62.5	10,405	733
Public Order and Safety	1,791.0	0.124	222.7	15.5	14.4	52.7	62.5	13,928	899
Religious Worship	440.0	0.124	54.7	10.1	5.4	19.9	62.5	3,422	339
Service	501.0	0.124	62.3	6.5	9.6	35.1	62.5	3,896	599
Warehouse and Storage	764.0	0.124	95.0	16.9	5.6	20.6	62.5	5,942	352
Other	3,600.0	0.124	447.6	21.9	20.4	74.9	62.5	27,997	1,278
Vacant	294.0	0.124	36.6	14.1	2.6	9.5	62.5	2,286	162

Sources

All data in black text — King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

Energy consumption for residential buildings
- 2007 Buildings Energy Data Book: 6.1 Quad Definitions and Comparisons (National Average, 2001)
- Table 6.1.4: Average Annual Carbon Dioxide Emissions for Various Functions
- http://buildingsdatabook.eren.doe.gov/
- Data also at: http://www.eia.doe.gov/emeu/recs/recs2001_ce/ce1-4c_housingunits2001.html

Energy consumption for commercial buildings and Floorspace per building
- EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)
- Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003
- http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

Note: Data in plum color is found in both of the above sources (buildings energy data book and commercial buildings energy consumption survey).

Carbon Coefficient for Buildings
- Buildings Energy Data Book (National average, 2005)
- Table 3.1.7. 2005 Carbon Dioxide Emission Coefficients for Buildings (MMTCE per Quadrillion Btu)
- http://buildingsdatabook.eere.energy.gov/?id=view_book_table&TableID=2057
- Note: Carbon coefficient in the Energy Data book is in MTCE per Quadrillion Btu.
- To convert to MTCO2e per million Btu, this factor was divided by 1000 and multiplied by 44/12.

Residential floorspace per unit
- 2001 Residential Energy Consumption Survey (National Average, 2001)
- Square footage measurements and comparisons
- http://www.eia.doe.gov/emeu/recs/sqft-measure.html

average lief span of buildings,
estimated by replacement time method

	Single Family Homes	Multi-Family Units in Large and Small Buildings	All Residential Buildings	
New Housing Construction, 2001	1,273,000	329,000	1,602,000	
Existing Housing Stock, 2001	73,700,000	26,500,000	100,200,000	
Replacement time:	57.9	80.5	62.5	(national average, 2001)

Note: Single family homes calculation is used for mobile homes as a best estimate life span.
Note: At this time, KC staff could find no reliable data for the average life span of commercial buildings.
Therefore, the average life span of residential buildings is being used until a better approximation can be ascertained.

Sources:

New Housing Construction, 2001
Quarterly Starts and Completions by Purpose and Design - US and Regions (Excel)
http://www.census.gov/const/quarterly_starts_completions_cust.xls
See also: http://www.census.gov/const/www/newresconstindex.html

Existing Housing Stock, 2001
Residential Energy Consumption Survey (RECS) 2001
Tables HC1:Housing Unit Characteristics, Million U.S. Households 2001
Table HC1-4a. Housing Unit Characteristics by Type of Housing Unit, Million U.S. Households, 2001
Million U.S. Households, 2001
http://www.eia.doe.gov/emeu/recs/recs2001/hc_pdf/housunits/hc1-4a_housingunits2001.pdf

Transportation Emissions Worksheet

Type (Residential) or Principal Activity (Commercial)	# people/ unit or building	# thousand sq feet/ unit or building	# people or employees/ thousand square feet	vehicle related GHG emissions (metric tonnes CO2e per person per year)	MTCO2e/ year/ unit	MTCO2e/ year/ thousand square feet	Average Building Life Span	Life span transportation related GHG emissions (MTCO2e/ per unit)	Life span transportation related GHG emissions (MTCO2e/ thousand sq feet)
Single-Family Home	2.8	2.53	1.1	4.9	13.7	5.4	57.9	792	313
Multi-Family Unit in Large Building	1.9	0.85	2.3	4.9	9.5	11.2	80.5	766	904
Multi-Family Unit in Small Building	1.9	1.39	1.4	4.9	9.5	6.8	80.5	766	550
Mobile Home	2.5	1.06	2.3	4.9	12.2	11.5	57.9	709	668
Education	30.0	25.6	1.2	4.9	147.8	5.8	62.5	9247	361
Food Sales	5.1	5.6	0.9	4.9	25.2	4.5	62.5	1579	282
Food Service	10.2	5.6	1.8	4.9	50.2	9.0	62.5	3141	561
Health Care Inpatient	455.5	241.4	1.9	4.9	2246.4	9.3	62.5	140506	582
Health Care Outpatient	19.3	10.4	1.9	4.9	95.0	9.1	62.5	5941	571
Lodging	13.6	35.8	0.4	4.9	67.1	1.9	62.5	4194	117
Retail (Other Than Mall)	7.8	9.7	0.8	4.9	38.3	3.9	62.5	2394	247
Office	28.2	14.8	1.9	4.9	139.0	9.4	62.5	8696	588
Public Assembly	6.9	14.2	0.5	4.9	34.2	2.4	62.5	2137	150
Public Order and Safety	18.8	15.5	1.2	4.9	92.7	6.0	62.5	5796	374
Religious Worship	4.2	10.1	0.4	4.9	20.8	2.1	62.5	1298	129
Service	5.6	6.5	0.9	4.9	27.6	4.3	62.5	1729	266
Warehouse and Storage	9.9	16.9	0.6	4.9	49.0	2.9	62.5	3067	181
Other	18.3	21.9	0.8	4.9	90.0	4.1	62.5	5630	257
Vacant	2.1	14.1	0.2	4.9	10.5	0.7	62.5	657	47

Sources

All data in black text — King County, DNRP. Contact: Matt Kuharic, matt.kuharic@kingcounty.gov

people/ unit

Estimating Household Size for Use in Population Estimates (WA state, 2000 average)
Washington State Office of Financial Management
Kimpel, T. and Lowe, T. Research Brief No. 47. August 2007
http://www.ofm.wa.gov/researchbriefs/brief047.pdf
Note: This analysis combines Multi Unit Structures in both large and small units into one category; the average is used in this case although there is likely a difference

Residential floorspace per unit

2001 Residential Energy Consumption Survey (National Average, 2001)
Square footage measurements and comparisons
http://www.eia.doe.gov/emeu/recs/sqft-measure.html

employees/thousand square feet

Commercial Buildings Energy Consumption Survey commercial energy uses and costs (National Median, 2003)
Table B2 Totals and Medians of Floorspace, Number of Workers, and Hours of Operation for Non-Mall Buildings, 2003
http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set1/2003excel/b2.xls

Note: Data for # employees/thousand square feet is presented by CBECS as square feet/employee.
In this analysis employees/thousand square feet is calculated by taking the inverse of the CBECS number and multiplying by 1000.

vehicle related GHG emissions

Estimate calculated as follows (Washington state, 2006)_

56,531,930,000	2006 Annual WA State Vehicle Miles Traveled Data was daily VMT. Annual VMT was 365*daily VMT. http://www.wsdot.wa.gov/mapsdata/tdo/annualmileage.htm
6,395,798	2006 WA state population http://quickfacts.census.gov/qfd/states/53000.html
8839	vehicle miles per person per year
0.0506	gallon gasoline/mile This is the weighted national average fuel efficiency for all cars and 2 axle, 4 wheel light trucks in 2005. This includes pickup trucks, vans and SUVs. The 0.051 gallons/mile used here is the inverse of the more commonly known term “miles/per gallon” (which is 19.75 for these cars and light trucks). Transportation Energy Data Book. 26th Edition. 2006. Chapter 4: Light Vehicles and Characteristics. Calculations based on weighted average MPG efficiency of cars and light trucks. http://cta.ornl.gov/data/tedb26/Edition26_Chapter04.pdf Note: This report states that in 2005, 92.3% of all highway VMT were driven by the above described vehicles. http://cta.ornl.gov/data/tedb26/Spreadsheets/Table3_04.xls
24.3	lbs CO2e/gallon gasoline The CO2 emissions estimates for gasoline and diesel include the extraction, transport, and refinement of petroleum as well as their combustion. Life-Cycle CO2 Emissions for Various New Vehicles. RENew Northfield. Available: http://renewnorthfield.org/wpcontent/uploads/2006/04/CO2%20emissions.pdf Note: This is a conservative estimate of emissions by fuel consumption because diesel fuel,
2205	with a emissions factor of 26.55 lbs CO2e/gallon was not estimated.
4.93	lbs/metric tonne
	vehicle related GHG emissions (metric tonnes CO2e per person per year)

average lief span of buildings, estimated by replacement time method — See Energy Emissions Worksheet for Calculations

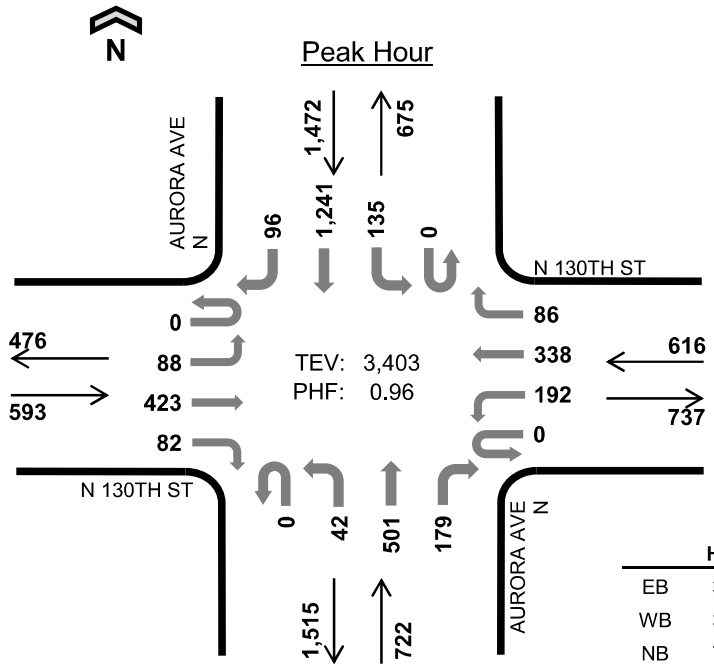
Commercial floorspace per unit — EIA, 2003 Commercial Buildings Energy Consumption Survey (National Average, 2003)
Table C3. Consumption and Gross Energy Intensity for Sum of Major Fuels for Non-Mall Buildings, 2003
http://www.eia.doe.gov/emeu/cbecs/cbecs2003/detailed_tables_2003/2003set9/2003excel/c3.xls

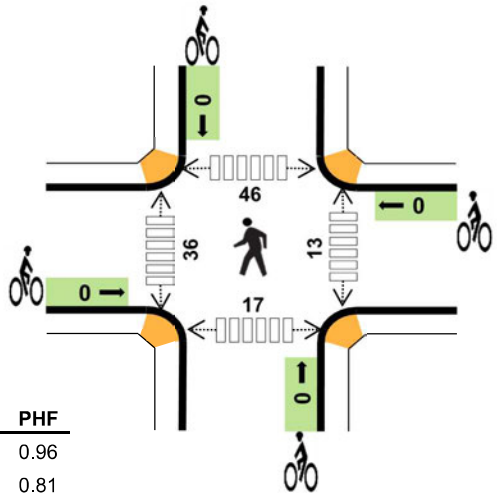
APPENDIX D

Transportation Impact Analysis

AURORA AVE N
N 130TH ST

Date: Tue, Sep 24, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV %:	PHF
EB	3.7%	0.96
WB	3.6%	0.81
NB	7.3%	0.87
SB	3.3%	0.97
TOTAL	4.3%	0.96

Two-Hour Count Summaries

Interval Start	N 130TH ST Eastbound				N 130TH ST Westbound				AURORA AVE N Northbound				AURORA AVE N Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	7	95	11	0	26	39	12	0	2	74	15	0	40	334	8	663	0
7:15 AM	0	13	102	13	0	25	53	17	1	9	71	14	0	41	355	12	726	0
7:30 AM	0	17	127	24	0	30	62	23	0	9	98	28	0	45	343	30	836	0
7:45 AM	0	28	113	20	0	41	70	17	0	11	107	33	0	37	328	29	834	3,059
8:00 AM	**0**	**21**	**107**	**18**	**0**	**44**	**76**	**16**	**0**	**5**	**132**	**24**	**0**	**35**	**327**	**19**	**824**	3,220
8:15 AM	**0**	**29**	**100**	**25**	**0**	**50**	**83**	**24**	**0**	**8**	**110**	**39**	**0**	**31**	**311**	**30**	**840**	3,334
8:30 AM	**0**	**20**	**118**	**12**	**0**	**43**	**69**	**20**	**0**	**12**	**129**	**67**	**0**	**36**	**309**	**20**	**855**	3,353
8:45 AM	**0**	**18**	**98**	**27**	**0**	**55**	**110**	**26**	**0**	**17**	**130**	**49**	**0**	**33**	**294**	**27**	**884**	**3,403**
Count Total	0	153	860	150	0	314	562	155	1	73	851	269	0	298	2,601	175	6,462	0
Peak Hour	**0**	**88**	**423**	**82**	**0**	**192**	**338**	**86**	**0**	**42**	**501**	**179**	**0**	**135**	**1,241**	**96**	**3,403**	**0**

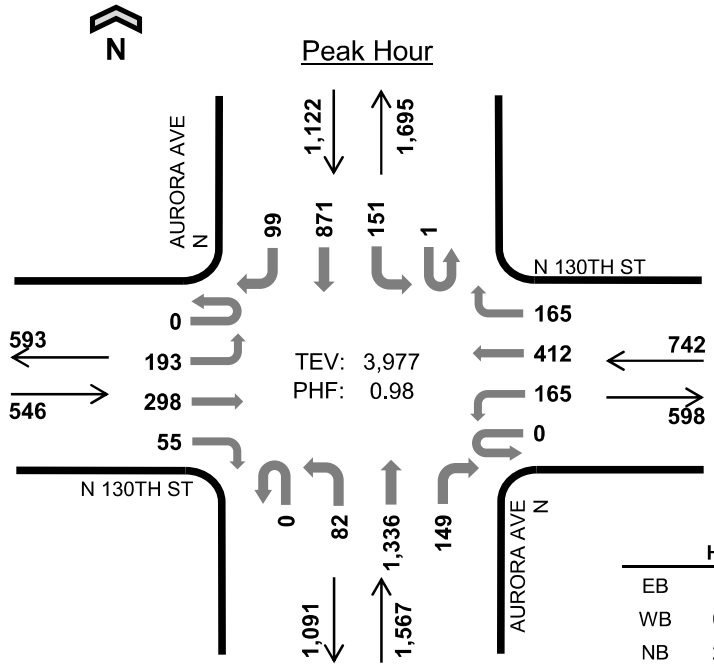
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

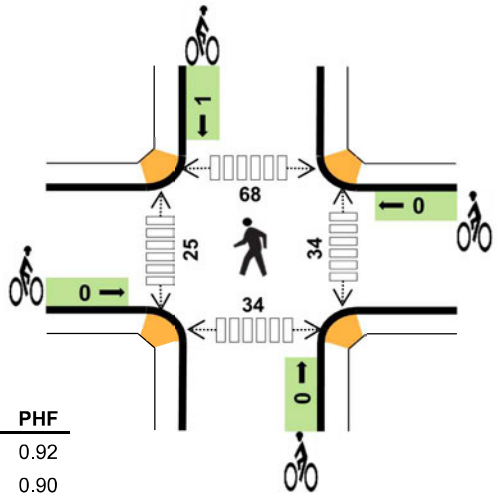
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	2	6	7	*17*	0	0	0	0	*0*	1	2	3	0	*6*
7:15 AM	2	6	3	11	*22*	1	0	0	0	*1*	0	6	7	3	*16*
7:30 AM	1	5	8	12	*26*	0	0	0	0	*0*	1	4	1	2	*8*
7:45 AM	2	4	9	15	*30*	0	0	0	0	*0*	2	9	5	3	*19*
8:00 AM	**2**	**9**	**7**	**15**	***33***	**0**	**0**	**0**	**0**	***0***	**3**	**13**	**14**	**4**	*34*
8:15 AM	**4**	**6**	**11**	**13**	***34***	**0**	**0**	**0**	**0**	***0***	**4**	**8**	**10**	**6**	*28*
8:30 AM	**9**	**2**	**18**	**12**	***41***	**0**	**0**	**0**	**0**	***0***	**5**	**5**	**11**	**3**	*24*
8:45 AM	**7**	**5**	**17**	**9**	***38***	**0**	**0**	**0**	**0**	***0***	**1**	**10**	**11**	**4**	***26***
Count Total	29	39	79	94	*241*	1	0	0	0	*1*	17	57	62	25	*161*
Peak Hour	**22**	**22**	**53**	**49**	***146***	**0**	**0**	**0**	**0**	***0***	**13**	**36**	**46**	**17**	***112***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

AURORA AVE N
N 130TH ST

Date: Tue, Sep 24, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	1.3%	0.92
WB	0.9%	0.90
NB	2.3%	0.95
SB	1.2%	0.92
TOTAL	1.6%	0.98

Two-Hour Count Summaries

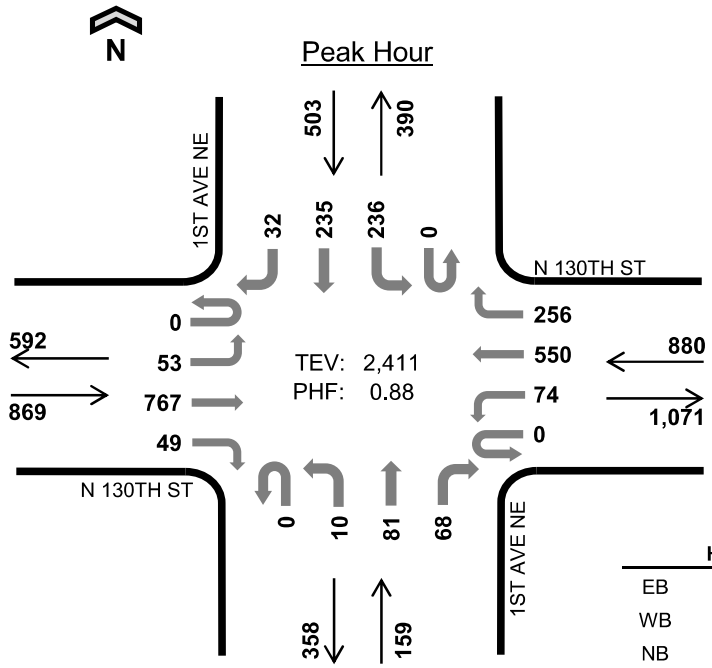
Interval Start	N 130TH ST Eastbound				N 130TH ST Westbound				AURORA AVE N Northbound				AURORA AVE N Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	31	72	22	0	41	116	41	0	27	317	27	0	47	194	22	957	0
4:15 PM	0	49	89	20	0	37	97	38	0	25	348	41	1	30	231	28	1,034	0
4:30 PM	0	35	82	17	0	41	113	42	0	25	312	32	1	37	168	25	930	0
4:45 PM	**0**	**46**	**75**	**15**	**0**	**34**	**91**	**40**	**0**	**23**	**352**	**36**	**0**	**39**	**241**	**25**	**1,017**	3,938
5:00 PM	**0**	**52**	**80**	**11**	**0**	**41**	**121**	**45**	**0**	**22**	**319**	**45**	**0**	**37**	**188**	**17**	**978**	3,959
5:15 PM	**0**	**52**	**79**	**17**	**0**	**43**	**107**	**44**	**0**	**26**	**328**	**35**	**0**	**35**	**226**	**25**	**1,017**	3,942
5:30 PM	**0**	**43**	**64**	**12**	**0**	**47**	**93**	**36**	**0**	**11**	**337**	**33**	**1**	**40**	**216**	**32**	**965**	**3,977**
5:45 PM	0	23	60	15	0	42	116	45	0	22	295	27	1	34	165	18	863	3,823
Count Total	0	331	601	129	0	326	854	331	0	181	2,608	276	4	299	1,629	192	7,761	0
Peak Hour	**0**	**193**	**298**	**55**	**0**	**165**	**412**	**165**	**0**	**82**	**1,336**	**149**	**1**	**151**	**871**	**99**	**3,977**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

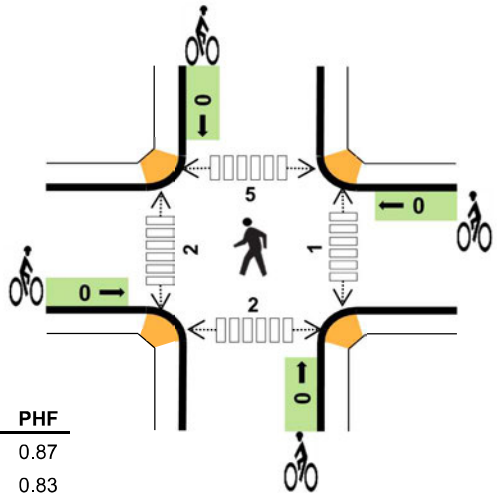
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	7	3	8	6	*24*	0	0	0	0	*0*	25	22	52	26	*125*
4:15 PM	8	4	5	5	*22*	0	0	0	0	*0*	14	8	8	5	*35*
4:30 PM	8	6	4	6	*24*	0	0	0	0	*0*	5	9	17	11	*42*
4:45 PM	**5**	**3**	**9**	**5**	***22***	**0**	**0**	**0**	**0**	***0***	**7**	**8**	**24**	**12**	*51*
5:00 PM	**1**	**1**	**10**	**2**	***14***	**0**	**0**	**0**	**1**	***1***	**14**	**7**	**15**	**14**	*50*
5:15 PM	**0**	**0**	**5**	**5**	***10***	**0**	**0**	**0**	**0**	***0***	**4**	**7**	**13**	**3**	*27*
5:30 PM	**1**	**3**	**12**	**2**	***18***	**0**	**0**	**0**	**0**	***0***	**9**	**3**	**16**	**5**	***33***
5:45 PM	0	1	5	3	*9*	0	0	0	0	*0*	13	2	6	17	*38*
Count Total	30	21	58	34	*143*	0	0	0	1	*1*	91	66	151	93	*401*
Peak Hour	**7**	**7**	**36**	**14**	***64***	**0**	**0**	**0**	**1**	***1***	**34**	**25**	**68**	**34**	***161***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

1ST AVE NE
N 130TH ST



Date: Tue, Sep 24, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	3.2%	0.87
WB	2.7%	0.83
NB	2.5%	0.86
SB	1.4%	0.90
TOTAL	2.6%	0.88

Two-Hour Count Summaries

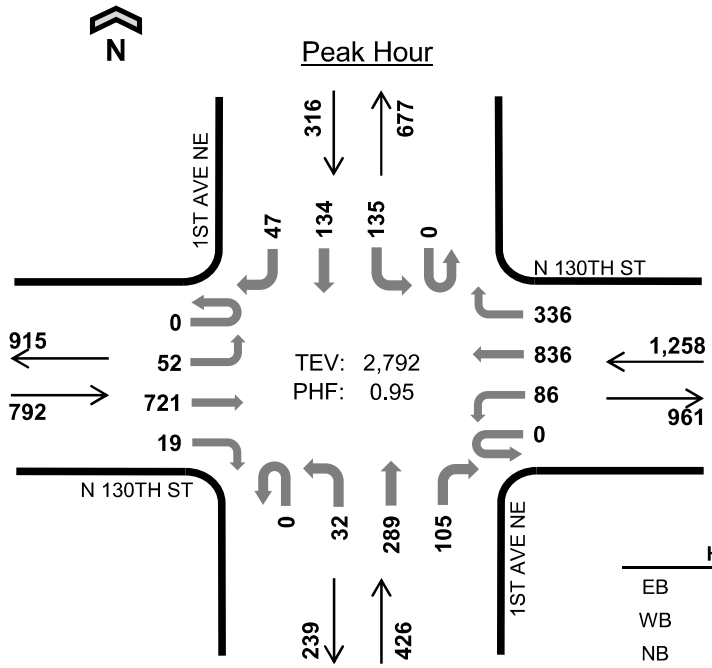
Interval Start	N 130TH ST Eastbound				N 130TH ST Westbound				1ST AVE NE Northbound				1ST AVE NE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	5	173	10	0	11	60	16	0	4	12	12	0	37	38	6	384	0
7:15 AM	0	12	176	6	0	18	102	32	0	1	12	14	0	43	40	8	464	0
7:30 AM	**0**	**12**	**218**	**12**	**0**	**10**	**121**	**38**	**0**	**2**	**24**	**20**	**0**	**60**	**61**	**6**	**584**	0
7:45 AM	**0**	**23**	**213**	**14**	**0**	**23**	**122**	**120**	**0**	**3**	**25**	**13**	**0**	**65**	**56**	**8**	**685**	2,117
8:00 AM	**0**	**15**	**166**	**9**	**0**	**25**	**132**	**69**	**0**	**2**	**22**	**18**	**0**	**66**	**61**	**12**	**597**	2,330
8:15 AM	**0**	**3**	**170**	**14**	**0**	**16**	**175**	**29**	**0**	**3**	**10**	**17**	**0**	**45**	**57**	**6**	**545**	**2,411**
8:30 AM	0	1	155	9	0	16	135	34	0	1	12	24	0	44	56	5	492	2,319
8:45 AM	0	6	192	13	0	20	191	34	0	3	9	14	0	41	59	4	586	2,220
Count Total	0	77	1,463	87	0	139	1,038	372	0	19	126	132	0	401	428	55	4,337	0
Peak Hour	**0**	**53**	**767**	**49**	**0**	**74**	**550**	**256**	**0**	**10**	**81**	**68**	**0**	**236**	**235**	**32**	**2,411**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

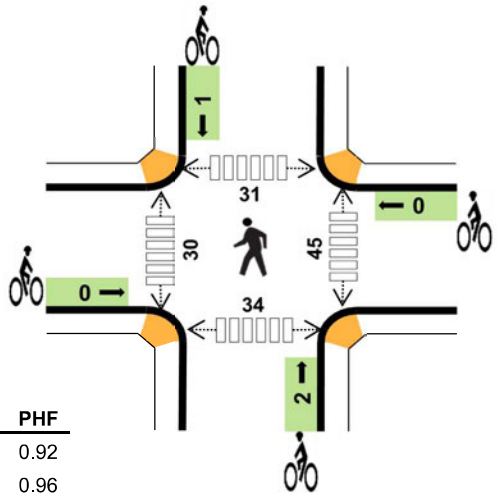
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	5	1	6	*15*	0	0	0	1	*1*	0	0	0	0	*0*
7:15 AM	3	9	2	2	*16*	0	0	1	0	*1*	0	0	1	0	*1*
7:30 AM	**7**	**5**	**2**	**1**	***15***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**1**	**1**	*4*
7:45 AM	**6**	**8**	**0**	**2**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
8:00 AM	**4**	**5**	**1**	**2**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**11**	**6**	**1**	**2**	***20***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**4**	**1**	***5***
8:30 AM	7	4	2	2	*15*	0	0	0	0	*0*	0	1	1	0	*2*
8:45 AM	17	6	0	0	*23*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	58	48	9	17	*132*	0	0	1	1	*2*	1	3	7	2	*13*
Peak Hour	**28**	**24**	**4**	**7**	***63***	**0**	**0**	**0**	**0**	***0***	**1**	**2**	**5**	**2**	***10***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

1ST AVE NE
N 130TH ST



Date: Tue, Sep 24, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	3.9%	0.92
WB	1.2%	0.96
NB	1.6%	0.87
SB	1.3%	0.81
TOTAL	2.0%	0.95

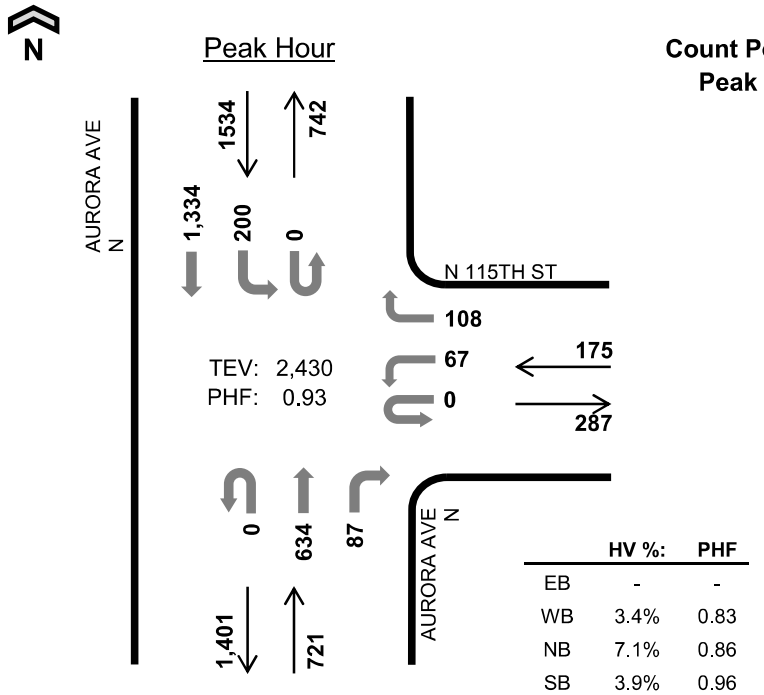
Two-Hour Count Summaries

Interval Start	N 130TH ST Eastbound				N 130TH ST Westbound				1ST AVE NE Northbound				1ST AVE NE Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	14	182	7	0	24	194	75	0	5	61	24	0	28	30	10	654	0
4:15 PM	**0**	**12**	**196**	**7**	**0**	**23**	**218**	**87**	**0**	**7**	**68**	**23**	**0**	**29**	**27**	**10**	**707**	0
4:30 PM	**0**	**10**	**163**	**2**	**0**	**16**	**205**	**103**	**0**	**6**	**76**	**34**	**0**	**29**	**28**	**14**	**686**	0
4:45 PM	**0**	**11**	**194**	**4**	**0**	**27**	**189**	**69**	**0**	**7**	**62**	**21**	**0**	**37**	**35**	**10**	**666**	2,713
5:00 PM	**0**	**19**	**168**	**6**	**0**	**20**	**224**	**77**	**0**	**12**	**83**	**27**	**0**	**40**	**44**	**13**	**733**	**2,792**
5:15 PM	0	17	153	8	0	25	212	94	0	13	77	21	0	41	26	20	707	2,792
5:30 PM	0	16	151	10	0	21	218	76	0	8	65	25	0	19	23	12	644	2,750
5:45 PM	0	6	140	3	0	27	206	77	0	6	73	26	0	42	30	11	647	2,731
Count Total	0	105	1,347	47	0	183	1,666	658	0	64	565	201	0	265	243	100	5,444	0
Peak Hour	**0**	**52**	**721**	**19**	**0**	**86**	**836**	**336**	**0**	**32**	**289**	**105**	**0**	**135**	**134**	**47**	**2,792**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

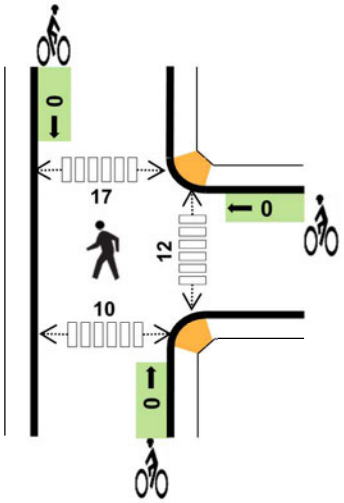
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	11	3	2	2	*18*	0	0	0	0	*0*	8	5	8	7	*28*
4:15 PM	**11**	**4**	**2**	**2**	***19***	**0**	**0**	**0**	**1**	***1***	**5**	**1**	**2**	**2**	*10*
4:30 PM	**7**	**7**	**3**	**1**	***18***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**2**	*3*
4:45 PM	**9**	**3**	**2**	**1**	***15***	**0**	**0**	**2**	**0**	***2***	**22**	**14**	**24**	**13**	*73*
5:00 PM	**4**	**1**	**0**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**17**	**15**	**5**	**17**	***54***
5:15 PM	4	2	0	1	*7*	0	0	1	2	*3*	1	16	2	7	*26*
5:30 PM	2	4	1	0	*7*	0	0	0	0	*0*	0	10	2	6	*18*
5:45 PM	0	1	0	1	*2*	0	0	0	0	*0*	3	4	1	2	*10*
Count Total	48	25	10	8	*91*	0	0	3	3	*6*	57	65	44	56	*222*
Peak Hour	**31**	**15**	**7**	**4**	***57***	**0**	**0**	**2**	**1**	***3***	**45**	**30**	**31**	**34**	***140***

AURORA AVE N
N 115TH ST



	HV %:	PHF
EB	-	-
WB	3.4%	0.83
NB	7.1%	0.86
SB	3.9%	0.96
TOTAL	4.8%	0.93

Date: Tue, Sep 24, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



Two-Hour Count Summaries

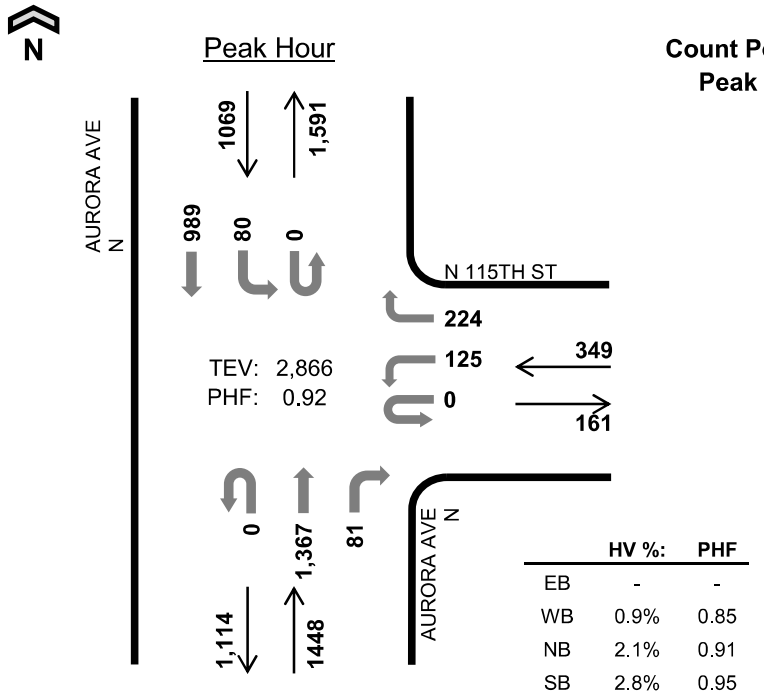
Interval Start	0				N 115TH ST				AURORA AVE N				AURORA AVE N				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	14	0	10	0	0	77	21	0	50	310	0	482	0
7:15 AM	0	0	0	0	0	13	0	6	0	0	92	21	0	35	365	0	532	0
7:30 AM	0	0	0	0	0	15	0	21	0	0	118	24	0	43	358	0	579	0
7:45 AM	0	0	0	0	0	19	0	16	0	0	151	30	0	52	305	0	573	2,166
8:00 AM	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**20**	**0**	**0**	**135**	**26**	**0**	**41**	**354**	**0**	**591**	2,275
8:15 AM	**0**	**0**	**0**	**0**	**0**	**17**	**0**	**24**	**0**	**0**	**157**	**25**	**0**	**44**	**326**	**0**	**593**	2,336
8:30 AM	**0**	**0**	**0**	**0**	**0**	**19**	**0**	**27**	**0**	**0**	**189**	**21**	**0**	**53**	**346**	**0**	**655**	2,412
8:45 AM	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**37**	**0**	**0**	**153**	**15**	**0**	**62**	**308**	**0**	**591**	**2,430**
Count Total	0	0	0	0	0	128	0	161	0	0	1,072	183	0	380	2,672	0	4,596	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**67**	**0**	**108**	**0**	**0**	**634**	**87**	**0**	**200**	**1,334**	**0**	**2,430**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	7	9	*16*	0	0	1	0	*1*	2	4	3	0	*9*
7:15 AM	0	2	5	12	*19*	0	0	1	0	*1*	2	10	9	0	*21*
7:30 AM	0	1	9	18	*28*	0	0	0	0	*0*	0	4	2	1	*7*
7:45 AM	0	3	9	15	*27*	0	0	0	1	*1*	1	6	9	2	*18*
8:00 AM	**0**	**2**	**9**	**14**	***25***	**0**	**0**	**0**	**0**	***0***	**4**	**8**	**6**	**3**	*21*
8:15 AM	**0**	**1**	**12**	**17**	***30***	**0**	**0**	**0**	**0**	***0***	**5**	**4**	**4**	**5**	*18*
8:30 AM	**0**	**1**	**17**	**16**	***34***	**0**	**0**	**0**	**0**	***0***	**3**	**7**	**5**	**0**	*15*
8:45 AM	**0**	**2**	**13**	**13**	***28***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**2**	**2**	***6***
Count Total	0	12	81	114	*207*	0	0	2	1	*3*	17	45	40	13	*115*
Peak Hr	**0**	**6**	**51**	**60**	***117***	**0**	**0**	**0**	**0**	***0***	**12**	**21**	**17**	**10**	***60***

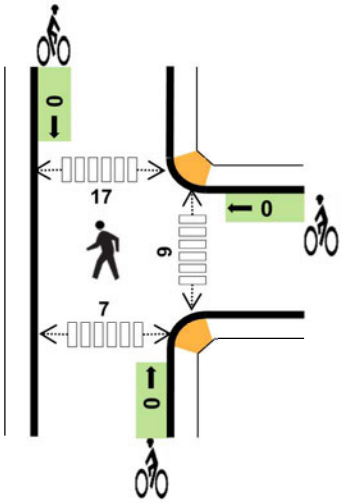
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

AURORA AVE N
N 115TH ST



	HV %:	PHF
EB	-	-
WB	0.9%	0.85
NB	2.1%	0.91
SB	2.8%	0.95
TOTAL	2.2%	0.92

Date: Tue, Sep 24, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



Two-Hour Count Summaries

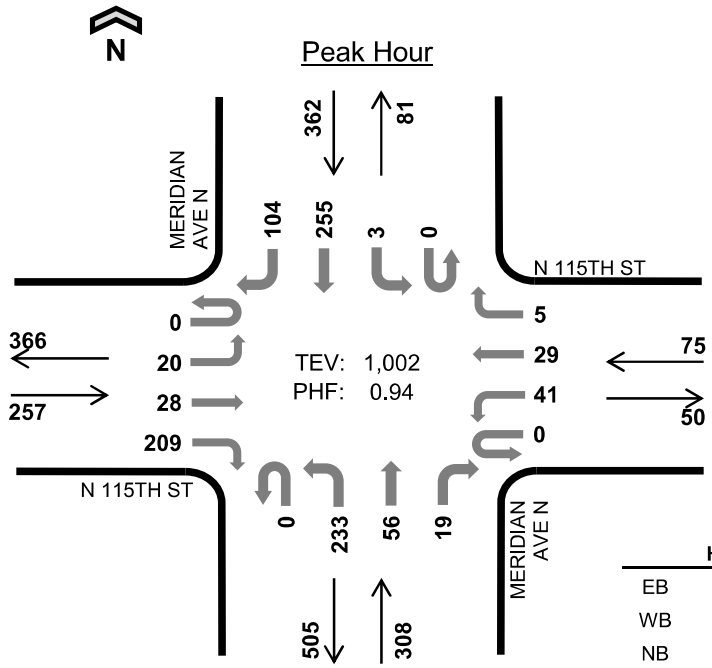
Interval Start	0				N 115TH ST				AURORA AVE N				AURORA AVE N				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**37**	**0**	**66**	**0**	**0**	**374**	**22**	**0**	**20**	**260**	**0**	**779**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**24**	**0**	**59**	**0**	**0**	**308**	**21**	**0**	**20**	**239**	**0**	**671**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**30**	**0**	**58**	**0**	**0**	**365**	**27**	**0**	**21**	**248**	**0**	**749**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**34**	**0**	**41**	**0**	**0**	**320**	**11**	**0**	**19**	**242**	**0**	**667**	**2,866**
5:00 PM	0	0	0	0	0	27	0	53	0	0	289	28	0	21	247	0	665	2,752
5:15 PM	0	0	0	0	0	26	0	47	0	0	363	16	0	23	222	0	697	2,778
5:30 PM	0	0	0	0	0	33	0	32	0	0	294	15	0	19	225	0	618	2,647
5:45 PM	0	0	0	0	0	22	0	41	0	0	372	26	0	15	211	0	687	2,667
Count Total	0	0	0	0	0	233	0	397	0	0	2,685	166	0	158	1,894	0	5,533	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**125**	**0**	**224**	**0**	**0**	**1,367**	**81**	**0**	**80**	**989**	**0**	**2,866**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

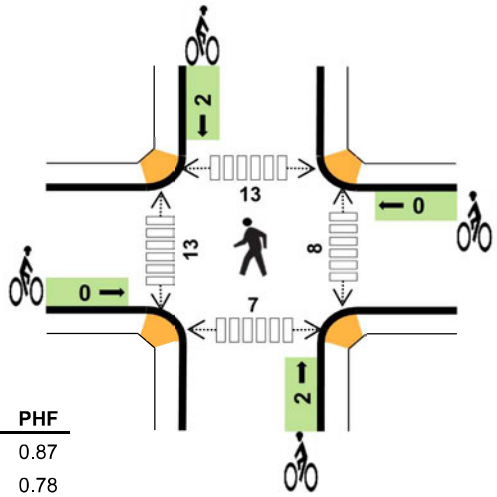
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**0**	**1**	**8**	**6**	***15***	**0**	**0**	**0**	**0**	***0***	**4**	**7**	**6**	**1**	*18*
4:15 PM	**0**	**1**	**3**	**11**	***15***	**0**	**0**	**0**	**0**	***0***	**3**	**7**	**4**	**1**	*15*
4:30 PM	**0**	**1**	**8**	**5**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**4**	**4**	**3**	*11*
4:45 PM	**0**	**0**	**12**	**8**	***20***	**0**	**0**	**0**	**0**	***0***	**2**	**9**	**3**	**2**	***16***
5:00 PM	0	0	7	5	*12*	0	0	0	1	*1*	1	6	6	2	*15*
5:15 PM	0	1	4	4	*9*	0	0	1	0	*1*	1	4	2	2	*9*
5:30 PM	0	2	12	1	*15*	0	0	0	0	*0*	1	3	1	2	*7*
5:45 PM	0	0	7	3	*10*	0	0	1	0	*1*	2	8	5	1	*16*
Count Total	0	6	61	43	*110*	0	0	2	1	*3*	14	48	31	14	*107*
Peak Hr	**0**	**3**	**31**	**30**	***64***	**0**	**0**	**0**	**0**	***0***	**9**	**27**	**17**	**7**	***60***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

MERIDIAN AVE N
N 115TH ST



Date: Tue, Sep 24, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	2.3%	0.87
WB	8.0%	0.78
NB	2.9%	0.87
SB	4.7%	0.87
TOTAL	3.8%	0.94

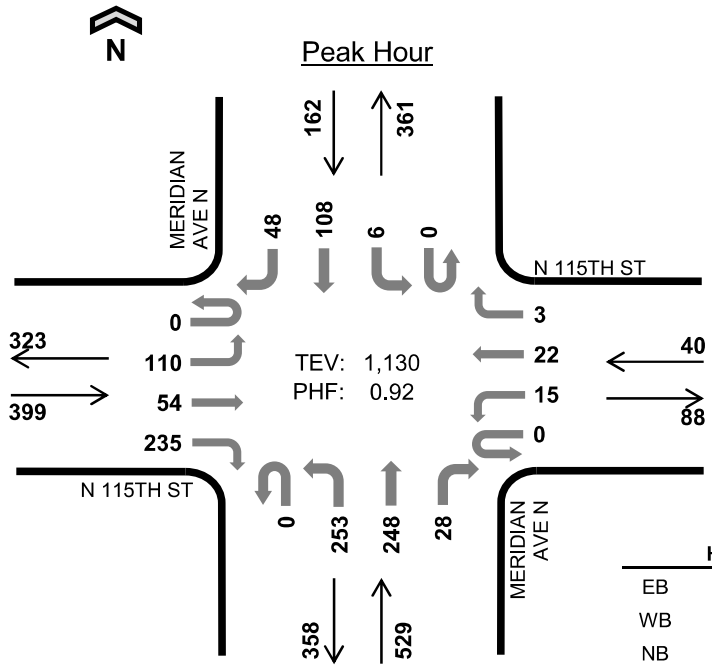
Two-Hour Count Summaries

Interval Start	N 115TH ST Eastbound				N 115TH ST Westbound				MERIDIAN AVE N Northbound				MERIDIAN AVE N Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	3	5	55	0	2	1	1	0	40	12	2	0	0	33	17	171	0
7:15 AM	0	3	7	53	0	2	2	1	0	44	11	1	0	1	46	31	202	0
7:30 AM	0	16	9	66	0	7	7	0	0	48	7	4	0	2	56	21	243	0
7:45 AM	**0**	**6**	**11**	**52**	**0**	**13**	**10**	**1**	**0**	**46**	**17**	**6**	**0**	**1**	**76**	**27**	**266**	882
8:00 AM	**0**	**3**	**6**	**47**	**0**	**11**	**10**	**2**	**0**	**61**	**9**	**6**	**0**	**1**	**57**	**33**	**246**	957
8:15 AM	**0**	**2**	**8**	**48**	**0**	**6**	**5**	**2**	**0**	**61**	**12**	**1**	**0**	**0**	**69**	**26**	**240**	995
8:30 AM	**0**	**9**	**3**	**62**	**0**	**11**	**4**	**0**	**0**	**65**	**18**	**6**	**0**	**1**	**53**	**18**	**250**	**1,002**
8:45 AM	0	4	3	53	0	7	8	0	0	55	17	6	0	1	57	29	240	976
Count Total	0	46	52	436	0	59	47	7	0	420	103	32	0	7	447	202	1,858	0
Peak Hour	**0**	**20**	**28**	**209**	**0**	**41**	**29**	**5**	**0**	**233**	**56**	**19**	**0**	**3**	**255**	**104**	**1,002**	**0**

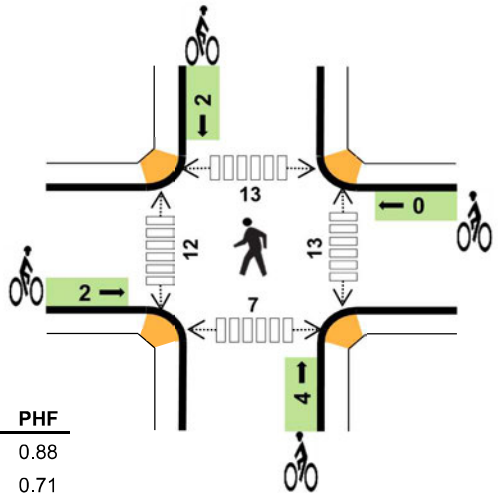
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	2	2	2	*8*	1	0	1	1	*3*	0	0	0	1	*1*
7:15 AM	3	1	0	8	*12*	0	0	0	0	*0*	1	3	5	0	*9*
7:30 AM	3	2	2	1	*8*	0	0	1	1	*2*	9	1	2	0	*12*
7:45 AM	**1**	**2**	**2**	**5**	***10***	**0**	**0**	**1**	**0**	***1***	**3**	**4**	**7**	**1**	*15*
8:00 AM	**2**	**4**	**1**	**3**	***10***	**0**	**0**	**0**	**0**	***0***	**3**	**2**	**5**	**3**	*13*
8:15 AM	**1**	**0**	**5**	**3**	***9***	**0**	**0**	**0**	**1**	***1***	**0**	**4**	**0**	**2**	*6*
8:30 AM	**2**	**0**	**1**	**6**	***9***	**0**	**0**	**1**	**1**	***2***	**2**	**3**	**1**	**1**	***7***
8:45 AM	1	0	3	2	*6*	0	0	0	0	*0*	0	3	4	2	*9*
Count Total	15	11	16	30	*72*	1	0	4	4	9	18	20	24	10	*72*
Peak Hour	**6**	**6**	**9**	**17**	***38***	**0**	**0**	**2**	**2**	***4***	**8**	**13**	**13**	**7**	***41***

MERIDIAN AVE N
N 115TH ST



Date: Tue, Sep 24, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	2.0%	0.88
WB	5.0%	0.71
NB	2.3%	0.93
SB	3.7%	0.96
TOTAL	2.5%	0.92

Two-Hour Count Summaries

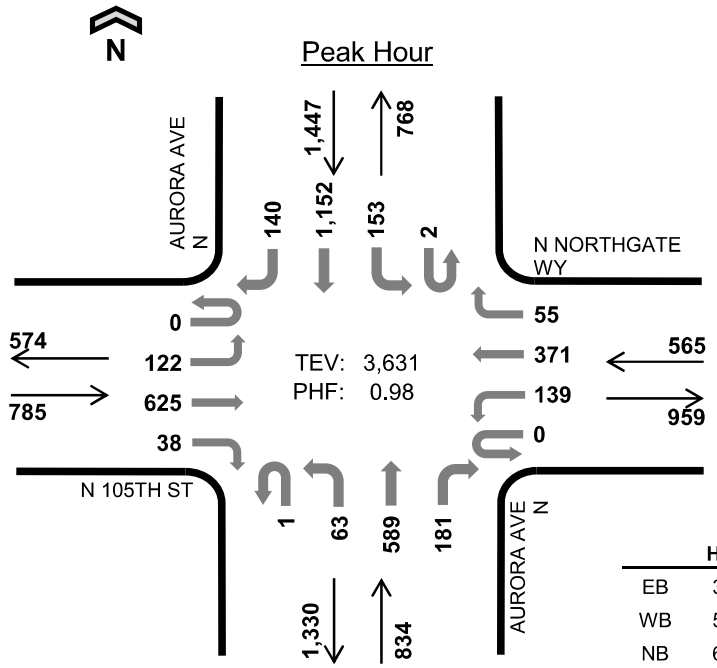
Interval Start	N 115TH ST Eastbound				N 115TH ST Westbound				MERIDIAN AVE N Northbound				MERIDIAN AVE N Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**26**	**19**	**54**	**0**	**2**	**5**	**0**	**0**	**74**	**60**	**8**	**0**	**2**	**25**	**13**	**288**	0
4:15 PM	**0**	**18**	**17**	**66**	**0**	**2**	**6**	**1**	**0**	**61**	**51**	**12**	**0**	**1**	**25**	**16**	**276**	0
4:30 PM	**0**	**41**	**9**	**63**	**0**	**6**	**6**	**2**	**0**	**61**	**73**	**6**	**0**	**1**	**26**	**12**	**306**	0
4:45 PM	**0**	**25**	**9**	**52**	**0**	**5**	**5**	**0**	**0**	**57**	**64**	**2**	**0**	**2**	**32**	**7**	**260**	**1,130**
5:00 PM	0	32	8	62	0	5	4	0	0	49	62	4	0	0	20	8	254	1,096
5:15 PM	0	26	8	61	0	3	6	2	0	54	68	7	0	0	27	7	269	1,089
5:30 PM	0	27	9	52	0	4	9	0	0	46	60	4	0	0	28	8	247	1,030
5:45 PM	0	15	6	46	0	5	5	0	0	64	67	5	0	1	25	10	249	1,019
Count Total	0	210	85	456	0	32	46	5	0	466	505	48	0	7	208	81	2,149	0
Peak Hour	**0**	**110**	**54**	**235**	**0**	**15**	**22**	**3**	**0**	**253**	**248**	**28**	**0**	**6**	**108**	**48**	**1,130**	**0**

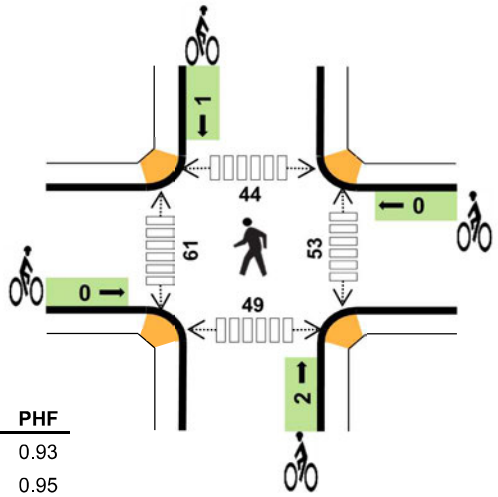
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**1**	**0**	**3**	**3**	***7***	**0**	**0**	**0**	**0**	***0***	**4**	**2**	**4**	**3**	*13*
4:15 PM	**1**	**0**	**6**	**1**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**5**	**1**	**4**	*10*
4:30 PM	**3**	**2**	**1**	**2**	***8***	**2**	**0**	**1**	**1**	***4***	**6**	**4**	**5**	**0**	*15*
4:45 PM	**3**	**0**	**2**	**0**	***5***	**0**	**0**	**3**	**1**	***4***	**3**	**1**	**3**	**0**	***7***
5:00 PM	1	0	3	1	*5*	0	0	0	1	*1*	4	4	2	3	*13*
5:15 PM	1	0	3	2	*6*	0	0	1	0	*1*	3	1	4	1	*9*
5:30 PM	2	0	5	2	*9*	1	0	1	0	*2*	2	4	7	0	*13*
5:45 PM	1	0	3	1	*5*	1	0	1	1	*3*	1	2	0	2	*5*
Count Total	13	2	26	12	*53*	4	0	7	4	*15*	23	23	26	13	*85*
Peak Hour	**8**	**2**	**12**	**6**	***28***	**2**	**0**	**4**	**2**	***8***	**13**	**12**	**13**	**7**	***45***

AURORA AVE N
N 105TH ST

Date: Tue, Sep 24, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV %:	PHF
EB	3.8%	0.93
WB	5.5%	0.95
NB	6.1%	0.89
SB	4.4%	0.94
TOTAL	4.8%	0.98

Two-Hour Count Summaries

Interval Start	N 105TH ST				N NORTHGATE WY				AURORA AVE N				AURORA AVE N				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	17	159	10	0	22	55	5	0	7	87	47	0	31	281	25	746	0
7:15 AM	0	14	152	8	0	24	74	8	0	12	91	43	1	39	306	26	798	0
7:30 AM	0	23	151	15	0	30	78	6	0	16	113	46	0	43	346	42	909	0
7:45 AM	**0**	**29**	**152**	**11**	**0**	**30**	**104**	**14**	**0**	**20**	**140**	**48**	**1**	**33**	**273**	**31**	**886**	3,339
8:00 AM	**0**	**26**	**163**	**3**	**0**	**29**	**95**	**16**	**0**	**19**	**133**	**49**	**0**	**48**	**278**	**37**	**896**	3,489
8:15 AM	**0**	**41**	**159**	**12**	**0**	**32**	**84**	**15**	**1**	**13**	**124**	**54**	**1**	**40**	**305**	**37**	**918**	3,609
8:30 AM	**0**	**26**	**151**	**12**	**0**	**48**	**88**	**10**	**0**	**11**	**192**	**30**	**0**	**32**	**296**	**35**	**931**	**3,631**
8:45 AM	0	34	136	12	0	48	93	12	0	18	115	30	1	33	272	23	827	3,572
Count Total	0	210	1,223	83	0	263	671	86	1	116	995	347	4	299	2,357	256	6,911	0
Peak Hour	**0**	**122**	**625**	**38**	**0**	**139**	**371**	**55**	**1**	**63**	**589**	**181**	**2**	**153**	**1,152**	**140**	**3,631**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	8	9	9	*28*	0	0	1	0	*1*	10	13	2	13	*38*
7:15 AM	3	11	6	10	*30*	0	0	1	0	*1*	1	18	8	10	*37*
7:30 AM	7	9	10	17	*43*	0	0	0	0	*0*	11	5	5	14	*35*
7:45 AM	**5**	**7**	**14**	**15**	***41***	**0**	**0**	**0**	**1**	***1***	**8**	**13**	**7**	**14**	*42*
8:00 AM	**7**	**8**	**8**	**11**	***34***	**0**	**0**	**1**	**0**	***1***	**12**	**18**	**15**	**11**	*56*
8:15 AM	**9**	**10**	**12**	**21**	***52***	**0**	**0**	**0**	**0**	***0***	**23**	**13**	**10**	**14**	*60*
8:30 AM	**9**	**6**	**17**	**16**	***48***	**0**	**0**	**1**	**0**	***1***	**10**	**17**	**12**	**10**	***49***
8:45 AM	11	4	12	12	*39*	0	0	0	0	*0*	10	5	8	11	*34*
Count Total	53	63	88	111	*315*	0	0	4	1	*5*	85	102	67	97	*351*
Peak Hour	**30**	**31**	**51**	**63**	***175***	**0**	**0**	**2**	**1**	***3***	**53**	**61**	**44**	**49**	***207***

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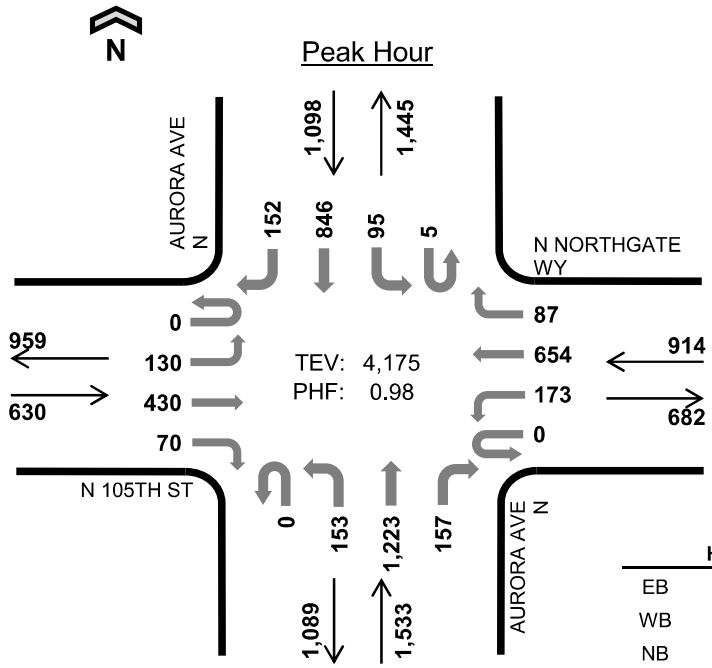
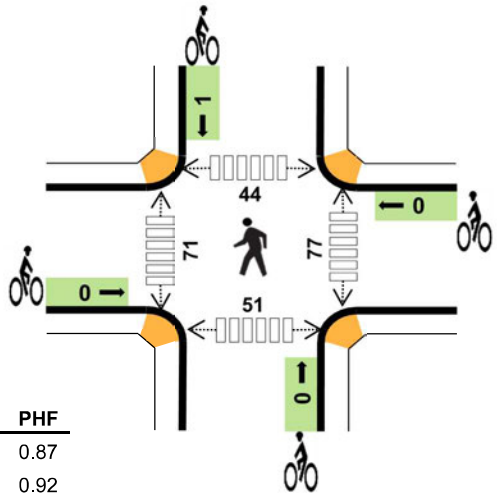
AURORA AVE N
N 105TH ST



Date: Tue, Sep 24, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	3.8%	0.87
WB	1.5%	0.92
NB	2.5%	0.98
SB	2.6%	0.91
TOTAL	2.5%	0.98

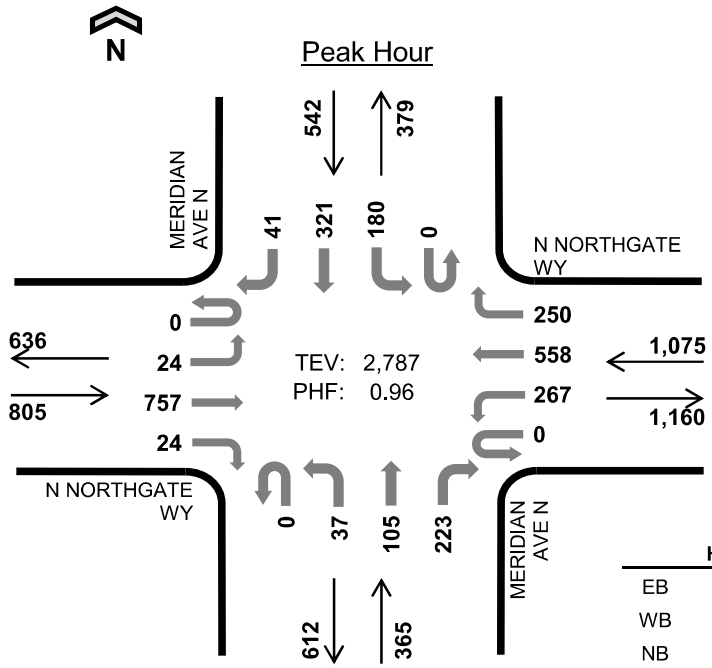
Two-Hour Count Summaries

Interval Start	N 105TH ST				N NORTHGATE WY				AURORA AVE N				AURORA AVE N				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**33**	**109**	**23**	**0**	**48**	**174**	**26**	**0**	**51**	**295**	**35**	**1**	**27**	**208**	**37**	**1,067**	0
4:15 PM	**0**	**32**	**96**	**9**	**0**	**55**	**157**	**19**	**0**	**28**	**316**	**43**	**1**	**21**	**242**	**37**	**1,056**	0
4:30 PM	**0**	**39**	**126**	**16**	**0**	**43**	**165**	**20**	**0**	**36**	**315**	**41**	**1**	**22**	**168**	**39**	**1,031**	0
4:45 PM	**0**	**26**	**99**	**22**	**0**	**27**	**158**	**22**	**0**	**38**	**297**	**38**	**2**	**25**	**228**	**39**	**1,021**	**4,175**
5:00 PM	0	35	103	12	0	43	184	26	0	32	280	36	2	21	217	43	1,034	4,142
5:15 PM	0	35	119	7	0	50	176	20	1	46	281	26	0	32	209	44	1,046	4,132
5:30 PM	0	30	101	15	0	55	162	18	1	32	305	38	0	19	209	31	1,016	4,117
5:45 PM	0	32	145	11	0	42	186	28	0	33	302	44	2	25	170	24	1,044	4,140
Count Total	0	262	898	115	0	363	1,362	179	2	296	2,391	301	9	192	1,651	294	8,315	0
Peak Hour	**0**	**130**	**430**	**70**	**0**	**173**	**654**	**87**	**0**	**153**	**1,223**	**157**	**5**	**95**	**846**	**152**	**4,175**	**0**

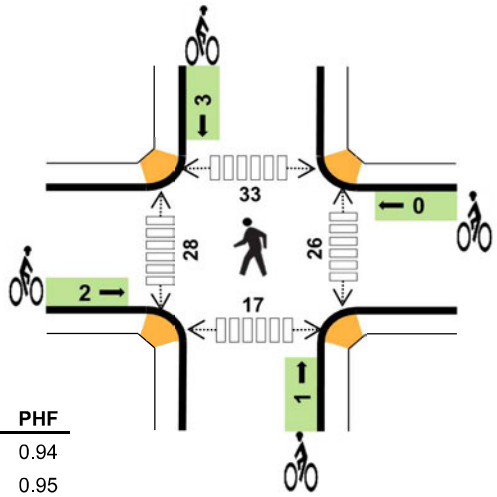
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**9**	**5**	**7**	**6**	***27***	**0**	**0**	**0**	**0**	***0***	**16**	**17**	**12**	**15**	*60*
4:15 PM	**4**	**1**	**8**	**13**	***26***	**0**	**0**	**0**	**1**	***1***	**23**	**26**	**10**	**12**	*71*
4:30 PM	**8**	**5**	**11**	**4**	***28***	**0**	**0**	**0**	**0**	***0***	**9**	**15**	**16**	**10**	*50*
4:45 PM	**3**	**3**	**12**	**6**	***24***	**0**	**0**	**0**	**0**	***0***	**29**	**13**	**6**	**14**	***62***
5:00 PM	4	3	7	5	*19*	0	0	0	0	*0*	10	8	6	8	*32*
5:15 PM	2	4	4	4	*14*	0	0	0	0	*0*	19	21	24	9	*73*
5:30 PM	2	2	12	3	*19*	0	0	0	0	*0*	15	6	20	5	*46*
5:45 PM	4	4	8	3	*19*	0	0	1	0	*1*	16	3	15	17	*51*
Count Total	36	27	69	44	*176*	0	0	1	1	*2*	137	109	109	90	*445*
Peak Hour	**24**	**14**	**38**	**29**	***105***	**0**	**0**	**0**	**1**	***1***	**77**	**71**	**44**	**51**	***243***

MERIDIAN AVE N
N NORTHGATE WY



Date: Tue, Sep 24, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	5.0%	0.94
WB	2.9%	0.95
NB	4.1%	0.87
SB	3.3%	0.95
TOTAL	3.7%	0.96

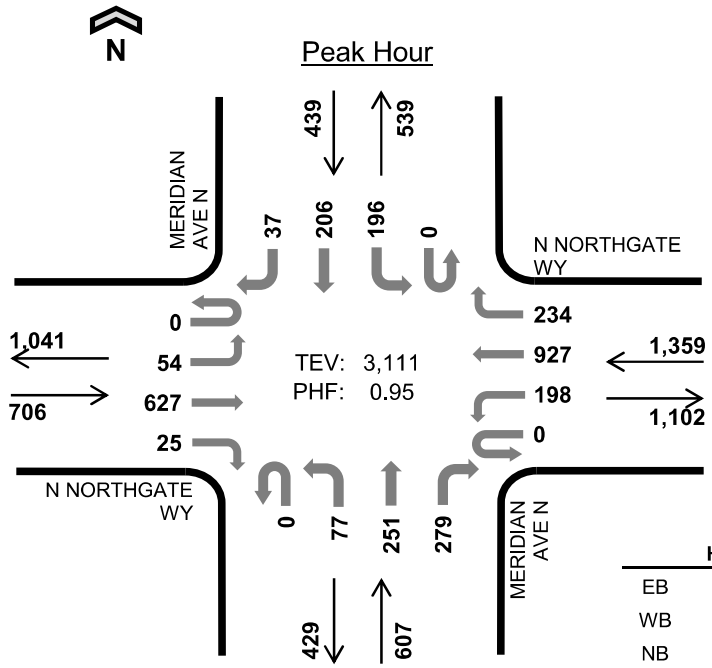
Two-Hour Count Summaries

Interval Start	N NORTHGATE WY Eastbound				N NORTHGATE WY Westbound				MERIDIAN AVE N Northbound				MERIDIAN AVE N Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	3	182	6	0	37	91	44	0	5	15	48	0	44	49	4	528	0
7:15 AM	0	12	218	6	0	39	96	44	0	8	15	59	0	42	55	9	603	0
7:30 AM	0	8	213	2	0	55	114	51	0	10	11	78	0	49	76	6	673	0
7:45 AM	0	6	191	9	0	52	148	45	0	7	22	53	0	44	70	15	662	2,466
8:00 AM	**0**	**6**	**194**	**5**	**0**	**65**	**147**	**59**	**0**	**6**	**22**	**49**	**0**	**50**	**81**	**11**	**695**	2,633
8:15 AM	**0**	**6**	**203**	**4**	**0**	**65**	**115**	**66**	**0**	**15**	**13**	**52**	**0**	**43**	**77**	**9**	**668**	2,698
8:30 AM	**0**	**6**	**192**	**8**	**0**	**64**	**144**	**68**	**0**	**7**	**38**	**60**	**0**	**47**	**82**	**11**	**727**	2,752
8:45 AM	**0**	**6**	**168**	**7**	**0**	**73**	**152**	**57**	**0**	**9**	**32**	**62**	**0**	**40**	**81**	**10**	**697**	**2,787**
Count Total	0	53	1,561	47	0	450	1,007	434	0	67	168	461	0	359	571	75	5,253	0
Peak Hour	**0**	**24**	**757**	**24**	**0**	**267**	**558**	**250**	**0**	**37**	**105**	**223**	**0**	**180**	**321**	**41**	**2,787**	**0**

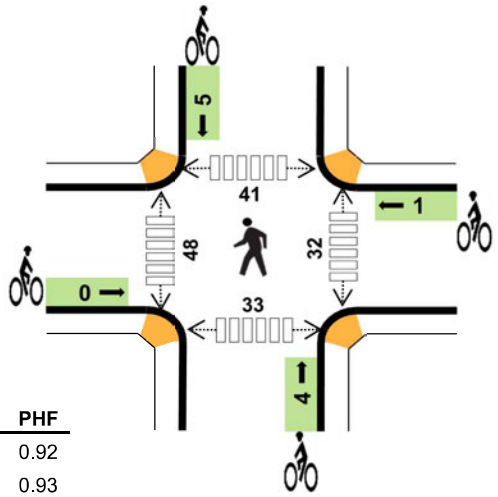
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	4	12	4	2	*22*	0	0	1	1	*2*	6	5	8	3	*22*
7:15 AM	4	11	6	9	*30*	0	0	0	1	*1*	8	3	3	9	*23*
7:30 AM	6	6	6	2	*20*	0	0	2	1	*3*	6	7	8	2	*23*
7:45 AM	4	6	1	4	*15*	0	0	0	0	*0*	3	14	13	9	*39*
8:00 AM	**10**	**10**	**2**	**4**	***26***	**0**	**0**	**0**	**0**	***0***	**8**	**7**	**10**	**3**	*28*
8:15 AM	**9**	**8**	**5**	**5**	***27***	**0**	**0**	**1**	**2**	***3***	**10**	**7**	**5**	**3**	*25*
8:30 AM	**7**	**2**	**5**	**7**	***21***	**1**	**0**	**0**	**1**	***2***	**4**	**8**	**9**	**6**	*27*
8:45 AM	**14**	**11**	**3**	**2**	***30***	**1**	**0**	**0**	**0**	***1***	**4**	**6**	**9**	**5**	***24***
Count Total	58	66	32	35	*191*	2	0	4	6	*12*	49	57	65	40	*211*
Peak Hour	**40**	**31**	**15**	**18**	***104***	**2**	**0**	**1**	**3**	***6***	**26**	**28**	**33**	**17**	***104***

MERIDIAN AVE N
N NORTHGATE WY



Date: Tue, Sep 24, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	4.0%	0.92
WB	1.2%	0.93
NB	3.5%	0.95
SB	2.1%	0.97
TOTAL	2.4%	0.95

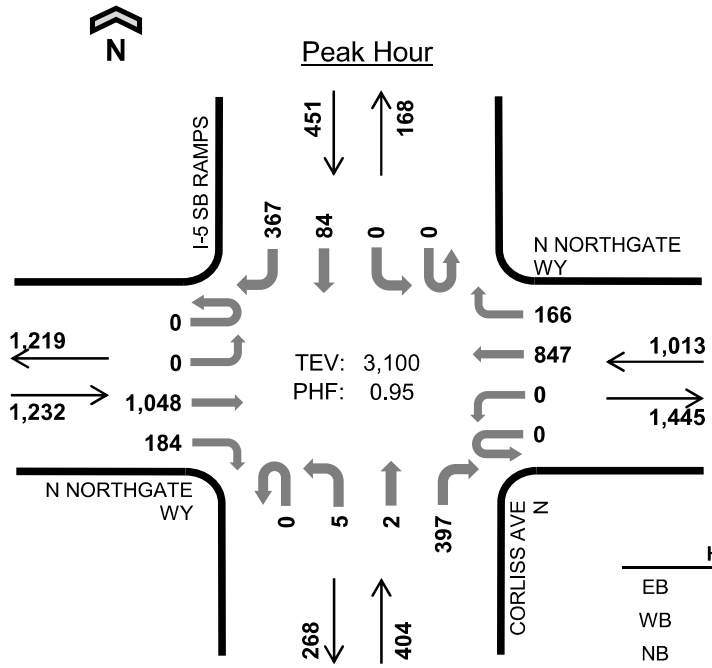
Two-Hour Count Summaries

Interval Start	N NORTHGATE WY Eastbound				N NORTHGATE WY Westbound				MERIDIAN AVE N Northbound				MERIDIAN AVE N Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**13**	**155**	**7**	**0**	**40**	**247**	**66**	**0**	**19**	**70**	**70**	**0**	**48**	**50**	**4**	**789**	0
4:15 PM	**0**	**17**	**139**	**6**	**0**	**46**	**229**	**53**	**0**	**18**	**63**	**61**	**0**	**47**	**51**	**14**	**744**	0
4:30 PM	**0**	**10**	**163**	**5**	**0**	**52**	**204**	**58**	**0**	**23**	**61**	**71**	**0**	**48**	**54**	**11**	**760**	0
4:45 PM	**0**	**14**	**170**	**7**	**0**	**60**	**247**	**57**	**0**	**17**	**57**	**77**	**0**	**53**	**51**	**8**	**818**	**3,111**
5:00 PM	0	17	136	4	0	48	262	53	0	16	48	67	0	48	61	10	770	3,092
5:15 PM	0	15	128	8	0	40	248	60	0	18	53	52	0	46	62	7	737	3,085
5:30 PM	0	15	134	5	0	51	251	42	0	14	63	55	0	49	57	7	743	3,068
5:45 PM	0	7	162	4	0	39	240	61	0	17	72	53	0	40	48	9	752	3,002
Count Total	0	108	1,187	46	0	376	1,928	450	0	142	487	506	0	379	434	70	6,113	0
Peak Hour	**0**	**54**	**627**	**25**	**0**	**198**	**927**	**234**	**0**	**77**	**251**	**279**	**0**	**196**	**206**	**37**	**3,111**	**0**

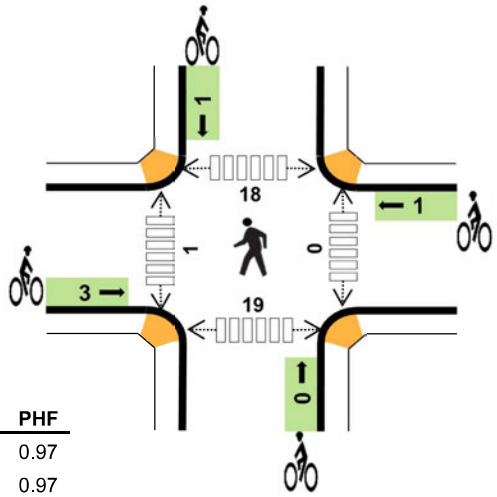
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**6**	**3**	**6**	**2**	***17***	**0**	**1**	**0**	**0**	***1***	**9**	**17**	**8**	**15**	*49*
4:15 PM	**7**	**3**	**7**	**1**	***18***	**0**	**0**	**0**	**1**	***1***	**15**	**13**	**10**	**7**	*45*
4:30 PM	**8**	**6**	**3**	**4**	***21***	**0**	**0**	**3**	**3**	***6***	**3**	**12**	**10**	**5**	*30*
4:45 PM	**7**	**4**	**5**	**2**	***18***	**0**	**0**	**1**	**1**	***2***	**5**	**6**	**13**	**6**	***30***
5:00 PM	3	3	3	1	*10*	0	0	1	0	*1*	17	8	22	6	*53*
5:15 PM	3	1	3	2	*9*	0	0	1	0	*1*	3	6	14	1	*24*
5:30 PM	1	4	5	2	*12*	0	0	0	0	*0*	10	5	5	4	*24*
5:45 PM	5	2	4	2	*13*	0	1	0	1	*2*	15	24	8	27	*74*
Count Total	40	26	36	16	*118*	0	2	6	6	*14*	77	91	90	71	*329*
Peak Hour	**28**	**16**	**21**	**9**	***74***	**0**	**1**	**4**	**5**	***10***	**32**	**48**	**41**	**33**	***154***

CORLISS AVE N
N NORTHGATE WY



Date: Tue, Sep 24, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	2.9%	0.97
WB	3.5%	0.97
NB	3.0%	0.77
SB	0.9%	0.89
TOTAL	2.8%	0.95

Two-Hour Count Summaries

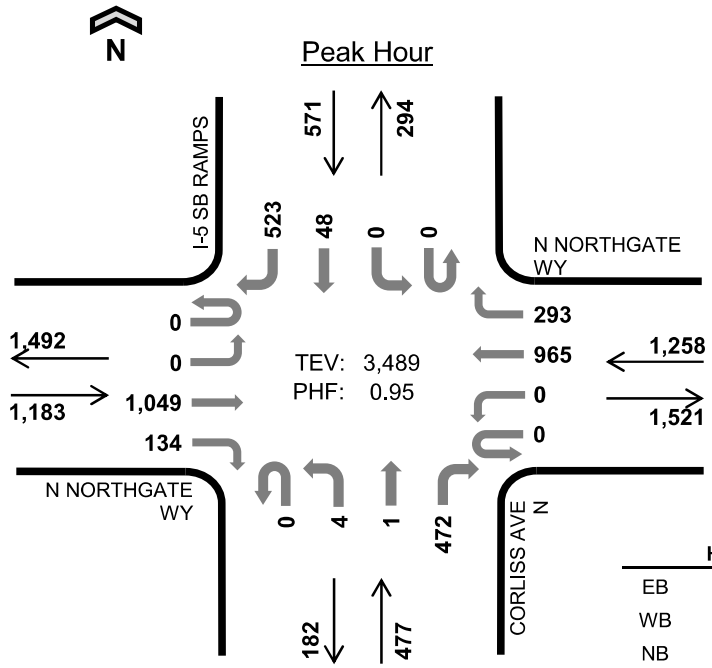
Interval Start	N NORTHGATE WY Eastbound				N NORTHGATE WY Westbound				CORLISS AVE N Northbound				I-5 SB RAMPS Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	262	47	0	0	138	60	0	0	1	75	0	0	9	71	663	0
7:15 AM	0	0	271	75	0	0	155	50	0	3	0	70	0	0	4	68	696	0
7:30 AM	0	0	292	72	0	0	198	61	0	0	0	59	0	0	7	59	748	0
7:45 AM	0	0	273	53	0	0	217	39	0	1	0	71	0	0	14	68	736	2,843
8:00 AM	**0**	**0**	**269**	**47**	**0**	**0**	**208**	**45**	**0**	**1**	**0**	**94**	**0**	**0**	**14**	**79**	**757**	2,937
8:15 AM	**0**	**0**	**268**	**44**	**0**	**0**	**199**	**53**	**0**	**2**	**0**	**83**	**0**	**0**	**18**	**90**	**757**	2,998
8:30 AM	**0**	**0**	**257**	**50**	**0**	**0**	**213**	**35**	**0**	**1**	**0**	**92**	**0**	**0**	**26**	**97**	**771**	3,021
8:45 AM	**0**	**0**	**254**	**43**	**0**	**0**	**227**	**33**	**0**	**1**	**2**	**128**	**0**	**0**	**26**	**101**	**815**	**3,100**
Count Total	0	0	2,146	431	0	0	1,555	376	0	9	3	672	0	0	118	633	5,943	0
Peak Hour	**0**	**0**	**1,048**	**184**	**0**	**0**	**847**	**166**	**0**	**5**	**2**	**397**	**0**	**0**	**84**	**367**	**3,100**	**0**

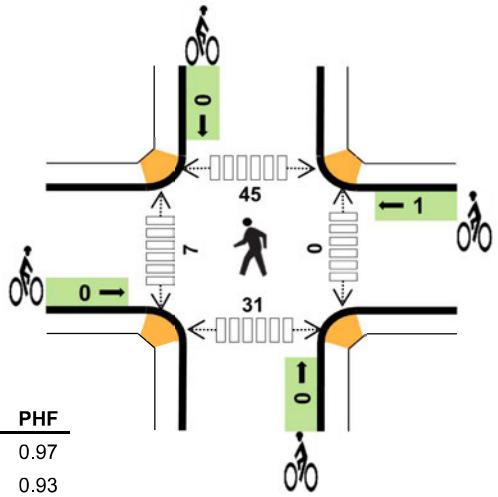
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	5	11	5	2	*23*	1	0	0	0	*1*	0	1	3	3	*7*
7:15 AM	4	15	1	1	*21*	0	0	0	0	*0*	0	3	3	5	*11*
7:30 AM	6	5	2	1	*14*	1	0	0	0	*1*	0	2	5	3	*10*
7:45 AM	4	9	4	2	*19*	0	0	0	0	*0*	0	0	5	8	*13*
8:00 AM	**8**	**11**	**1**	**1**	***21***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**5**	**5**	*10*
8:15 AM	**11**	**8**	**3**	**1**	***23***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**6**	**3**	*9*
8:30 AM	**6**	**3**	**5**	**1**	***15***	**1**	**0**	**0**	**1**	***2***	**0**	**0**	**3**	**5**	*8*
8:45 AM	**11**	**13**	**3**	**1**	***28***	**1**	**0**	**0**	**0**	***1***	**0**	**1**	**4**	**6**	***11***
Count Total	55	75	24	10	*164*	5	1	0	1	*7*	0	7	34	38	*79*
Peak Hour	**36**	**35**	**12**	**4**	***87***	**3**	**1**	**0**	**1**	***5***	**0**	**1**	**18**	**19**	***38***

CORLISS AVE N
N NORTHGATE WY

Date: Tue, Sep 24, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





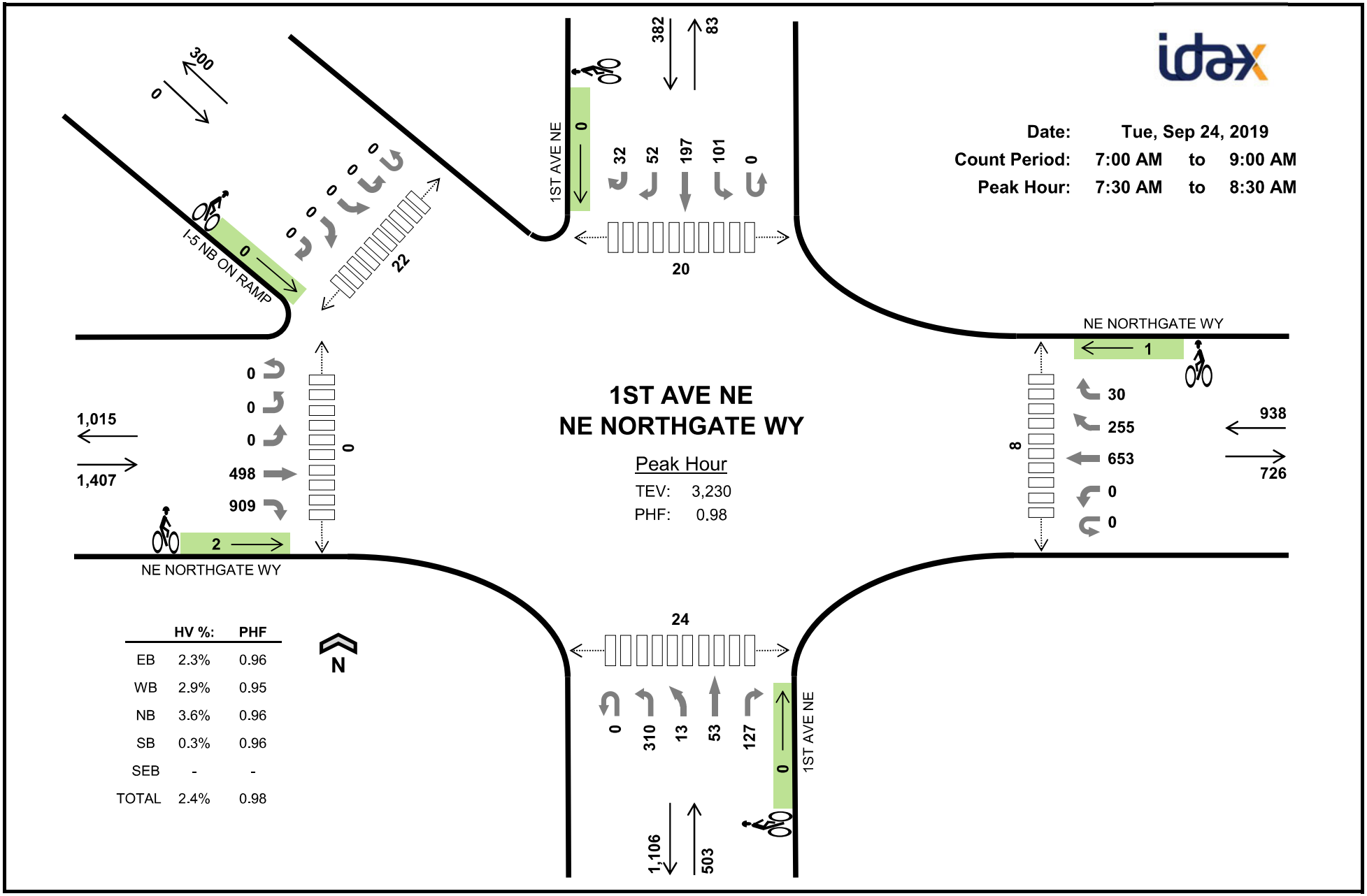
	HV %:	PHF
EB	1.6%	0.97
WB	1.2%	0.93
NB	1.7%	0.90
SB	1.1%	0.82
TOTAL	1.4%	0.95

Two-Hour Count Summaries

Interval Start	N NORTHGATE WY Eastbound				N NORTHGATE WY Westbound				CORLISS AVE N Northbound				I-5 SB RAMPS Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**259**	**37**	**0**	**0**	**264**	**74**	**0**	**0**	**0**	**104**	**0**	**0**	**9**	**123**	**870**	0
4:15 PM	**0**	**0**	**254**	**30**	**0**	**0**	**220**	**80**	**0**	**0**	**0**	**116**	**0**	**0**	**12**	**115**	**827**	0
4:30 PM	**0**	**0**	**262**	**37**	**0**	**0**	**243**	**68**	**0**	**2**	**0**	**123**	**0**	**0**	**13**	**124**	**872**	0
4:45 PM	**0**	**0**	**274**	**30**	**0**	**0**	**238**	**71**	**0**	**2**	**1**	**129**	**0**	**0**	**14**	**161**	**920**	**3,489**
5:00 PM	1	0	259	43	0	0	243	61	0	1	0	115	0	0	13	130	866	3,485
5:15 PM	0	0	214	41	0	1	262	54	0	2	0	115	0	1	14	124	828	3,486
5:30 PM	0	0	228	41	0	0	248	72	0	1	0	117	0	0	22	138	867	3,481
5:45 PM	0	0	238	38	0	0	238	60	0	1	0	111	0	0	16	132	834	3,395
Count Total	1	0	1,988	297	0	1	1,956	540	0	9	1	930	0	1	113	1,047	6,884	0
Peak Hour	**0**	**0**	**1,049**	**134**	**0**	**0**	**965**	**293**	**0**	**4**	**1**	**472**	**0**	**0**	**48**	**523**	**3,489**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	**4**	**2**	**0**	**1**	***7***	**0**	**1**	**0**	**0**	***1***	**0**	**1**	**12**	**3**	*16*
4:15 PM	**7**	**5**	**0**	**2**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**13**	**8**	*22*
4:30 PM	**4**	**1**	**2**	**2**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**11**	**8**	*22*
4:45 PM	**4**	**7**	**6**	**1**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**9**	**12**	***23***
5:00 PM	3	1	0	2	*6*	0	1	0	0	*1*	0	1	18	8	*27*
5:15 PM	2	2	0	1	*5*	0	0	0	0	*0*	0	0	16	6	*22*
5:30 PM	1	6	1	1	*9*	0	1	0	1	*2*	0	4	5	16	*25*
5:45 PM	4	3	0	0	*7*	0	0	0	0	*0*	0	0	5	24	*29*
Count Total	29	27	9	10	*75*	0	3	0	1	*4*	0	12	89	85	*186*
Peak Hour	**19**	**15**	**8**	**6**	***48***	**0**	**1**	**0**	**0**	***1***	**0**	**7**	**45**	**31**	***83***



Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

Two-Hour Count Summaries

Interval Start	NE NORTHGATE WY					NE NORTHGATE WY					1ST AVE NE					1ST AVE NE					I-5 NB ON RAMP					15-min Total	Rolling One Hour
	Eastbound					Westbound					Northbound					Southbound					Southeastbound						
	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	HL	BL	BR	HR		
7:00 AM	0	0	0	90	245	0	0	126	37	4	0	59	3	4	22	0	21	34	10	1	0	0	0	0	0	656	0
7:15 AM	0	0	0	89	255	0	1	126	48	6	0	73	4	13	28	0	21	42	8	1	0	0	0	0	0	715	0
7:30 AM	**0**	**0**	**0**	**106**	**241**	**0**	**0**	**168**	**70**	**10**	**0**	**76**	**4**	**14**	**35**	**0**	**18**	**53**	**15**	**13**	**0**	**0**	**0**	**0**	**0**	**823**	0
7:45 AM	**0**	**0**	**0**	**124**	**219**	**0**	**0**	**162**	**67**	**6**	**0**	**84**	**2**	**11**	**34**	**0**	**34**	**48**	**12**	**5**	**0**	**0**	**0**	**0**	**0**	**808**	3,002
8:00 AM	**0**	**0**	**0**	**141**	**225**	**0**	**0**	**156**	**63**	**5**	**0**	**77**	**3**	**15**	**30**	**0**	**22**	**47**	**14**	**8**	**0**	**0**	**0**	**0**	**0**	**806**	3,152
8:15 AM	**0**	**0**	**0**	**127**	**224**	**0**	**0**	**167**	**55**	**9**	**0**	**73**	**4**	**13**	**28**	**0**	**27**	**49**	**11**	**6**	**0**	**0**	**0**	**0**	**0**	**793**	**3,230**
8:30 AM	0	0	0	136	216	0	0	172	48	6	0	73	3	6	34	0	24	35	10	5	0	0	0	0	0	768	3,175
8:45 AM	0	0	0	170	214	0	0	174	61	9	0	76	5	10	41	0	27	35	11	6	0	0	0	0	0	839	3,206
Count Total	0	0	0	983	1,839	0	1	1,251	449	55	0	591	28	86	252	0	194	343	91	45	0	0	0	0	0	6,208	0
Peak Hour	**0**	**0**	**0**	**498**	**909**	**0**	**0**	**653**	**255**	**30**	**0**	**310**	**13**	**53**	**127**	**0**	**101**	**197**	**52**	**32**	**0**	**0**	**0**	**0**	**0**	**3,230**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	SEB	Total	EB	WB	NB	SB	SEB	Total	East	West	North	South	Northwest	Total
7:00 AM	9	11	5	2	0	*27*	1	0	0	0	0	*1*	0	0	4	7	4	*15*
7:15 AM	5	11	9	1	0	*26*	0	0	0	0	0	*0*	2	0	1	5	2	*10*
7:30 AM	**6**	**4**	**4**	**0**	**0**	***14***	**1**	**0**	**0**	**0**	**0**	***1***	**2**	**0**	**3**	**6**	**4**	***15***
7:45 AM	**6**	**6**	**6**	**0**	**0**	***18***	**0**	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**5**	**7**	**6**	***20***
8:00 AM	**9**	**10**	**4**	**1**	**0**	***24***	**0**	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**6**	**6**	**6**	***21***
8:15 AM	**11**	**7**	**4**	**0**	**0**	***22***	**1**	**1**	**0**	**0**	**0**	***2***	**1**	**0**	**6**	**5**	**6**	***18***
8:30 AM	12	4	2	0	0	*18*	1	0	0	1	0	*2*	1	0	3	4	2	*10*
8:45 AM	10	10	5	3	0	*28*	1	0	0	0	0	*1*	2	0	4	5	4	*15*
Count Total	68	63	39	7	0	*177*	5	1	0	1	0	*7*	13	0	32	45	34	*124*
Peak Hr	**32**	**27**	**18**	**1**	**0**	***78***	**2**	**1**	**0**	**0**	**0**	***3***	**8**	**0**	**20**	**24**	**22**	*74*

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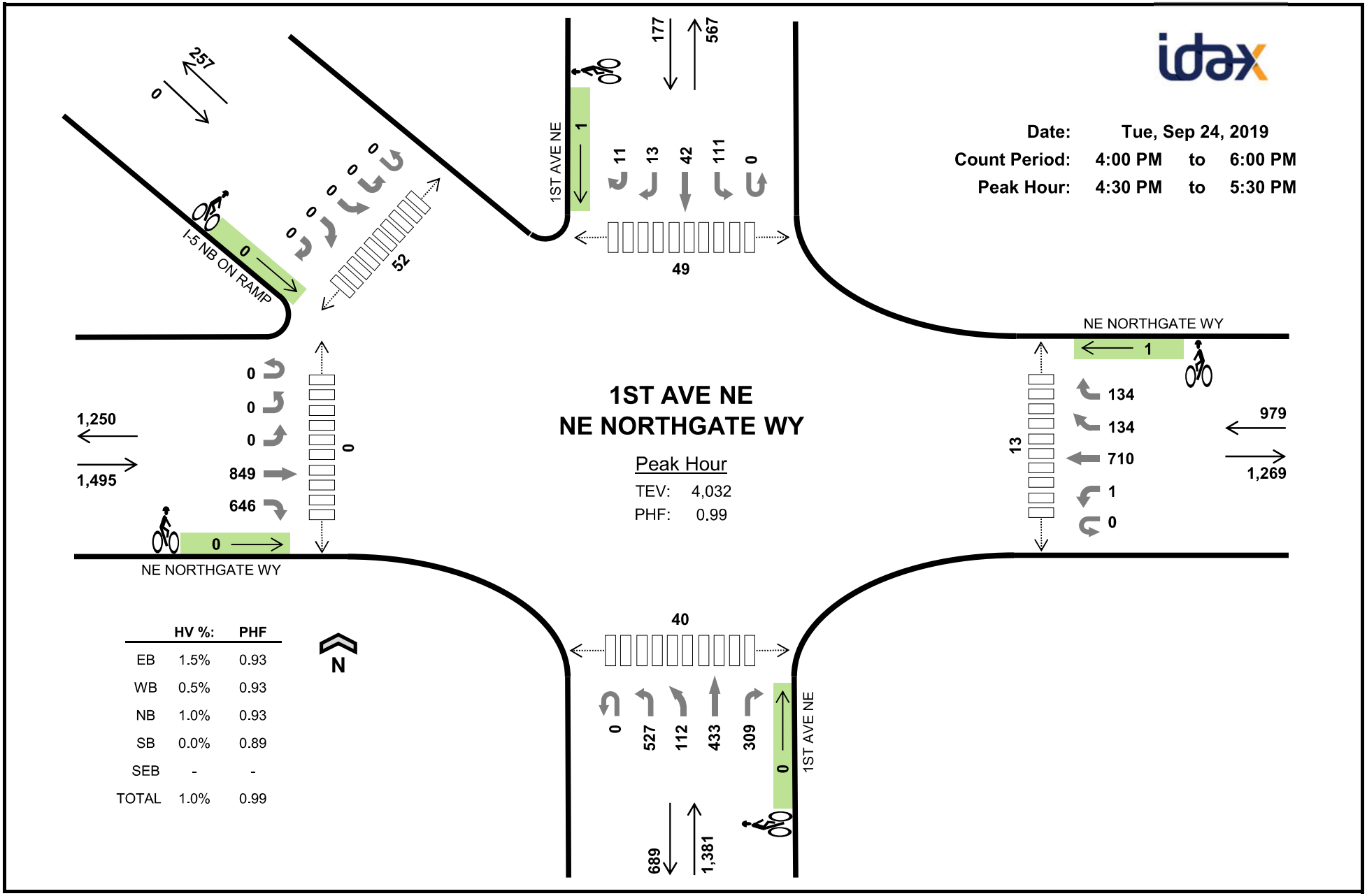

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

Two-Hour Count Summaries

Interval Start	NE NORTHGATE WY					NE NORTHGATE WY					1ST AVE NE					1ST AVE NE					I-5 NB ON RAMP					15-min Total	Rolling One Hour
	Eastbound					Westbound					Northbound					Southbound					Southeastbound						
	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	HL	BL	BR	HR		
4:00 PM	0	0	0	220	137	0	0	206	53	26	0	126	23	84	91	0	18	9	8	4	0	0	0	0	0	1,005	0
4:15 PM	0	0	0	241	135	0	0	185	55	30	0	101	25	60	83	0	25	13	7	5	0	0	0	0	0	965	0
4:30 PM	**0**	**0**	**0**	**219**	**171**	**0**	**0**	**191**	**29**	**16**	**0**	**125**	**25**	**99**	**74**	**0**	**33**	**10**	**5**	**2**	**0**	**0**	**0**	**0**	**0**	**999**	0
4:45 PM	**0**	**0**	**0**	**236**	**165**	**0**	**0**	**175**	**27**	**26**	**0**	**133**	**29**	**105**	**73**	**0**	**24**	**8**	**3**	**3**	**0**	**0**	**0**	**0**	**0**	**1,007**	3,976
5:00 PM	**0**	**0**	**0**	**207**	**167**	**0**	**1**	**170**	**35**	**46**	**0**	**129**	**28**	**108**	**83**	**0**	**25**	**15**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**1,020**	3,991
5:15 PM	**0**	**0**	**0**	**187**	**143**	**0**	**0**	**174**	**43**	**46**	**0**	**140**	**30**	**121**	**79**	**0**	**29**	**9**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**1,006**	**4,032**
5:30 PM	0	0	0	220	114	0	0	185	40	40	0	144	21	114	74	0	27	7	4	3	0	0	0	0	0	993	4,026
5:45 PM	0	0	0	226	124	0	0	165	19	36	0	119	26	99	96	0	17	8	9	1	0	0	0	0	0	945	3,964
Count Total	0	0	0	1,756	1,156	0	1	1,451	301	266	0	1,017	207	790	653	0	198	79	41	24	0	0	0	0	0	7,940	0
Peak Hour	**0**	**0**	**0**	**849**	**646**	**0**	**1**	**710**	**134**	**134**	**0**	**527**	**112**	**433**	**309**	**0**	**111**	**42**	**13**	**11**	**0**	**0**	**0**	**0**	**0**	**4,032**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	SEB	Total	EB	WB	NB	SB	SEB	Total	East	West	North	South	Northwest	Total
4:00 PM	3	3	1	1	0	*8*	0	1	0	0	0	*1*	2	0	12	5	13	*32*
4:15 PM	6	5	3	0	0	*14*	0	0	0	0	0	*0*	2	0	11	8	13	*34*
4:30 PM	**8**	**0**	**2**	**0**	**0**	***10***	**0**	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**8**	**11**	**10**	***31***
4:45 PM	**9**	**2**	**5**	**0**	**0**	***16***	**0**	**0**	**0**	**1**	**0**	***1***	**4**	**0**	**13**	**13**	**13**	***43***
5:00 PM	**3**	**2**	**4**	**0**	**0**	***9***	**0**	**1**	**0**	**0**	**0**	***1***	**2**	**0**	**14**	**9**	**14**	***39***
5:15 PM	**2**	**1**	**3**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**14**	**7**	**15**	***41***
5:30 PM	1	4	3	0	0	*8*	0	1	0	0	0	*1*	5	0	6	17	5	*33*
5:45 PM	3	1	2	0	0	*6*	0	0	0	0	0	*0*	3	0	4	22	4	*33*
Count Total	35	18	23	1	0	*77*	0	3	0	1	0	*4*	25	0	82	92	87	*286*
Peak Hr	**22**	**5**	**14**	**0**	**0**	***41***	**0**	**1**	**0**	**1**	**0**	***2***	**13**	**0**	**49**	**40**	**52**	*154*

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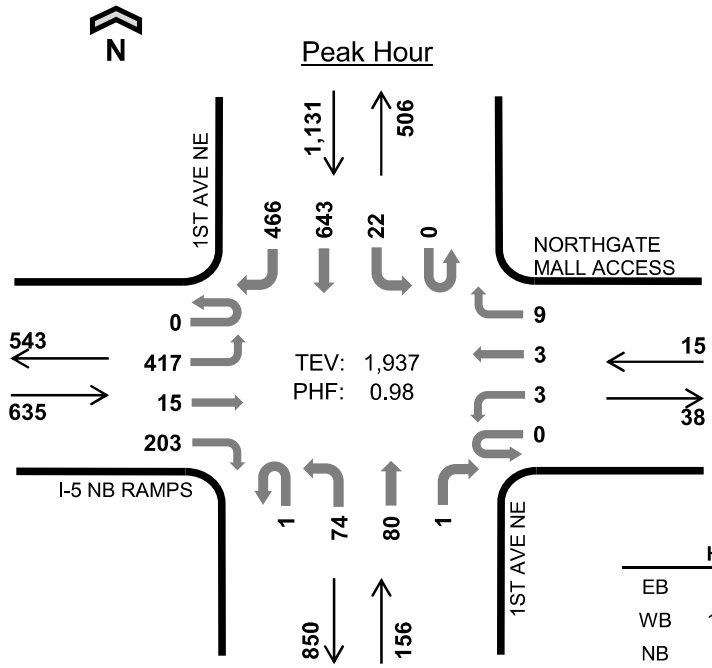
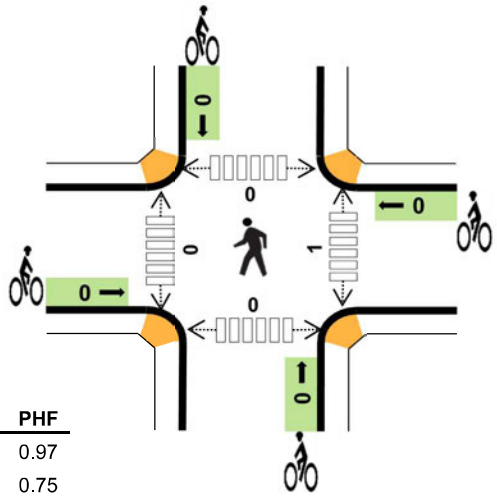
1ST AVE NE
I-5 NB RAMPS



Date: Tue, Sep 24, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	5.5%	0.97
WB	13.3%	0.75
NB	3.2%	0.83
SB	1.4%	0.92
TOTAL	3.0%	0.98

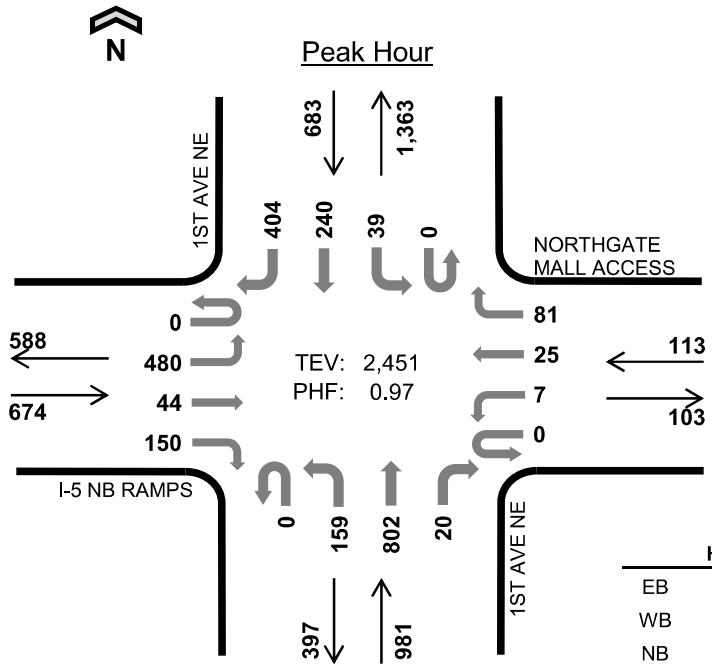
Two-Hour Count Summaries

Interval Start	I-5 NB RAMPS				NORTHGATE MALL ACCESS				1ST AVE NE				1ST AVE NE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	78	6	47	0	1	0	1	0	15	11	0	0	3	169	101	432	0
7:15 AM	**0**	**95**	**5**	**48**	**0**	**1**	**1**	**3**	**0**	**17**	**19**	**0**	**0**	**5**	**177**	**124**	**495**	0
7:30 AM	**0**	**109**	**4**	**48**	**0**	**0**	**0**	**1**	**0**	**16**	**20**	**0**	**0**	**5**	**159**	**129**	**491**	0
7:45 AM	**0**	**111**	**3**	**50**	**0**	**1**	**1**	**3**	**0**	**17**	**20**	**0**	**0**	**7**	**160**	**98**	**471**	1,889
8:00 AM	**0**	**102**	**3**	**57**	**0**	**1**	**1**	**2**	**1**	**24**	**21**	**1**	**0**	**5**	**147**	**115**	**480**	**1,937**
8:15 AM	0	95	4	54	0	0	0	3	1	11	16	0	0	2	152	120	458	1,900
8:30 AM	0	97	5	64	0	2	1	0	0	23	18	1	0	8	128	114	461	1,870
8:45 AM	0	112	1	49	0	1	1	4	0	22	15	0	0	6	146	100	457	1,856
Count Total	0	799	31	417	0	7	5	17	2	145	140	2	0	41	1,238	901	3,745	0
Peak Hour	**0**	**417**	**15**	**203**	**0**	**3**	**3**	**9**	**1**	**74**	**80**	**1**	**0**	**22**	**643**	**466**	**1,937**	**0**

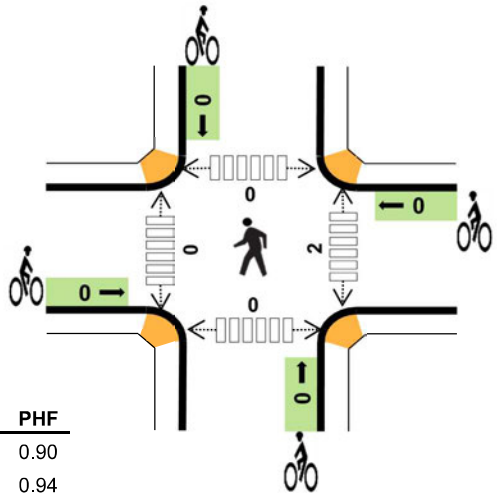
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	10	0	1	7	*18*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**12**	**0**	**1**	**3**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**7**	**0**	**1**	**3**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**9**	**1**	**2**	**5**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**7**	**1**	**1**	**5**	***14***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***
8:15 AM	7	0	1	8	*16*	0	0	0	0	*0*	1	0	0	0	*1*
8:30 AM	6	0	2	8	*16*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	7	0	1	9	*17*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	65	2	10	48	*125*	0	0	0	0	*0*	2	0	0	0	*2*
Peak Hour	**35**	**2**	**5**	**16**	***58***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***

1ST AVE NE
I-5 NB RAMPS



Date: Tue, Sep 24, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	1.3%	0.90
WB	0.0%	0.94
NB	1.5%	0.97
SB	1.5%	0.90
TOTAL	1.4%	0.97

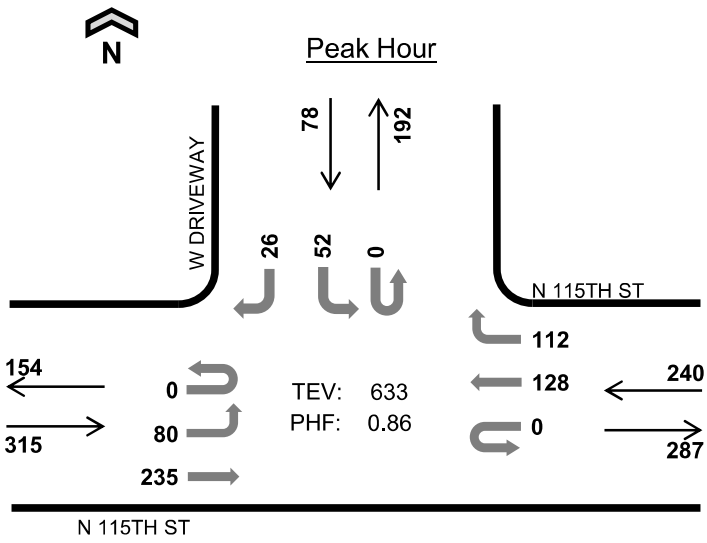
Two-Hour Count Summaries

Interval Start	I-5 NB RAMPS				NORTHGATE MALL ACCESS				1ST AVE NE				1ST AVE NE				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	1	134	11	29	0	0	4	19	0	46	166	4	0	8	50	96	568	0
4:15 PM	2	140	10	42	0	3	5	16	0	25	137	4	0	11	66	63	524	0
4:30 PM	**0**	**101**	**17**	**41**	**0**	**3**	**7**	**16**	**0**	**39**	**206**	**3**	**0**	**11**	**65**	**105**	**614**	0
4:45 PM	**0**	**138**	**11**	**39**	**0**	**1**	**4**	**23**	**0**	**48**	**180**	**8**	**0**	**10**	**51**	**108**	**621**	2,327
5:00 PM	**0**	**123**	**9**	**34**	**0**	**1**	**7**	**22**	**0**	**41**	**198**	**5**	**0**	**12**	**73**	**105**	**630**	2,389
5:15 PM	**0**	**118**	**7**	**36**	**0**	**2**	**7**	**20**	**0**	**31**	**218**	**4**	**0**	**6**	**51**	**86**	**586**	**2,451**
5:30 PM	0	135	14	35	0	1	8	20	0	45	215	7	0	10	55	67	612	2,449
5:45 PM	0	160	13	36	0	4	6	10	0	30	167	1	0	11	42	77	557	2,385
Count Total	3	1,049	92	292	0	15	48	146	0	305	1,487	36	0	79	453	707	4,712	0
Peak Hour	**0**	**480**	**44**	**150**	**0**	**7**	**25**	**81**	**0**	**159**	**802**	**20**	**0**	**39**	**240**	**404**	**2,451**	**0**

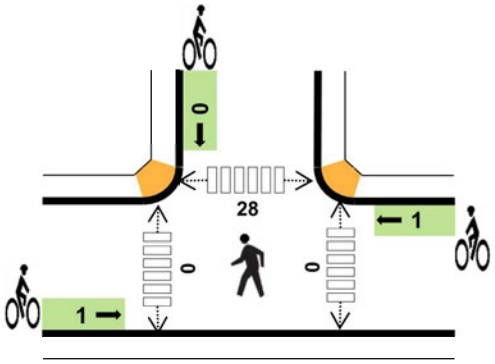
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	0	2	2	*7*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	2	0	4	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**1**	**0**	**4**	**5**	***10***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
4:45 PM	**1**	**0**	**5**	**4**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**5**	**0**	**3**	**1**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**2**	**0**	**3**	**0**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	2	0	4	1	*7*	0	0	0	0	*0*	2	0	0	0	*2*
5:45 PM	1	0	2	1	*4*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	17	0	27	14	*58*	0	0	0	0	*0*	4	0	0	0	*4*
Peak Hour	**9**	**0**	**15**	**10**	***34***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	***2***

W DRIVEWAY
N 115TH ST



Date: Wed, Sep 11, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	1.9%	0.77
WB	4.6%	0.95
NB	-	-
SB	0.0%	0.46
TOTAL	2.7%	0.86

Two-Hour Count Summaries

Interval Start	N 115TH ST Eastbound				N 115TH ST Westbound				0 Northbound				W DRIVEWAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	17	45	0	0	0	21	21	0	0	0	0	0	6	0	0	110	0
7:15 AM	**0**	**19**	**44**	**0**	**0**	**0**	**29**	**29**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**5**	**135**	0
7:30 AM	**0**	**22**	**56**	**0**	**0**	**0**	**31**	**29**	**0**	**0**	**0**	**0**	**0**	**27**	**0**	**15**	**180**	0
7:45 AM	**0**	**23**	**79**	**0**	**0**	**0**	**32**	**31**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**5**	**183**	608
8:00 AM	**0**	**16**	**56**	**0**	**0**	**0**	**36**	**23**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**135**	**633**
8:15 AM	0	17	46	0	0	0	38	23	0	0	0	0	0	2	0	3	129	627
8:30 AM	0	16	63	0	0	0	29	10	0	0	0	0	0	5	0	2	125	572
8:45 AM	0	10	62	0	0	0	48	15	0	0	0	0	0	4	0	2	141	530
Count Total	0	140	451	0	0	0	264	181	0	0	0	0	0	69	0	33	1,138	0
Peak Hour	**0**	**80**	**235**	**0**	**0**	**0**	**128**	**112**	**0**	**0**	**0**	**0**	**0**	**52**	**0**	**26**	**633**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	0	*0*	1	0	0	0	*1*	0	0	5	0	*5*
7:15 AM	**1**	**7**	**0**	**0**	***8***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**4**	**0**	*4*
7:30 AM	**3**	**0**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**9**	**0**	*9*
7:45 AM	**1**	**3**	**0**	**0**	***4***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**11**	**1**	*12*
8:00 AM	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**4**	**0**	***4***
8:15 AM	3	0	0	0	*3*	1	0	0	0	*1*	0	0	6	0	*6*
8:30 AM	2	0	0	0	*2*	0	0	0	0	*0*	0	0	7	0	*7*
8:45 AM	2	3	0	0	*5*	0	0	0	0	*0*	0	0	3	0	*3*
Count Total	13	14	0	0	*27*	3	1	0	0	*4*	0	0	49	1	*50*
Peak Hr	**6**	**11**	**0**	**0**	***17***	**1**	**1**	**0**	**0**	***2***	**0**	**0**	**28**	**1**	***29***

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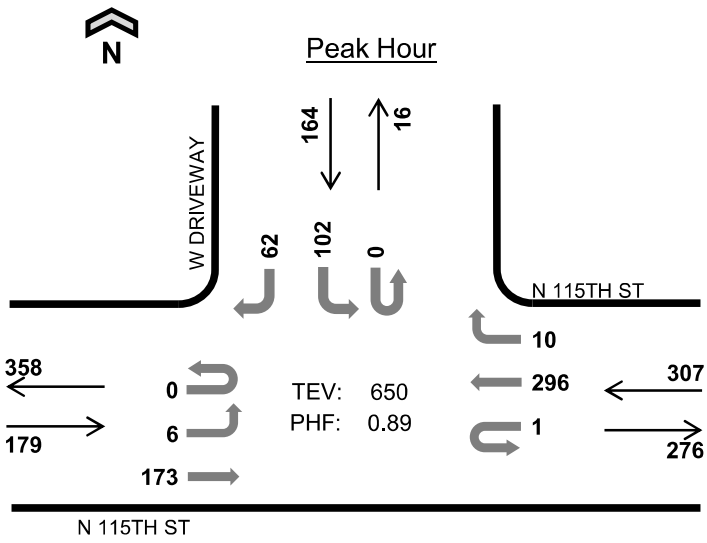
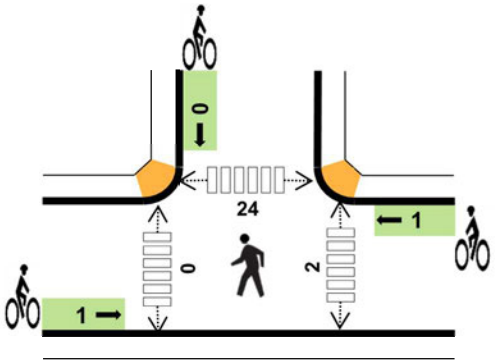
W DRIVEWAY
N 115TH ST



Date: Wed, Sep 11, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	1.7%	0.77
WB	1.0%	0.83
NB	-	-
SB	0.6%	0.80
TOTAL	1.1%	0.89

Two-Hour Count Summaries

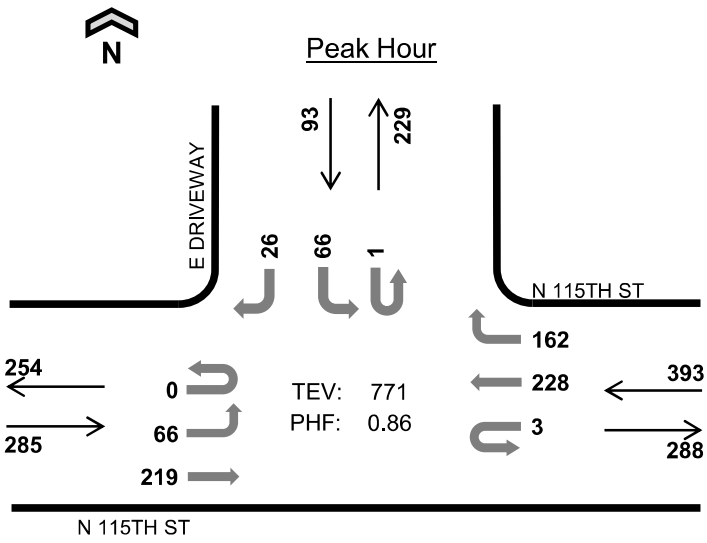
Interval Start	N 115TH ST Eastbound				N 115TH ST Westbound				0 Northbound				W DRIVEWAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	46	0	0	0	75	1	0	0	0	0	0	17	0	9	149	0
4:15 PM	0	3	40	0	1	0	63	2	0	0	0	0	0	13	0	10	132	0
4:30 PM	**0**	**3**	**55**	**0**	**1**	**0**	**72**	**2**	**0**	**0**	**0**	**0**	**0**	**31**	**0**	**18**	**182**	0
4:45 PM	**0**	**0**	**44**	**0**	**0**	**0**	**89**	**3**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**14**	**166**	629
5:00 PM	**0**	**1**	**39**	**0**	**0**	**0**	**74**	**4**	**0**	**0**	**0**	**0**	**0**	**33**	**0**	**18**	**169**	649
5:15 PM	**0**	**2**	**35**	**0**	**0**	**0**	**61**	**1**	**0**	**0**	**0**	**0**	**0**	**22**	**0**	**12**	**133**	**650**
5:30 PM	1	1	37	0	1	0	58	3	0	0	0	0	0	19	0	22	142	610
5:45 PM	0	2	34	0	0	0	53	6	0	0	0	0	0	9	0	7	111	555
Count Total	1	13	330	0	3	0	545	22	0	0	0	0	0	160	0	110	1,184	0
Peak Hour	**0**	**6**	**173**	**0**	**1**	**0**	**296**	**10**	**0**	**0**	**0**	**0**	**0**	**102**	**0**	**62**	**650**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

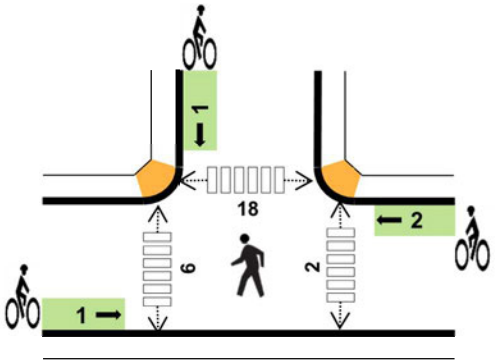
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	1	0	0	*2*	0	0	0	0	*0*	1	1	9	1	*12*
4:15 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	6	0	*6*
4:30 PM	**1**	**0**	**0**	**0**	***1***	**1**	**1**	**0**	**0**	***2***	**1**	**0**	**9**	**0**	*10*
4:45 PM	**1**	**2**	**0**	**1**	***4***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**3**	**0**	*4*
5:00 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**11**	**0**	*11*
5:15 PM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
5:30 PM	0	0	0	0	*0*	0	0	0	1	*1*	1	0	2	0	*3*
5:45 PM	0	1	0	0	*1*	1	0	0	0	*1*	0	0	3	0	*3*
Count Total	5	5	0	1	*11*	2	1	0	1	*4*	4	1	44	1	*50*
Peak Hr	**3**	**3**	**0**	**1**	***7***	**1**	**1**	**0**	**0**	***2***	**2**	**0**	**24**	**0**	***26***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

E DRIVEWAY
N 115TH ST



Date: Wed, Sep 11, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	2.8%	0.79
WB	2.5%	0.85
NB	-	-
SB	6.5%	0.75
TOTAL	3.1%	0.86

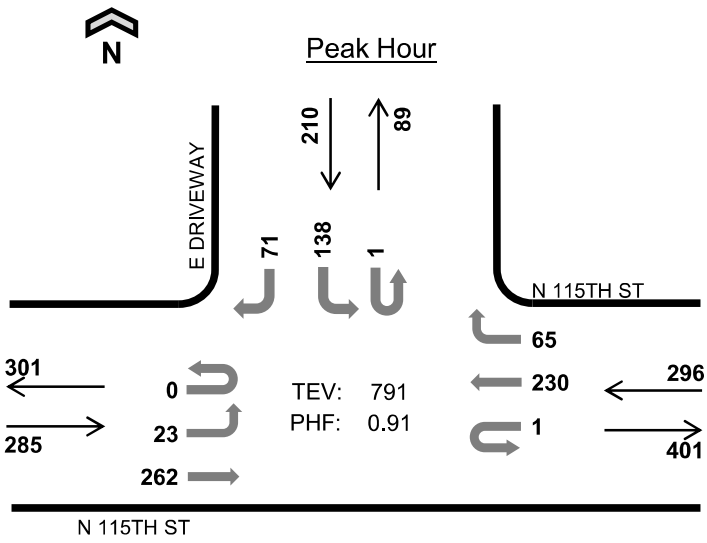
Two-Hour Count Summaries

Interval Start	N 115TH ST Eastbound				N 115TH ST Westbound				0 Northbound				E DRIVEWAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	9	42	0	0	0	33	34	0	0	0	0	0	13	0	3	134	0
7:15 AM	0	9	41	0	0	0	58	36	0	0	0	0	0	15	0	5	164	0
7:30 AM	**0**	**14**	**70**	**0**	**1**	**0**	**53**	**34**	**0**	**0**	**0**	**0**	**1**	**23**	**0**	**7**	**203**	0
7:45 AM	**0**	**21**	**69**	**0**	**0**	**0**	**62**	**53**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**8**	**225**	726
8:00 AM	**0**	**18**	**44**	**0**	**0**	**0**	**57**	**30**	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**5**	**172**	764
8:15 AM	**0**	**13**	**36**	**0**	**2**	**0**	**56**	**45**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**6**	**171**	**771**
8:30 AM	0	18	51	0	0	0	40	45	0	0	0	0	0	14	0	7	175	743
8:45 AM	0	14	47	0	0	0	62	36	0	0	0	0	0	30	0	7	196	714
Count Total	0	116	400	0	3	0	421	313	0	0	0	0	1	138	0	48	1,440	0
Peak Hour	**0**	**66**	**219**	**0**	**3**	**0**	**228**	**162**	**0**	**0**	**0**	**0**	**1**	**66**	**0**	**26**	**771**	**0**

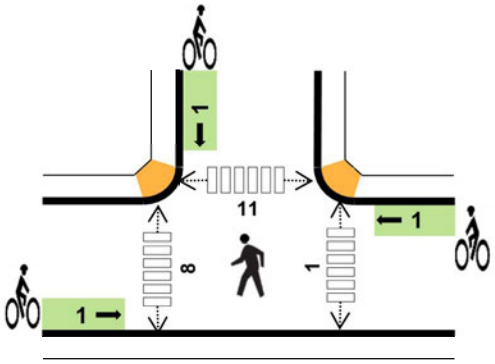
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	0	2	*2*	0	0	0	0	*0*	0	1	4	0	*5*
7:15 AM	1	8	0	1	*10*	1	0	0	0	*1*	1	0	0	0	*1*
7:30 AM	**3**	**1**	**0**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**6**	**0**	*8*
7:45 AM	**1**	**3**	**0**	**2**	***6***	**0**	**1**	**0**	**0**	***1***	**2**	**1**	**5**	**0**	*8*
8:00 AM	**1**	**4**	**0**	**1**	***6***	**0**	**1**	**0**	**0**	***1***	**0**	**1**	**5**	**0**	*6*
8:15 AM	**3**	**2**	**0**	**2**	***7***	**1**	**0**	**0**	**1**	***2***	**0**	**2**	**2**	**1**	***5***
8:30 AM	2	3	0	2	*7*	0	1	0	0	*1*	0	1	4	0	*5*
8:45 AM	2	3	0	3	*8*	0	0	0	0	*0*	1	1	2	0	*4*
Count Total	13	24	0	14	*51*	2	3	0	1	*6*	4	9	28	1	*42*
Peak Hr	**8**	**10**	**0**	**6**	***24***	**1**	**2**	**0**	**1**	***4***	**2**	**6**	**18**	**1**	***27***

E DRIVEWAY
N 115TH ST



Date: Wed, Sep 11, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	1.8%	0.76
WB	2.4%	0.93
NB	-	-
SB	2.9%	0.92
TOTAL	2.3%	0.91

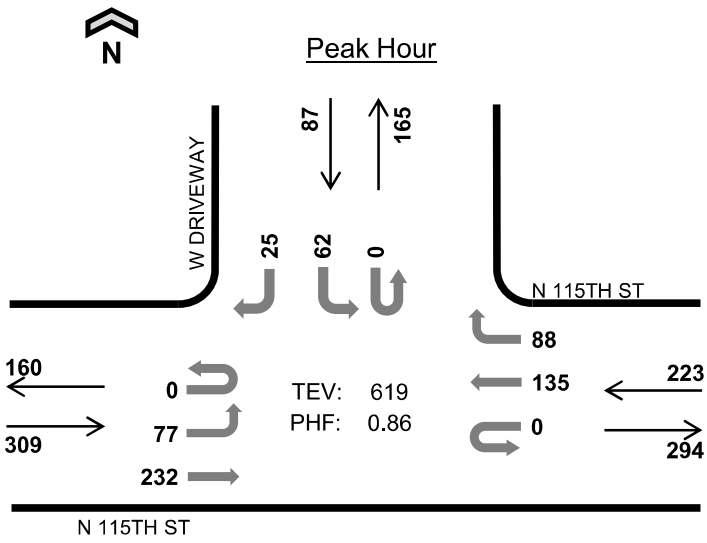
Two-Hour Count Summaries

Interval Start	N 115TH ST Eastbound				N 115TH ST Westbound				0 Northbound				E DRIVEWAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	6	59	0	1	0	61	21	0	0	0	0	0	28	0	16	192	0
4:15 PM	**0**	**6**	**51**	**0**	**1**	**0**	**49**	**22**	**0**	**0**	**0**	**0**	**0**	**40**	**0**	**17**	**186**	0
4:30 PM	**0**	**8**	**86**	**0**	**0**	**0**	**56**	**14**	**0**	**0**	**0**	**0**	**0**	**35**	**0**	**19**	**218**	0
4:45 PM	**0**	**5**	**57**	**0**	**0**	**0**	**64**	**16**	**0**	**0**	**0**	**0**	**1**	**25**	**0**	**25**	**193**	789
5:00 PM	**0**	**4**	**68**	**0**	**0**	**0**	**61**	**13**	**0**	**0**	**0**	**0**	**0**	**38**	**0**	**10**	**194**	**791**
5:15 PM	0	4	56	0	0	0	47	16	0	0	0	0	0	31	0	13	167	772
5:30 PM	0	8	53	0	0	0	52	10	0	0	0	0	0	31	0	9	163	717
5:45 PM	0	8	30	0	0	0	53	15	0	0	0	0	0	26	0	9	141	665
Count Total	0	49	460	0	2	0	443	127	0	0	0	0	1	254	0	118	1,454	0
Peak Hour	**0**	**23**	**262**	**0**	**1**	**0**	**230**	**65**	**0**	**0**	**0**	**0**	**1**	**138**	**0**	**71**	**791**	**0**

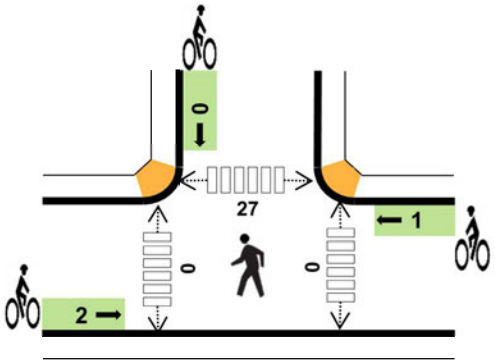
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	3	0	1	*5*	0	0	0	0	*0*	4	4	3	2	*13*
4:15 PM	**1**	**1**	**0**	**2**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**4**	**0**	*6*
4:30 PM	**1**	**2**	**0**	**1**	***4***	**1**	**1**	**0**	**0**	***2***	**0**	**1**	**2**	**0**	*3*
4:45 PM	**2**	**3**	**0**	**1**	***6***	**0**	**0**	**0**	**1**	***1***	**0**	**2**	**2**	**2**	*6*
5:00 PM	**1**	**1**	**0**	**2**	***4***	**0**	**0**	**0**	**0**	***0***	**1**	**3**	**3**	**1**	***8***
5:15 PM	0	2	0	2	*4*	0	0	0	0	*0*	1	0	1	0	*2*
5:30 PM	0	2	0	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	1	0	1	*2*	1	0	0	2	*3*	0	0	1	0	*1*
Count Total	6	15	0	11	*32*	2	1	0	3	*6*	6	12	16	5	*39*
Peak Hr	**5**	**7**	**0**	**6**	***18***	**1**	**1**	**0**	**1**	***3***	**1**	**8**	**11**	**3**	***23***

W DRIVEWAY
N 115TH ST



Date: Thu, Sep 12, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	1.0%	0.79
WB	5.4%	0.87
NB	-	-
SB	0.0%	0.47
TOTAL	2.4%	0.86

Two-Hour Count Summaries

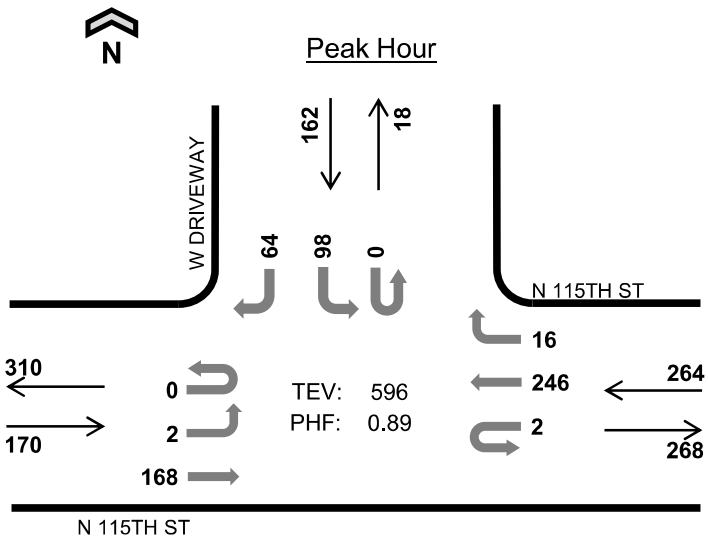
Interval Start	N 115TH ST Eastbound				N 115TH ST Westbound				0 Northbound				W DRIVEWAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	15	36	0	0	0	19	17	0	0	0	0	0	4	0	0	91	0
7:15 AM	**0**	**17**	**46**	**0**	**0**	**0**	**29**	**24**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**4**	**127**	0
7:30 AM	**0**	**20**	**51**	**0**	**0**	**0**	**28**	**24**	**0**	**0**	**0**	**0**	**0**	**33**	**0**	**13**	**169**	0
7:45 AM	**0**	**27**	**71**	**0**	**0**	**0**	**39**	**25**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**4**	**180**	567
8:00 AM	**0**	**13**	**64**	**0**	**0**	**0**	**39**	**15**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**4**	**143**	**619**
8:15 AM	0	13	46	0	0	0	27	16	0	0	0	0	0	3	0	2	107	599
8:30 AM	0	10	69	0	0	0	39	16	0	0	0	0	0	3	0	4	141	571
8:45 AM	0	17	58	0	0	0	43	13	0	0	0	0	0	1	0	0	132	523
Count Total	0	132	441	0	0	0	263	150	0	0	0	0	0	73	0	31	1,090	0
Peak Hour	**0**	**77**	**232**	**0**	**0**	**0**	**135**	**88**	**0**	**0**	**0**	**0**	**0**	**62**	**0**	**25**	**619**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

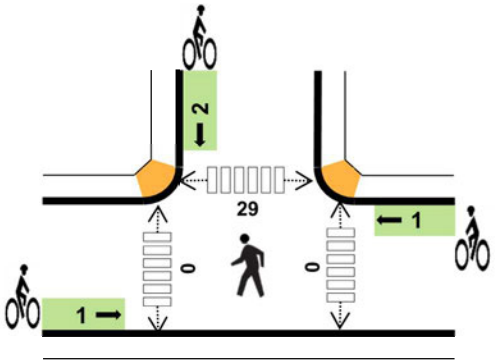
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	2	0	*2*
7:15 AM	**1**	**5**	**0**	**0**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**8**	**0**	*8*
7:30 AM	**1**	**2**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	*3*
7:45 AM	**1**	**3**	**0**	**0**	***4***	**2**	**1**	**0**	**0**	***3***	**0**	**0**	**9**	**0**	*9*
8:00 AM	**0**	**2**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**7**	**0**	***7***
8:15 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	4	0	*4*
8:30 AM	2	0	0	0	*2*	0	0	0	0	*0*	0	0	9	0	*9*
8:45 AM	2	1	0	0	*3*	0	0	0	0	*0*	1	0	2	0	*3*
Count Total	8	14	0	0	*22*	2	1	0	0	*3*	1	0	44	0	*45*
Peak Hr	**3**	**12**	**0**	**0**	***15***	**2**	**1**	**0**	**0**	***3***	**0**	**0**	**27**	**0**	***27***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

W DRIVEWAY
N 115TH ST



Date: Thu, Sep 12, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	0.6%	0.92
WB	0.4%	0.90
NB	-	-
SB	0.0%	0.79
TOTAL	0.3%	0.89

Two-Hour Count Summaries

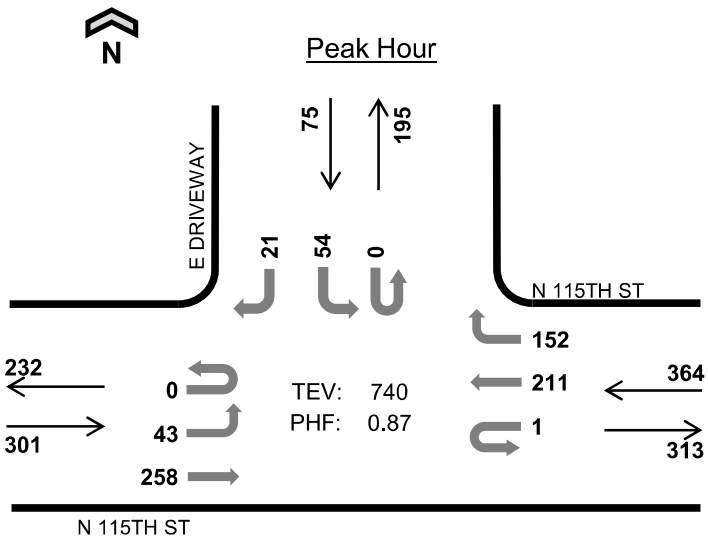
Interval Start	N 115TH ST Eastbound				N 115TH ST Westbound				0 Northbound				W DRIVEWAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	42	0	0	0	62	3	0	0	0	0	0	13	0	15	136	0
4:15 PM	0	4	43	0	0	0	55	4	0	0	0	0	0	15	0	10	131	0
4:30 PM	**0**	**0**	**46**	**0**	**0**	**0**	**56**	**5**	**0**	**0**	**0**	**0**	**0**	**28**	**0**	**16**	**151**	0
4:45 PM	**0**	**0**	**40**	**0**	**1**	**0**	**58**	**8**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**19**	**142**	560
5:00 PM	**0**	**1**	**42**	**0**	**1**	**0**	**71**	**1**	**0**	**0**	**0**	**0**	**0**	**29**	**0**	**22**	**167**	591
5:15 PM	**0**	**1**	**40**	**0**	**0**	**0**	**61**	**2**	**0**	**0**	**0**	**0**	**0**	**25**	**0**	**7**	**136**	**596**
5:30 PM	0	1	40	0	0	0	57	1	0	0	0	0	0	24	0	16	139	584
5:45 PM	0	2	48	0	0	0	50	4	0	0	0	0	0	14	0	8	126	568
Count Total	0	10	341	0	2	0	470	28	0	0	0	0	0	164	0	113	1,128	0
Peak Hour	**0**	**2**	**168**	**0**	**2**	**0**	**246**	**16**	**0**	**0**	**0**	**0**	**0**	**98**	**0**	**64**	**596**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

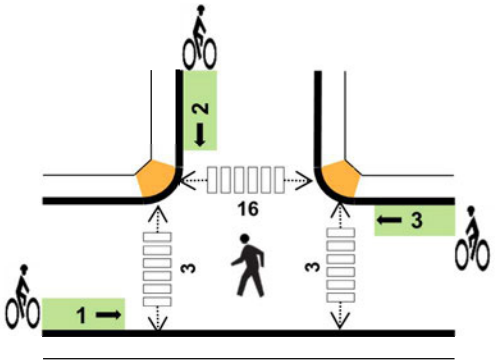
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	2	0	0	*2*	0	0	0	0	*0*	0	0	3	0	*3*
4:15 PM	0	1	0	0	*1*	0	0	0	1	*1*	0	0	6	0	*6*
4:30 PM	**0**	**1**	**0**	**0**	***1***	**0**	**1**	**0**	**1**	***2***	**0**	**0**	**7**	**0**	*7*
4:45 PM	**1**	**0**	**0**	**0**	***1***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**10**	**0**	*10*
5:00 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**7**	**0**	*7*
5:15 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**5**	**0**	***5***
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	1	0	*1*
5:45 PM	0	1	0	0	*1*	1	0	0	0	*1*	0	0	3	0	*3*
Count Total	1	5	0	0	*6*	2	1	0	3	*6*	0	0	42	0	*42*
Peak Hr	**1**	**1**	**0**	**0**	***2***	**1**	**1**	**0**	**2**	***4***	**0**	**0**	**29**	**0**	***29***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

E DRIVEWAY
N 115TH ST



Date: Thu, Sep 12, 2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	1.3%	0.88
WB	4.7%	0.89
NB	-	-
SB	6.7%	0.78
TOTAL	3.5%	0.87

Two-Hour Count Summaries

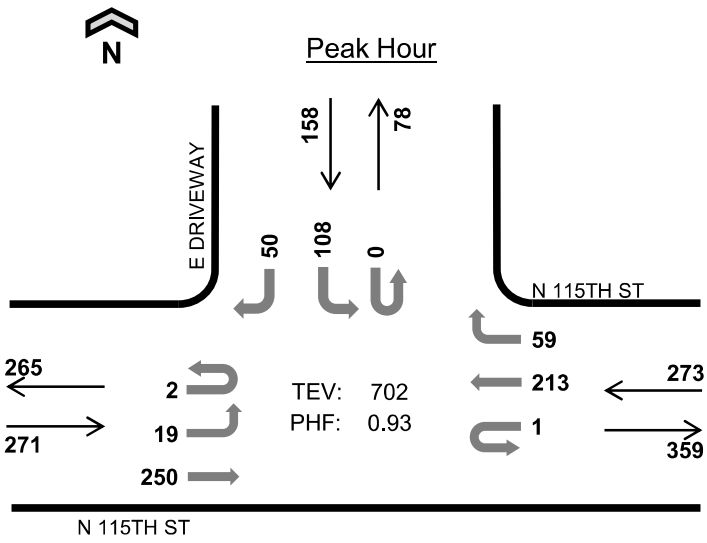
Interval Start	N 115TH ST Eastbound				N 115TH ST Westbound				0 Northbound				E DRIVEWAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	7	33	0	1	0	34	24	0	0	0	0	0	9	0	0	108	0
7:15 AM	**0**	**9**	**48**	**0**	**0**	**0**	**54**	**38**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**4**	**160**	0
7:30 AM	**0**	**6**	**77**	**0**	**1**	**0**	**51**	**37**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**4**	**192**	0
7:45 AM	**0**	**10**	**76**	**0**	**0**	**0**	**62**	**40**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**8**	**212**	672
8:00 AM	**0**	**18**	**57**	**0**	**0**	**0**	**44**	**37**	**0**	**0**	**0**	**0**	**0**	**15**	**0**	**5**	**176**	**740**
8:15 AM	0	10	36	0	0	0	46	39	0	0	0	0	0	14	0	6	151	731
8:30 AM	0	21	52	0	0	0	49	26	0	0	0	0	0	12	0	4	164	703
8:45 AM	0	13	43	0	0	0	48	46	0	0	0	0	0	15	0	12	177	668
Count Total	0	94	422	0	2	0	388	287	0	0	0	0	0	104	0	43	1,340	0
Peak Hour	**0**	**43**	**258**	**0**	**1**	**0**	**211**	**152**	**0**	**0**	**0**	**0**	**0**	**54**	**0**	**21**	**740**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

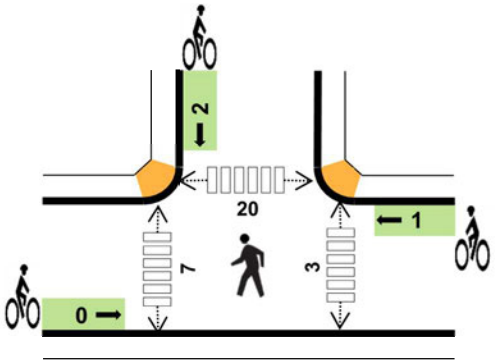
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	2	0	2	*4*	0	0	0	0	*0*	0	0	1	0	*1*
7:15 AM	**1**	**8**	**0**	**2**	***11***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**1**	**0**	*1*
7:30 AM	**1**	**3**	**0**	**1**	***5***	**0**	**1**	**0**	**0**	***1***	**1**	**2**	**4**	**0**	*7*
7:45 AM	**2**	**5**	**0**	**1**	***8***	**1**	**1**	**0**	**0**	***2***	**1**	**0**	**10**	**0**	*11*
8:00 AM	**0**	**1**	**0**	**1**	***2***	**0**	**1**	**0**	**1**	***2***	**1**	**1**	**1**	**0**	***3***
8:15 AM	0	2	0	2	*4*	0	0	0	0	*0*	1	0	4	0	*5*
8:30 AM	2	1	0	2	*5*	0	0	0	0	*0*	0	0	5	0	*5*
8:45 AM	2	2	0	1	*5*	0	3	0	1	*4*	1	0	0	0	*1*
Count Total	8	24	0	12	*44*	1	6	0	3	*10*	5	3	26	0	*34*
Peak Hr	**4**	**17**	**0**	**5**	***26***	**1**	**3**	**0**	**2**	***6***	**3**	**3**	**16**	**0**	***22***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

E DRIVEWAY
N 115TH ST



Date: Thu, Sep 12, 2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	0.4%	0.86
WB	2.2%	0.90
NB	-	-
SB	3.2%	0.86
TOTAL	1.7%	0.93

Two-Hour Count Summaries

Interval Start	N 115TH ST Eastbound				N 115TH ST Westbound				0 Northbound				E DRIVEWAY Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	6	57	0	1	0	44	13	0	0	0	0	0	28	0	16	165	0
4:15 PM	0	11	47	0	0	0	44	12	0	0	0	0	0	29	0	11	154	0
4:30 PM	**0**	**5**	**74**	**0**	**0**	**0**	**48**	**16**	**0**	**0**	**0**	**0**	**0**	**30**	**0**	**16**	**189**	0
4:45 PM	**0**	**5**	**52**	**0**	**1**	**0**	**57**	**10**	**0**	**0**	**0**	**0**	**0**	**23**	**0**	**12**	**160**	668
5:00 PM	**0**	**4**	**65**	**0**	**0**	**0**	**56**	**20**	**0**	**0**	**0**	**0**	**0**	**31**	**0**	**12**	**188**	691
5:15 PM	**2**	**5**	**59**	**0**	**0**	**0**	**52**	**13**	**0**	**0**	**0**	**0**	**0**	**24**	**0**	**10**	**165**	**702**
5:30 PM	0	4	61	0	0	0	55	13	0	0	0	0	0	22	0	10	165	678
5:45 PM	0	8	57	0	0	0	43	16	0	0	0	0	0	10	0	9	143	661
Count Total	2	48	472	0	2	0	399	113	0	0	0	0	0	197	0	96	1,329	0
Peak Hour	**2**	**19**	**250**	**0**	**1**	**0**	**213**	**59**	**0**	**0**	**0**	**0**	**0**	**108**	**0**	**50**	**702**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	3	0	1	*4*	1	0	0	0	*1*	1	2	2	1	*6*
4:15 PM	0	3	0	2	*5*	1	0	0	0	*1*	1	2	1	1	*5*
4:30 PM	**0**	**3**	**0**	**1**	***4***	**0**	**1**	**0**	**1**	***2***	**0**	**3**	**4**	**0**	*7*
4:45 PM	**1**	**0**	**0**	**2**	***3***	**0**	**0**	**0**	**1**	***1***	**0**	**1**	**11**	**0**	*12*
5:00 PM	**0**	**1**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**2**	**1**	*5*
5:15 PM	**0**	**2**	**0**	**1**	***3***	**0**	**0**	**0**	**0**	***0***	**2**	**2**	**3**	**0**	***7***
5:30 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	0	1	0	*1*
5:45 PM	0	2	0	0	*2*	1	0	0	0	*1*	1	2	3	0	*6*
Count Total	1	14	0	9	*24*	3	1	0	2	*6*	6	13	27	3	*49*
Peak Hr	**1**	**6**	**0**	**5**	***12***	**0**	**1**	**0**	**2**	***3***	**3**	**7**	**20**	**1**	***31***

Highway Capacity Manual 2010/6th Edition

Signalized intersection level of service (LOS) is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control as well as provides a surrogate measure for driver discomfort and fuel consumption. Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday PM peak hour). Control delay is a complex measure based on many variables, including signal phasing and coordination (i.e., progression of movements through the intersection and along the corridor), signal cycle length, and traffic volumes with respect to intersection capacity and resulting queues. Table 1 summarizes the LOS criteria for signalized intersections, as described in the *Highway Capacity Manual 2010* and 6th Edition (Transportation Research Board, 2010 and 2016, respectively).

Table 1. Level of Service Criteria for Signalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤10	Free Flow
B	>10 – 20	Stable Flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F[1]	>80	Forced flow (congested and queues fail to clear)

Source: *Highway Capacity Manual 2010 and 6th Edition*, Transportation Research Board, 2010 and 2016, respectively.

1. If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0 LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

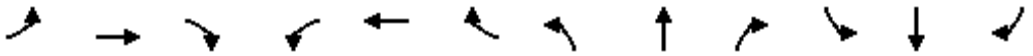
Unsignalized intersection LOS criteria can be further reduced into two intersection types: all-way stop and two-way stop control. All-way stop control intersection LOS is expressed in terms of the weighted average control delay of the overall intersection or by approach. Two-way stop-controlled intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns. This approach is because major-street through vehicles are assumed to experience zero delay, a weighted average of all movements results in very low overall average delay, and this calculated low delay could mask deficiencies of minor movements. Table 2 shows LOS criteria for unsignalized intersections.

Table 2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)
A	0 – 10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F[1]	>50

Source: *Highway Capacity Manual 2010 and 6th Edition*, Transportation Research Board, 2010 and 2016, respectively.

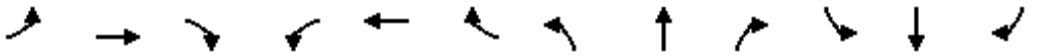
1. If the volume-to-capacity (v/c) ratio exceeds 1.0, LOS F is assigned an individual lane group for all unsignalized intersections, or minor street approach at two-way stop-controlled intersections. Overall intersection LOS is determined solely by control delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	425	85	195	340	85	40	505	180	135	1255	95
Future Volume (veh/h)	90	425	85	195	340	85	40	505	180	135	1255	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.94	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1796	1796	1796	1856	1856	1856
Adj Flow Rate, veh/h	94	443	89	203	354	89	42	526	188	141	1307	99
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	4	4	4	7	7	7	3	3	3
Cap, veh/h	117	523	104	216	656	162	53	1592	549	168	1688	128
Arrive On Green	0.07	0.18	0.18	0.12	0.24	0.24	0.03	0.45	0.45	0.09	0.51	0.51
Sat Flow, veh/h	1753	2863	569	1753	2741	677	1711	3574	1233	1767	3316	250
Grp Volume(v), veh/h	94	269	263	203	224	219	42	480	234	141	693	713
Grp Sat Flow(s),veh/h/ln	1753	1749	1683	1753	1749	1670	1711	1635	1538	1767	1763	1804
Q Serve(g_s), s	6.9	19.3	19.7	14.9	14.5	15.0	3.2	12.4	13.0	10.2	41.3	41.7
Cycle Q Clear(g_c), s	6.9	19.3	19.7	14.9	14.5	15.0	3.2	12.4	13.0	10.2	41.3	41.7
Prop In Lane	1.00		0.34	1.00		0.41	1.00		0.80	1.00		0.14
Lane Grp Cap(c), veh/h	117	320	308	216	418	400	53	1456	685	168	897	918
V/C Ratio(X)	0.80	0.84	0.86	0.94	0.53	0.55	0.79	0.33	0.34	0.84	0.77	0.78
Avail Cap(c_a), veh/h	202	336	324	216	418	400	132	1456	685	272	897	918
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.69	0.69	0.69	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.8	51.3	51.5	56.5	43.1	43.3	62.5	23.4	23.6	57.9	25.8	25.9
Incr Delay (d2), s/veh	12.0	16.5	19.0	35.6	0.9	1.1	22.0	0.6	1.4	12.0	6.4	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	9.9	9.9	8.7	6.4	6.3	1.7	4.9	5.0	5.1	18.6	19.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.9	67.8	70.4	92.1	44.0	44.4	84.5	24.0	24.9	69.8	32.2	32.3
LnGrp LOS	E	E	E	F	D	D	F	C	C	E	C	C
Approach Vol, veh/h		626			646			756			1547	
Approach Delay, s/veh		69.5			59.3			27.7			35.7	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	62.9	21.0	28.8	9.1	71.2	13.7	36.1
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	20.0	49.0	16.0	25.0	10.0	59.0	15.0	26.0
Max Q Clear Time (g_c+I1), s	12.2	15.0	16.9	21.7	5.2	43.7	8.9	17.0
Green Ext Time (p_c), s	0.2	5.5	0.0	1.0	0.0	8.7	0.1	1.8

Intersection Summary	
HCM 6th Ctrl Delay	44.2
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	775	50	75	555	260	10	80	70	240	235	30
Future Volume (veh/h)	55	775	50	75	555	260	10	80	70	240	235	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	62	881	57	85	631	295	11	91	80	273	267	34
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	1	1	1
Cap, veh/h	79	1436	93	107	1031	482	23	178	157	299	573	73
Arrive On Green	0.04	0.43	0.43	0.06	0.44	0.44	0.01	0.20	0.20	0.17	0.35	0.35
Sat Flow, veh/h	1767	3360	217	1767	2327	1088	1767	909	799	1795	1639	209
Grp Volume(v), veh/h	62	462	476	85	478	448	11	0	171	273	0	301
Grp Sat Flow(s),veh/h/ln	1767	1763	1815	1767	1763	1652	1767	0	1709	1795	0	1847
Q Serve(g_s), s	4.2	24.4	24.4	5.7	24.9	24.9	0.7	0.0	10.7	17.9	0.0	15.2
Cycle Q Clear(g_c), s	4.2	24.4	24.4	5.7	24.9	24.9	0.7	0.0	10.7	17.9	0.0	15.2
Prop In Lane	1.00		0.12	1.00		0.66	1.00		0.47	1.00		0.11
Lane Grp Cap(c), veh/h	79	753	775	107	781	732	23	0	335	299	0	646
V/C Ratio(X)	0.78	0.61	0.61	0.80	0.61	0.61	0.49	0.00	0.51	0.91	0.00	0.47
Avail Cap(c_a), veh/h	110	753	775	155	781	732	110	0	335	382	0	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.46	0.46	0.46	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.7	26.7	26.7	55.6	25.6	25.6	58.8	0.0	43.1	49.2	0.0	30.3
Incr Delay (d2), s/veh	6.7	1.7	1.7	10.2	3.6	3.8	5.9	0.0	5.5	20.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	10.5	10.8	2.8	11.1	10.4	0.4	0.0	5.1	9.7	0.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.5	28.4	28.4	65.8	29.1	29.4	64.7	0.0	48.6	69.2	0.0	30.5
LnGrp LOS	E	C	C	E	C	C	E	A	D	E	A	C
Approach Vol, veh/h		1000			1011			182			574	
Approach Delay, s/veh		30.6			32.3			49.6			48.9	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	57.6	24.5	28.0	11.7	55.8	6.0	46.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	45.5	25.5	23.5	10.5	42.5	7.5	41.5
Max Q Clear Time (g_c+I1), s	6.2	26.9	19.9	12.7	7.7	26.4	2.7	17.2
Green Ext Time (p_c), s	0.0	1.1	0.0	0.1	0.0	1.0	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	36.3
HCM 6th LOS	D



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	70	110	640	90	200	1345
Future Volume (veh/h)	70	110	640	90	200	1345
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.97		0.99	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1796	1796	1841	1841
Adj Flow Rate, veh/h	75	118	688	97	215	1446
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	7	7	4	4
Cap, veh/h	92	145	2351	1043	618	2709
Arrive On Green	0.15	0.15	1.00	1.00	0.06	0.77
Sat Flow, veh/h	621	978	3503	1514	1753	3589
Grp Volume(v), veh/h	194	0	688	97	215	1446
Grp Sat Flow(s),veh/h/ln	1607	0	1706	1514	1753	1749
Q Serve(g_s), s	15.2	0.0	0.0	0.0	4.7	20.7
Cycle Q Clear(g_c), s	15.2	0.0	0.0	0.0	4.7	20.7
Prop In Lane	0.39	0.61		1.00	1.00	
Lane Grp Cap(c), veh/h	239	0	2351	1043	618	2709
V/C Ratio(X)	0.81	0.00	0.29	0.09	0.35	0.53
Avail Cap(c_a), veh/h	334	0	2351	1043	805	2709
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.86	0.86	1.00	1.00
Uniform Delay (d), s/veh	53.6	0.0	0.0	0.0	4.9	5.6
Incr Delay (d2), s/veh	10.0	0.0	0.3	0.2	0.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	0.1	0.0	1.6	6.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	63.6	0.0	0.3	0.2	5.2	6.4
LnGrp LOS	E	A	A	A	A	A
Approach Vol, veh/h	194		785			1661
Approach Delay, s/veh	63.6		0.3			6.2
Approach LOS	E		A			A

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.2	94.5		24.3		105.7
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	21.0	68.0		27.0		93.0
Max Q Clear Time (g_c+I1), s	6.7	2.0		17.2		22.7
Green Ext Time (p_c), s	0.5	6.1		0.4		18.3

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Notes

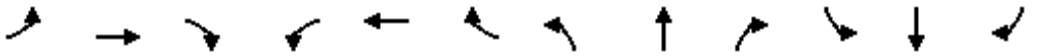
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	30	210	40	30	5	235	55	20	5	260	105
Future Vol, veh/h	20	30	210	40	30	5	235	55	20	5	260	105
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	8	8	8	3	3	3	5	5	5
Mvmt Flow	21	32	223	43	32	5	250	59	21	5	277	112
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	13	11	13.9	17
HCM LOS	B	B	B	C

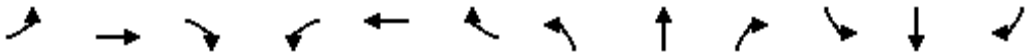
Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	8%	53%	1%
Vol Thru, %	0%	73%	12%	40%	70%
Vol Right, %	0%	27%	81%	7%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	235	75	260	75	370
LT Vol	235	0	20	40	5
Through Vol	0	55	30	30	260
RT Vol	0	20	210	5	105
Lane Flow Rate	250	80	277	80	394
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.464	0.133	0.433	0.151	0.609
Departure Headway (Hd)	6.686	5.988	5.631	6.831	5.567
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	535	595	633	528	646
Service Time	4.463	3.764	3.711	4.831	3.638
HCM Lane V/C Ratio	0.467	0.134	0.438	0.152	0.61
HCM Control Delay	15.2	9.7	13	11	17
HCM Lane LOS	C	A	B	B	C
HCM 95th-tile Q	2.4	0.5	2.2	0.5	4.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	630	40	140	375	55	65	595	185	155	1165	140
Future Volume (veh/h)	125	630	40	140	375	55	65	595	185	155	1165	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1811	1811	1811	1811	1811	1811	1841	1841	1841
Adj Flow Rate, veh/h	128	643	41	143	383	56	66	607	189	158	1189	143
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	6	6	6	6	6	6	4	4	4
Cap, veh/h	154	638	41	169	604	87	92	1579	668	183	1785	758
Arrive On Green	0.09	0.19	0.19	0.10	0.20	0.20	0.05	0.46	0.46	0.10	0.51	0.51
Sat Flow, veh/h	1753	3319	211	1725	2983	431	1725	3441	1455	1753	3497	1486
Grp Volume(v), veh/h	128	338	346	143	219	220	66	607	189	158	1189	143
Grp Sat Flow(s),veh/h/ln	1753	1749	1782	1725	1721	1694	1725	1721	1455	1753	1749	1486
Q Serve(g_s), s	9.3	25.0	25.0	10.6	15.1	15.5	4.9	15.1	10.5	11.5	32.8	6.8
Cycle Q Clear(g_c), s	9.3	25.0	25.0	10.6	15.1	15.5	4.9	15.1	10.5	11.5	32.8	6.8
Prop In Lane	1.00		0.12	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	336	343	169	348	343	92	1579	668	183	1785	758
V/C Ratio(X)	0.83	1.01	1.01	0.85	0.63	0.64	0.72	0.38	0.28	0.86	0.67	0.19
Avail Cap(c_a), veh/h	283	336	343	279	348	343	100	1579	668	209	1785	758
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82
Uniform Delay (d), s/veh	58.3	52.5	52.5	57.7	47.4	47.5	60.6	23.1	21.9	57.3	23.6	17.2
Incr Delay (d2), s/veh	10.8	50.6	50.8	11.8	3.6	4.0	20.6	0.7	1.1	22.6	1.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	15.7	16.0	5.2	6.9	6.9	2.7	6.3	3.8	6.3	13.7	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.2	103.1	103.3	69.5	51.0	51.5	81.2	23.8	22.9	79.9	25.2	17.7
LnGrp LOS	E	F	F	E	D	D	F	C	C	E	C	B
Approach Vol, veh/h		812			582			862			1490	
Approach Delay, s/veh		97.8			55.7			28.0			30.3	
Approach LOS		F			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.1	64.2	17.7	30.0	11.4	70.9	16.4	31.3
Change Period (Y+Rc), s	4.5	4.5	5.0	5.0	4.5	4.5	5.0	5.0
Max Green Setting (Gmax), s	15.5	49.5	21.0	25.0	7.5	57.5	21.0	25.0
Max Q Clear Time (g_c+I1), s	13.5	17.1	12.6	27.0	6.9	34.8	11.3	17.5
Green Ext Time (p_c), s	0.1	5.5	0.2	0.0	0.0	10.2	0.2	1.6

Intersection Summary	
HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D



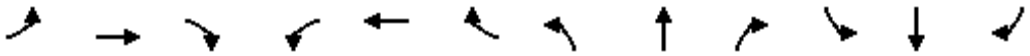
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	765	25	270	565	255	35	105	225	180	325	40
Future Volume (veh/h)	25	765	25	270	565	255	35	105	225	180	325	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.96	1.00		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1856	1856	1856	1841	1841	1841	1856	1856	1856
Adj Flow Rate, veh/h	26	797	26	281	589	266	36	109	0	188	339	42
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	3	3	3	4	4	4	3	3	3
Cap, veh/h	130	1043	34	292	919	414	131	451		186	443	55
Arrive On Green	0.08	0.31	0.31	0.33	0.79	0.79	0.08	0.25	0.00	0.10	0.28	0.28
Sat Flow, veh/h	1739	3418	111	1767	2326	1049	1753	1841	1560	1767	1609	199
Grp Volume(v), veh/h	26	404	419	281	446	409	36	109	0	188	0	381
Grp Sat Flow(s),veh/h/ln	1739	1735	1795	1767	1763	1613	1753	1841	1560	1767	0	1809
Q Serve(g_s), s	1.4	21.1	21.1	15.6	10.8	10.8	1.9	4.8	0.0	10.5	0.0	19.3
Cycle Q Clear(g_c), s	1.4	21.1	21.1	15.6	10.8	10.8	1.9	4.8	0.0	10.5	0.0	19.3
Prop In Lane	1.00		0.06	1.00		0.65	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	130	529	548	292	696	637	131	451		186	0	497
V/C Ratio(X)	0.20	0.76	0.76	0.96	0.64	0.64	0.27	0.24		1.01	0.00	0.77
Avail Cap(c_a), veh/h	130	529	548	292	696	637	131	451		186	0	497
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.4	31.5	31.5	33.2	7.5	7.5	43.7	30.3	0.0	44.8	0.0	33.3
Incr Delay (d2), s/veh	3.4	10.1	9.8	40.0	3.8	4.1	5.1	1.3	0.0	69.5	0.0	10.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	10.1	10.4	8.5	3.1	2.9	1.0	2.3	0.0	8.1	0.0	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.8	41.6	41.3	73.2	11.3	11.6	48.8	31.6	0.0	114.3	0.0	44.0
LnGrp LOS	D	D	D	E	B	B	D	C		F	A	D
Approach Vol, veh/h		849			1136			145	A		569	
Approach Delay, s/veh		41.6			26.7			35.8			67.3	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	35.0	15.0	29.0	12.0	44.0	12.0	32.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.5	30.5	10.5	24.5	7.5	39.5	7.5	27.5
Max Q Clear Time (g_c+I1), s	17.6	23.1	12.5	6.8	3.4	12.8	3.9	21.3
Green Ext Time (p_c), s	0.0	2.2	0.0	0.3	0.0	4.0	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	40.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1060	185	0	855	170	5	5	400	0	85	370
Future Volume (veh/h)	0	1060	185	0	855	170	5	5	400	0	85	370
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1841	1841	1856	1856	1856	0	1885	1885
Adj Flow Rate, veh/h	0	1116	195	0	900	0	5	5	0	0	89	389
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	0	4	4	3	3	3	0	1	1
Cap, veh/h	0	1761	306	0	2066		76	59		0	97	422
Arrive On Green	0.00	1.00	1.00	0.00	1.00	0.00	0.32	0.32	0.00	0.00	0.32	0.32
Sat Flow, veh/h	0	3075	519	0	3681	0	69	185	0	0	303	1323
Grp Volume(v), veh/h	0	658	653	0	900	0	10	0	0	0	0	478
Grp Sat Flow(s),veh/h/ln	0	1763	1738	0	1749	0	253	0	0	0	0	1626
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	28.4
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	28.6	0.0	0.0	0.0	0.0	28.4
Prop In Lane	0.00		0.30	0.00		0.00	0.50		0.00	0.00		0.81
Lane Grp Cap(c), veh/h	0	1041	1027	0	2066		135	0		0	0	519
V/C Ratio(X)	0.00	0.63	0.64	0.00	0.44		0.07	0.00		0.00	0.00	0.92
Avail Cap(c_a), veh/h	0	1041	1027	0	2066		227	0		0	0	642
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.57	0.57	0.00	0.89	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	26.8	0.0	0.0	0.0	0.0	32.8
Incr Delay (d2), s/veh	0.0	1.7	1.7	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.0	15.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.5	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.7	1.7	0.0	0.6	0.0	26.9	0.0	0.0	0.0	0.0	47.8
LnGrp LOS	A	A	A	A	A		C	A		A	A	D
Approach Vol, veh/h		1311			900	A		10	A		478	
Approach Delay, s/veh		1.7			0.6			26.9			47.8	
Approach LOS		A			A			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		63.6		36.4		63.6		36.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		51.5		39.5		51.5		39.5				
Max Q Clear Time (g_c+I1), s		2.0		30.6		2.0		30.4				
Green Ext Time (p_c), s		7.6		0.0		5.0		1.6				

Intersection Summary												
HCM 6th Ctrl Delay			9.6									
HCM 6th LOS			A									

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	515	935	675	265	30	320	15	55	130	105	205	55
Future Volume (vph)	515	935	675	265	30	320	15	55	130	105	205	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Lane Util. Factor	0.95		0.95	1.00		0.95	0.95	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	0.97		1.00	0.86		1.00	1.00	1.00	0.98	1.00	0.97	
Flpb, ped/bikes	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.90		1.00	0.85		1.00	1.00	1.00	0.85	1.00	0.95	
Flt Protected	1.00		1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3107		3505	1345		1649	1649	1827	1517	1805	1756	
Flt Permitted	1.00		1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3107		3505	1345		1649	1649	1827	1517	1805	1756	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	526	954	689	270	31	327	15	56	133	107	209	56
RTOR Reduction (vph)	282	0	0	44	0	0	0	0	113	0	5	0
Lane Group Flow (vph)	1198	0	689	257	0	170	172	56	20	107	296	0
Confl. Peds. (#/hr)		24		22	20		22		8	8		
Confl. Bikes (#/hr)		2		1	1							
Heavy Vehicles (%)	2%	2%	3%	3%	3%	4%	4%	4%	4%	0%	0%	0%
Turn Type	NA		NA	Perm		Split	Split	NA	Perm	Split	NA	
Protected Phases	2		6			4	4	4		3	3	
Permitted Phases				6					4			
Actuated Green, G (s)	49.5		49.5	49.5		15.3	15.3	15.3	15.3	18.7	18.7	
Effective Green, g (s)	49.5		49.5	49.5		15.3	15.3	15.3	15.3	18.7	18.7	
Actuated g/C Ratio	0.50		0.50	0.50		0.15	0.15	0.15	0.15	0.19	0.19	
Clearance Time (s)	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	1537		1734	665		252	252	279	232	337	328	
v/s Ratio Prot	c0.39		0.20			0.10	c0.10	0.03		0.06	c0.17	
v/s Ratio Perm				0.19					0.01			
v/c Ratio	0.90dr		0.40	0.39		0.67	0.68	0.20	0.09	0.32	0.90	
Uniform Delay, d1	20.8		15.9	15.8		40.0	40.1	37.0	36.4	35.1	39.8	
Progression Factor	1.20		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.0		0.7	1.7		5.5	6.0	0.1	0.1	0.2	26.2	
Delay (s)	27.9		16.6	17.5		45.5	46.0	37.1	36.4	35.3	65.9	
Level of Service	C		B	B		D	D	D	D	D	E	
Approach Delay (s)	27.9		16.8					42.5			57.9	
Approach LOS	C		B					D			E	

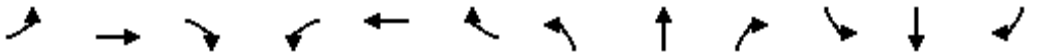
Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	97.9%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.
c Critical Lane Group



Movement	SBR2
Lane Configurations	
Traffic Volume (vph)	35
Future Volume (vph)	35
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	36
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	22
Confl. Bikes (#/hr)	
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	420	15	205	5	5	10	75	80	5	20	650	470
Future Volume (veh/h)	420	15	205	5	5	10	75	80	5	20	650	470
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1707	1707	1707	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	440	0	209	5	9	8	77	82	5	20	663	480
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	6	6	6	13	13	13	3	3	3	1	1	1
Cap, veh/h	545	0	242	126	133	113	117	1716	104	55	1692	1006
Arrive On Green	0.16	0.00	0.16	0.08	0.08	0.08	0.07	0.51	0.51	0.03	0.47	0.47
Sat Flow, veh/h	3450	0	1535	1626	1707	1447	1767	3377	204	1795	3582	1596
Grp Volume(v), veh/h	440	0	209	5	9	8	77	42	45	20	663	480
Grp Sat Flow(s),veh/h/ln	1725	0	1535	1626	1707	1447	1767	1763	1819	1795	1791	1596
Q Serve(g_s), s	11.1	0.0	11.9	0.3	0.4	0.5	3.8	1.1	1.1	1.0	10.8	14.3
Cycle Q Clear(g_c), s	11.1	0.0	11.9	0.3	0.4	0.5	3.8	1.1	1.1	1.0	10.8	14.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	545	0	242	126	133	113	117	896	924	55	1692	1006
V/C Ratio(X)	0.81	0.00	0.86	0.04	0.07	0.07	0.66	0.05	0.05	0.36	0.39	0.48
Avail Cap(c_a), veh/h	575	0	256	289	304	257	216	896	924	299	1692	1006
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31
Uniform Delay (d), s/veh	36.6	0.0	36.9	38.4	38.5	38.5	41.0	11.2	11.2	42.8	15.4	8.8
Incr Delay (d2), s/veh	7.7	0.0	23.4	0.3	0.5	0.6	2.3	0.1	0.1	0.5	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	6.0	0.1	0.2	0.2	1.7	0.4	0.5	0.4	4.2	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	0.0	60.3	38.7	38.9	39.1	43.3	11.3	11.3	43.2	15.6	9.3
LnGrp LOS	D	A	E	D	D	D	D	B	B	D	B	A
Approach Vol, veh/h		649			22			164			1163	
Approach Delay, s/veh		49.4			38.9			26.3			13.5	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	51.0		19.2	11.0	47.8		12.0				
Change Period (Y+Rc), s	5.0	5.3		5.0	5.0	5.3		5.0				
Max Green Setting (Gmax), s	15.0	23.7		15.0	11.0	27.7		16.0				
Max Q Clear Time (g_c+I1), s	3.0	3.1		13.9	5.8	16.3		2.5				
Green Ext Time (p_c), s	0.0	0.2		0.3	0.0	4.9		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			26.5									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	80	235	130	115	55	25
Future Vol, veh/h	80	235	130	115	55	25
Conflicting Peds, #/hr	28	0	0	28	28	28
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	5	5	0	0
Mvmt Flow	93	273	151	134	64	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	313	0	-	0	733	274
Stage 1	-	-	-	-	246	-
Stage 2	-	-	-	-	487	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1247	-	-	-	391	770
Stage 1	-	-	-	-	800	-
Stage 2	-	-	-	-	622	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1214	-	-	-	337	729
Mov Cap-2 Maneuver	-	-	-	-	337	-
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	605	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1214	-	-	-	337	729
HCM Lane V/C Ratio	0.077	-	-	-	0.19	0.04
HCM Control Delay (s)	8.2	0	-	-	18.2	10.1
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.7	0.1

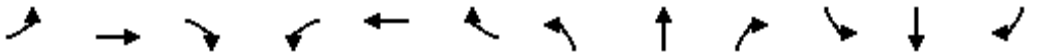
Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	65	220	235	165	70	25
Future Vol, veh/h	65	220	235	165	70	25
Conflicting Peds, #/hr	24	0	0	20	20	24
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	7	7
Mvmt Flow	76	256	273	192	81	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	489	0	-	0	821	417
Stage 1	-	-	-	-	393	-
Stage 2	-	-	-	-	428	-
Critical Hdwy	4.13	-	-	-	6.47	6.27
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	2.227	-	-	-	3.563	3.363
Pot Cap-1 Maneuver	1069	-	-	-	337	625
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	647	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1045	-	-	-	294	597
Mov Cap-2 Maneuver	-	-	-	-	294	-
Stage 1	-	-	-	-	600	-
Stage 2	-	-	-	-	632	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	19.1
HCM LOS			C

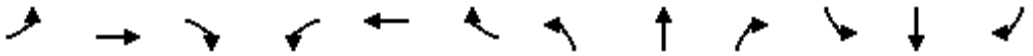
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1045	-	-	-	294	597
HCM Lane V/C Ratio	0.072	-	-	-	0.277	0.049
HCM Control Delay (s)	8.7	0	-	-	21.9	11.3
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1.1	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	300	55	165	415	165	85	1350	150	155	880	100
Future Volume (veh/h)	195	300	55	165	415	165	85	1350	150	155	880	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.89	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	199	306	56	168	423	168	87	1378	153	158	898	102
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	2	2	2	1	1	1
Cap, veh/h	205	596	107	192	468	183	108	2093	232	180	1580	179
Arrive On Green	0.11	0.20	0.20	0.11	0.19	0.19	0.06	0.45	0.45	0.10	0.49	0.49
Sat Flow, veh/h	1795	2976	533	1795	2427	946	1781	4651	516	1795	3229	367
Grp Volume(v), veh/h	199	182	180	168	310	281	87	1009	522	158	498	502
Grp Sat Flow(s),veh/h/ln	1795	1791	1718	1795	1791	1583	1781	1702	1763	1795	1791	1804
Q Serve(g_s), s	15.5	12.6	13.1	12.9	23.7	24.4	6.8	32.4	32.4	12.2	27.6	27.6
Cycle Q Clear(g_c), s	15.5	12.6	13.1	12.9	23.7	24.4	6.8	32.4	32.4	12.2	27.6	27.6
Prop In Lane	1.00		0.31	1.00		0.60	1.00		0.29	1.00		0.20
Lane Grp Cap(c), veh/h	205	359	344	192	346	305	108	1532	793	180	876	883
V/C Ratio(X)	0.97	0.51	0.52	0.87	0.90	0.92	0.80	0.66	0.66	0.88	0.57	0.57
Avail Cap(c_a), veh/h	205	359	344	218	358	317	153	1532	793	180	876	883
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.34	0.34	0.34	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.8	49.8	50.0	61.6	55.1	55.4	64.9	30.1	30.1	62.2	25.3	25.3
Incr Delay (d2), s/veh	54.0	1.2	1.5	11.8	10.0	13.8	18.4	2.2	4.3	35.9	2.7	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	5.8	5.8	6.5	11.6	10.9	3.6	13.7	14.7	7.3	12.4	12.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	115.7	51.0	51.5	73.4	65.2	69.2	83.4	32.3	34.4	98.0	28.0	28.0
LnGrp LOS	F	D	D	E	E	E	F	C	C	F	C	C
Approach Vol, veh/h		561			759			1618			1158	
Approach Delay, s/veh		74.1			68.5			35.7			37.5	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	68.0	20.0	33.0	13.5	73.5	21.0	32.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	14.0	62.0	17.0	27.0	12.0	64.0	16.0	28.0
Max Q Clear Time (g_c+I1), s	14.2	34.4	14.9	15.1	8.8	29.6	17.5	26.4
Green Ext Time (p_c), s	0.0	13.2	0.1	1.6	0.0	8.0	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	47.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	730	20	85	845	340	30	290	105	135	135	45
Future Volume (veh/h)	55	730	20	85	845	340	30	290	105	135	135	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	58	768	21	89	889	358	32	305	111	142	142	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	2	2	2	1	1	1
Cap, veh/h	75	1522	42	113	1132	453	49	326	119	170	429	142
Arrive On Green	0.04	0.44	0.44	0.06	0.46	0.46	0.03	0.25	0.25	0.09	0.32	0.32
Sat Flow, veh/h	1753	3473	95	1795	2467	987	1781	1281	466	1795	1334	442
Grp Volume(v), veh/h	58	387	402	89	644	603	32	0	416	142	0	189
Grp Sat Flow(s),veh/h/ln	1753	1749	1819	1795	1791	1663	1781	0	1748	1795	0	1776
Q Serve(g_s), s	3.9	19.1	19.1	5.9	36.4	37.0	2.1	0.0	28.0	9.3	0.0	9.7
Cycle Q Clear(g_c), s	3.9	19.1	19.1	5.9	36.4	37.0	2.1	0.0	28.0	9.3	0.0	9.7
Prop In Lane	1.00		0.05	1.00		0.59	1.00		0.27	1.00		0.25
Lane Grp Cap(c), veh/h	75	766	797	113	822	763	49	0	444	170	0	571
V/C Ratio(X)	0.78	0.50	0.50	0.79	0.78	0.79	0.66	0.00	0.94	0.84	0.00	0.33
Avail Cap(c_a), veh/h	153	766	797	232	822	763	111	0	444	232	0	571
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.72	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.9	24.3	24.3	55.4	27.4	27.6	57.8	0.0	43.8	53.4	0.0	30.9
Incr Delay (d2), s/veh	11.8	1.7	1.6	11.4	7.4	8.2	14.0	0.0	29.4	17.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	8.2	8.6	3.0	16.9	16.1	1.2	0.0	15.6	5.0	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.7	26.0	26.0	66.8	34.8	35.8	71.9	0.0	73.2	70.6	0.0	31.3
LnGrp LOS	E	C	C	E	C	D	E	A	E	E	A	C
Approach Vol, veh/h		847			1336			448			331	
Approach Delay, s/veh		28.9			37.4			73.1			48.1	
Approach LOS		C			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	59.5	15.9	35.0	12.1	57.1	7.8	43.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	45.5	15.5	30.5	15.5	40.5	7.5	38.5
Max Q Clear Time (g_c+I1), s	5.9	39.0	11.3	30.0	7.9	21.1	4.1	11.7
Green Ext Time (p_c), s	0.0	4.2	0.1	0.2	0.1	4.9	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	125	225	1380	80	80	1000
Future Volume (veh/h)	125	225	1380	80	80	1000
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.98		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1856	1856
Adj Flow Rate, veh/h	136	245	1500	87	87	1087
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	3	3
Cap, veh/h	146	262	2189	972	220	2394
Arrive On Green	0.25	0.25	0.62	0.62	0.03	0.68
Sat Flow, veh/h	584	1052	3647	1578	1767	3618
Grp Volume(v), veh/h	382	0	1500	87	87	1087
Grp Sat Flow(s),veh/h/ln	1641	0	1777	1578	1767	1763
Q Serve(g_s), s	31.9	0.0	39.3	3.1	2.5	20.0
Cycle Q Clear(g_c), s	31.9	0.0	39.3	3.1	2.5	20.0
Prop In Lane	0.36	0.64		1.00	1.00	
Lane Grp Cap(c), veh/h	409	0	2189	972	220	2394
V/C Ratio(X)	0.93	0.00	0.69	0.09	0.40	0.45
Avail Cap(c_a), veh/h	527	0	2189	972	310	2394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.61	0.61	1.00	1.00
Uniform Delay (d), s/veh	51.4	0.0	17.9	10.9	16.6	10.4
Incr Delay (d2), s/veh	20.7	0.0	1.1	0.1	1.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.4	0.0	16.0	1.1	1.0	7.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	72.1	0.0	18.9	11.0	17.7	11.0
LnGrp LOS	E	A	B	B	B	B
Approach Vol, veh/h	382		1587			1174
Approach Delay, s/veh	72.1		18.5			11.5
Approach LOS	E		B			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.8	91.2		39.9		100.1
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	12.0	69.0		45.0		85.0
Max Q Clear Time (g_c+I1), s	4.5	41.3		33.9		22.0
Green Ext Time (p_c), s	0.1	14.5		1.0		10.9

Intersection Summary	
HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

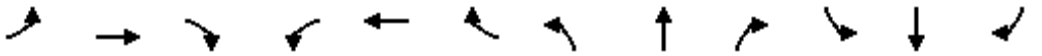
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	16.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	110	55	235	15	20	5	255	250	30	5	110	50
Future Vol, veh/h	110	55	235	15	20	5	255	250	30	5	110	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	4	4	4
Mvmt Flow	120	60	255	16	22	5	277	272	33	5	120	54
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	20	10.6	16.2	12.1
HCM LOS	C	B	C	B

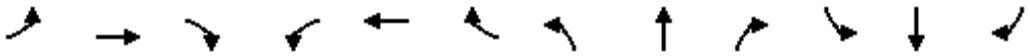
Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	28%	38%	3%
Vol Thru, %	0%	89%	14%	50%	67%
Vol Right, %	0%	11%	59%	12%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	255	280	400	40	165
LT Vol	255	0	110	15	5
Through Vol	0	250	55	20	110
RT Vol	0	30	235	5	50
Lane Flow Rate	277	304	435	43	179
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.523	0.525	0.682	0.084	0.31
Departure Headway (Hd)	6.792	6.207	5.644	6.988	6.227
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	529	578	639	516	574
Service Time	4.558	3.973	3.705	4.988	4.308
HCM Lane V/C Ratio	0.524	0.526	0.681	0.083	0.312
HCM Control Delay	16.8	15.7	20	10.6	12.1
HCM Lane LOS	C	C	C	B	B
HCM 95th-tile Q	3	3	5.3	0.3	1.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	435	70	175	660	90	155	1235	160	100	855	155
Future Volume (veh/h)	130	435	70	175	660	90	155	1235	160	100	855	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	133	444	71	179	673	92	158	1260	163	102	872	158
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	3	3	3
Cap, veh/h	140	586	93	202	715	98	180	1810	771	88	1628	682
Arrive On Green	0.08	0.20	0.20	0.11	0.23	0.23	0.10	0.51	0.51	0.05	0.46	0.46
Sat Flow, veh/h	1753	2984	473	1781	3111	425	1767	3526	1502	1767	3526	1476
Grp Volume(v), veh/h	133	258	257	179	384	381	158	1260	163	102	872	158
Grp Sat Flow(s),veh/h/ln	1753	1749	1708	1781	1777	1758	1767	1763	1502	1767	1763	1476
Q Serve(g_s), s	11.3	20.9	21.3	14.9	31.8	32.0	13.2	40.6	8.9	7.5	26.5	9.7
Cycle Q Clear(g_c), s	11.3	20.9	21.3	14.9	31.8	32.0	13.2	40.6	8.9	7.5	26.5	9.7
Prop In Lane	1.00		0.28	1.00		0.24	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	140	343	335	202	408	404	180	1810	771	88	1628	682
V/C Ratio(X)	0.95	0.75	0.77	0.88	0.94	0.94	0.88	0.70	0.21	1.15	0.54	0.23
Avail Cap(c_a), veh/h	140	343	335	261	415	410	183	1810	771	88	1628	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.81	0.81	0.81
Uniform Delay (d), s/veh	68.7	56.9	57.0	65.5	56.7	56.8	66.5	27.6	19.9	71.2	28.9	24.3
Incr Delay (d2), s/veh	60.3	9.1	10.1	23.6	29.3	30.0	35.1	2.2	0.6	133.6	1.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	10.1	10.2	8.1	17.6	17.6	7.7	17.6	3.3	6.7	11.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	129.0	65.9	67.1	89.1	86.0	86.8	101.6	29.9	20.5	204.9	29.9	25.0
LnGrp LOS	F	E	E	F	F	F	F	C	C	F	C	C
Approach Vol, veh/h		648			944			1581			1132	
Approach Delay, s/veh		79.3			87.0			36.1			45.0	
Approach LOS		E			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	81.5	22.0	34.4	19.7	73.8	17.0	39.5
Change Period (Y+Rc), s	4.5	4.5	5.0	5.0	4.5	4.5	5.0	5.0
Max Green Setting (Gmax), s	7.5	66.5	22.0	25.0	15.5	68.5	12.0	35.0
Max Q Clear Time (g_c+I1), s	9.5	42.6	16.9	23.3	15.2	28.5	13.3	34.0
Green Ext Time (p_c), s	0.0	11.3	0.2	0.5	0.0	8.4	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	56.1
HCM 6th LOS	E



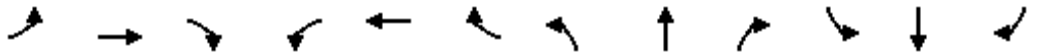
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	635	25	200	935	235	80	255	280	200	210	35
Future Volume (veh/h)	55	635	25	200	935	235	80	255	280	200	210	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.93	1.00		1.00	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1885	1885	1885	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	58	668	26	211	984	247	84	268	0	211	221	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	4	4	4	2	2	2
Cap, veh/h	120	1104	43	318	1206	301	167	410		202	371	62
Arrive On Green	0.07	0.32	0.32	0.35	0.86	0.86	0.10	0.22	0.00	0.11	0.24	0.24
Sat Flow, veh/h	1753	3422	133	1795	2793	698	1753	1841	1560	1781	1541	258
Grp Volume(v), veh/h	58	341	353	211	629	602	84	268	0	211	0	258
Grp Sat Flow(s),veh/h/ln	1753	1749	1806	1795	1791	1700	1753	1841	1560	1781	0	1799
Q Serve(g_s), s	3.5	18.1	18.1	10.9	17.7	18.2	5.0	14.6	0.0	12.5	0.0	14.0
Cycle Q Clear(g_c), s	3.5	18.1	18.1	10.9	17.7	18.2	5.0	14.6	0.0	12.5	0.0	14.0
Prop In Lane	1.00		0.07	1.00		0.41	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	120	564	583	318	773	734	167	410		202	0	433
V/C Ratio(X)	0.49	0.60	0.61	0.66	0.81	0.82	0.50	0.65		1.04	0.00	0.60
Avail Cap(c_a), veh/h	120	564	583	318	773	734	167	410		202	0	433
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.58	0.58	0.58	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.4	31.3	31.4	32.7	5.5	5.5	47.3	38.9	0.0	48.7	0.0	37.0
Incr Delay (d2), s/veh	13.4	4.7	4.6	6.2	5.5	6.0	10.4	7.9	0.0	74.8	0.0	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	8.3	8.6	4.6	3.6	3.5	2.7	7.4	0.0	9.7	0.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.8	36.1	36.0	38.9	11.0	11.5	57.6	46.8	0.0	123.6	0.0	42.9
LnGrp LOS	E	D	D	D	B	B	E	D		F	A	D
Approach Vol, veh/h		752			1442			352	A		469	
Approach Delay, s/veh		38.1			15.3			49.4			79.2	
Approach LOS		D			B			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	40.0	17.0	29.0	12.0	52.0	15.0	31.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.5	35.5	12.5	24.5	7.5	47.5	10.5	26.5
Max Q Clear Time (g_c+I1), s	12.9	20.1	14.5	16.6	5.5	20.2	7.0	16.0
Green Ext Time (p_c), s	0.2	2.6	0.0	0.6	0.0	6.5	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1060	135	0	975	295	5	5	475	0	50	530
Future Volume (veh/h)	0	1060	135	0	975	295	5	5	475	0	50	530
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1885	1885	1870	1870	1870	0	1885	1885
Adj Flow Rate, veh/h	0	1116	142	0	1026	0	5	5	0	0	53	558
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	1	1	2	2	2	0	1	1
Cap, veh/h	0	1650	210	0	1871		64	49		0	55	582
Arrive On Green	0.00	1.00	1.00	0.00	1.00	0.00	0.40	0.40	0.00	0.00	0.40	0.40
Sat Flow, veh/h	0	3253	401	0	3770	0	38	124	0	0	140	1471
Grp Volume(v), veh/h	0	627	631	0	1026	0	10	0	0	0	0	611
Grp Sat Flow(s),veh/h/ln	0	1777	1784	0	1791	0	162	0	0	0	0	1611
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	40.6
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	40.9	0.0	0.0	0.0	0.0	40.6
Prop In Lane	0.00		0.22	0.00		0.00	0.50		0.00	0.00		0.91
Lane Grp Cap(c), veh/h	0	928	932	0	1871		113	0		0	0	638
V/C Ratio(X)	0.00	0.68	0.68	0.00	0.55		0.09	0.00		0.00	0.00	0.96
Avail Cap(c_a), veh/h	0	928	932	0	1871		133	0		0	0	666
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.67	0.67	0.00	0.84	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	27.0	0.0	0.0	0.0	0.0	32.3
Incr Delay (d2), s/veh	0.0	2.7	2.7	0.0	1.0	0.0	0.1	0.0	0.0	0.0	0.0	24.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.7	0.7	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.0	19.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	2.7	2.7	0.0	1.0	0.0	27.1	0.0	0.0	0.0	0.0	56.4
LnGrp LOS	A	A	A	A	A		C	A		A	A	E
Approach Vol, veh/h		1258			1026	A		10	A		611	
Approach Delay, s/veh		2.7			1.0			27.1			56.4	
Approach LOS		A			A			C			E	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		62.0		48.0		62.0		48.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		55.5		45.5		55.5		45.5				
Max Q Clear Time (g_c+I1), s		2.0		42.9		2.0		42.6				
Green Ext Time (p_c), s		7.0		0.0		6.0		0.9				

Intersection Summary		
HCM 6th Ctrl Delay		13.4
HCM 6th LOS		B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.



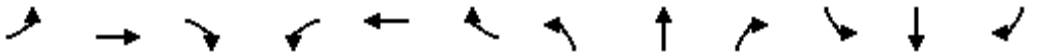
Movement	EBT	EBR	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	875	665	735	140	140	545	115	445	320	115	45	15
Future Volume (vph)	875	665	735	140	140	545	115	445	320	115	45	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Lane Util. Factor	0.95		0.95	1.00		0.95	0.95	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	0.97		1.00	0.66		1.00	1.00	1.00	0.97	1.00	0.91	
Flpb, ped/bikes	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.94		1.00	0.85		1.00	1.00	1.00	0.85	1.00	0.95	
Flt Protected	1.00		1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3212		3574	1053		1698	1698	1881	1548	1805	1643	
Flt Permitted	1.00		1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3212		3574	1053		1698	1698	1881	1548	1805	1643	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	884	672	742	141	141	551	116	449	323	116	45	15
RTOR Reduction (vph)	130	0	0	40	0	0	0	0	95	0	5	0
Lane Group Flow (vph)	1426	0	742	242	0	336	331	449	228	116	65	0
Confl. Peds. (#/hr)		40		52	49		52		13	13		
Confl. Bikes (#/hr)				1	1							1
Heavy Vehicles (%)	2%	2%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Turn Type	NA		NA	Perm		Split	Split	NA	Perm	Split	NA	
Protected Phases	2		6			4	4	4		3	3	
Permitted Phases				6					4			
Actuated Green, G (s)	53.9		53.9	53.9		28.8	28.8	28.8	28.8	10.8	10.8	
Effective Green, g (s)	53.9		53.9	53.9		28.8	28.8	28.8	28.8	10.8	10.8	
Actuated g/C Ratio	0.49		0.49	0.49		0.26	0.26	0.26	0.26	0.10	0.10	
Clearance Time (s)	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	1573		1751	515		444	444	492	405	177	161	
v/s Ratio Prot	c0.44		0.21			0.20	0.19	c0.24		c0.06	0.04	
v/s Ratio Perm				0.23					0.15			
v/c Ratio	0.91		0.42	0.47		0.76	0.75	0.91	0.56	0.66	0.40	
Uniform Delay, d1	25.7		18.1	18.6		37.4	37.2	39.4	35.1	47.8	46.6	
Progression Factor	0.51		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	6.6		0.8	3.1		6.4	5.9	20.9	1.1	6.5	0.6	
Delay (s)	19.8		18.8	21.6		43.8	43.1	60.3	36.2	54.3	47.2	
Level of Service	B		B	C		D	D	E	D	D	D	
Approach Delay (s)	19.8		19.6					47.1			51.6	
Approach LOS	B		B					D			D	

Intersection Summary			
HCM 2000 Control Delay	30.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	104.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR2
Lane Configurations	
Traffic Volume (vph)	10
Future Volume (vph)	10
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.99
Adj. Flow (vph)	10
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	52
Confl. Bikes (#/hr)	1
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	485	45	150	5	25	80	160	810	20	40	240	410
Future Volume (veh/h)	485	45	150	5	25	80	160	810	20	40	240	410
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	533	0	155	5	68	54	165	835	21	41	247	423
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	2	2	2	2	2	2
Cap, veh/h	612	0	272	106	111	94	648	1978	50	77	838	643
Arrive On Green	0.17	0.00	0.17	0.06	0.06	0.06	0.36	0.56	0.56	0.04	0.24	0.24
Sat Flow, veh/h	3591	0	1598	1810	1900	1610	1781	3542	89	1781	3554	1578
Grp Volume(v), veh/h	533	0	155	5	68	54	165	419	437	41	247	423
Grp Sat Flow(s),veh/h/ln	1795	0	1598	1810	1900	1610	1781	1777	1854	1781	1777	1578
Q Serve(g_s), s	17.3	0.0	10.7	0.3	4.2	3.9	7.8	16.3	16.3	2.7	6.8	26.1
Cycle Q Clear(g_c), s	17.3	0.0	10.7	0.3	4.2	3.9	7.8	16.3	16.3	2.7	6.8	26.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	612	0	272	106	111	94	648	992	1036	77	838	643
V/C Ratio(X)	0.87	0.00	0.57	0.05	0.61	0.57	0.25	0.42	0.42	0.53	0.29	0.66
Avail Cap(c_a), veh/h	748	0	333	181	190	161	648	992	1036	208	850	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	48.5	0.0	45.7	53.4	55.2	55.1	26.8	15.3	15.3	56.2	37.6	28.9
Incr Delay (d2), s/veh	8.9	0.0	1.4	0.4	11.2	11.3	0.1	1.3	1.3	1.9	0.8	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	0.0	4.4	0.2	2.4	1.9	3.3	6.8	7.1	1.3	3.1	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.3	0.0	47.1	53.7	66.4	66.4	26.9	16.6	16.6	58.1	38.5	33.6
LnGrp LOS	E	A	D	D	E	E	C	B	B	E	D	C
Approach Vol, veh/h		688			127			1021			711	
Approach Delay, s/veh		55.0			65.9			18.3			36.7	
Approach LOS		E			E			B			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.2	72.3		25.5	48.9	33.6		12.0				
Change Period (Y+Rc), s	5.0	5.3		5.0	5.3	* 5.3		5.0				
Max Green Setting (Gmax), s	14.0	48.7		25.0	34.0	* 29		12.0				
Max Q Clear Time (g_c+I1), s	4.7	18.3		19.3	9.8	28.1		6.2				
Green Ext Time (p_c), s	0.0	3.8		1.1	0.2	0.2		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		35.7	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	175	300	10	105	65
Future Vol, veh/h	5	175	300	10	105	65
Conflicting Peds, #/hr	24	0	0	26	26	24
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	6	197	337	11	118	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	374	0	-	0	604	393
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	235	-
Critical Hdwy	4.12	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.218	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1184	-	-	-	463	658
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	806	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1155	-	-	-	438	627
Mov Cap-2 Maneuver	-	-	-	-	438	-
Stage 1	-	-	-	-	680	-
Stage 2	-	-	-	-	786	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1155	-	-	-	438	627
HCM Lane V/C Ratio	0.005	-	-	-	0.269	0.116
HCM Control Delay (s)	8.1	0	-	-	16.2	11.5
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	1.1	0.4

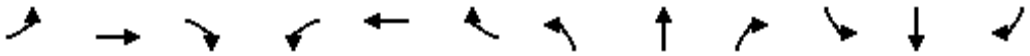
Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	265	235	65	140	70
Future Vol, veh/h	25	265	235	65	140	70
Conflicting Peds, #/hr	19	0	0	12	12	19
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	3	3
Mvmt Flow	27	291	258	71	154	77

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	348	0	-	0	670	332
Stage 1	-	-	-	-	313	-
Stage 2	-	-	-	-	357	-
Critical Hdwy	4.12	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.218	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1211	-	-	-	421	707
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	706	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1189	-	-	-	395	682
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	706	-
Stage 2	-	-	-	-	693	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	16.8
HCM LOS			C

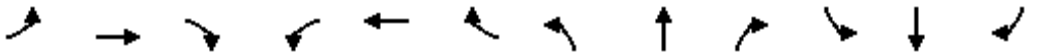
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1189	-	-	-	395	682
HCM Lane V/C Ratio	0.023	-	-	-	0.389	0.113
HCM Control Delay (s)	8.1	0	-	-	19.8	10.9
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.8	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	440	90	220	350	90	45	530	240	140	1295	100
Future Volume (veh/h)	95	440	90	220	350	90	45	530	240	140	1295	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.94	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1796	1796	1796	1856	1856	1856
Adj Flow Rate, veh/h	99	458	94	229	365	94	47	552	250	146	1349	104
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	4	4	4	7	7	7	3	3	3
Cap, veh/h	122	524	106	216	646	164	60	1463	640	173	1670	128
Arrive On Green	0.07	0.18	0.18	0.12	0.24	0.24	0.03	0.44	0.44	0.10	0.50	0.50
Sat Flow, veh/h	1753	2850	579	1753	2725	690	1711	3312	1449	1767	3312	254
Grp Volume(v), veh/h	99	279	273	229	232	227	47	545	257	146	716	737
Grp Sat Flow(s),veh/h/ln	1753	1749	1681	1753	1749	1666	1711	1635	1493	1767	1763	1803
Q Serve(g_s), s	7.2	20.2	20.6	16.0	15.2	15.6	3.5	14.5	15.1	10.6	44.0	44.6
Cycle Q Clear(g_c), s	7.2	20.2	20.6	16.0	15.2	15.6	3.5	14.5	15.1	10.6	44.0	44.6
Prop In Lane	1.00		0.34	1.00		0.41	1.00		0.97	1.00		0.14
Lane Grp Cap(c), veh/h	122	321	309	216	415	395	60	1444	659	173	889	909
V/C Ratio(X)	0.81	0.87	0.88	1.06	0.56	0.57	0.79	0.38	0.39	0.85	0.81	0.81
Avail Cap(c_a), veh/h	202	336	323	216	415	395	132	1444	659	272	889	909
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	51.5	51.7	57.0	43.6	43.8	62.2	24.3	24.5	57.7	26.9	27.0
Incr Delay (d2), s/veh	11.9	20.3	23.1	65.8	1.1	1.3	19.7	0.8	1.7	13.2	7.7	7.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	10.7	10.6	11.0	6.7	6.6	1.9	5.8	5.7	5.4	20.0	20.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.5	71.8	74.8	122.8	44.7	45.1	82.0	25.1	26.2	70.8	34.6	34.8
LnGrp LOS	E	E	E	F	D	D	F	C	C	E	C	C
Approach Vol, veh/h		651			688			849			1599	
Approach Delay, s/veh		73.0			70.8			28.6			38.0	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.7	62.4	21.0	28.9	9.5	70.6	14.1	35.8
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	20.0	49.0	16.0	25.0	10.0	59.0	15.0	26.0
Max Q Clear Time (g_c+I1), s	12.6	17.1	18.0	22.6	5.5	46.6	9.2	17.6
Green Ext Time (p_c), s	0.2	6.3	0.0	0.8	0.0	7.8	0.1	1.8

Intersection Summary	
HCM 6th Ctrl Delay	47.9
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	875	50	75	600	270	10	80	70	245	240	30
Future Volume (veh/h)	55	875	50	75	600	270	10	80	70	245	240	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	62	994	57	85	682	307	11	91	80	278	273	34
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	1	1	1
Cap, veh/h	79	1438	82	107	1038	467	23	178	157	304	579	72
Arrive On Green	0.04	0.42	0.42	0.06	0.44	0.44	0.01	0.20	0.20	0.17	0.35	0.35
Sat Flow, veh/h	1767	3388	194	1767	2358	1062	1767	909	799	1795	1643	205
Grp Volume(v), veh/h	62	517	534	85	510	479	11	0	171	278	0	307
Grp Sat Flow(s),veh/h/ln	1767	1763	1819	1767	1763	1657	1767	0	1709	1795	0	1848
Q Serve(g_s), s	4.2	28.7	28.7	5.7	27.3	27.3	0.7	0.0	10.7	18.3	0.0	15.5
Cycle Q Clear(g_c), s	4.2	28.7	28.7	5.7	27.3	27.3	0.7	0.0	10.7	18.3	0.0	15.5
Prop In Lane	1.00		0.11	1.00		0.64	1.00		0.47	1.00		0.11
Lane Grp Cap(c), veh/h	79	748	772	107	776	729	23	0	335	304	0	651
V/C Ratio(X)	0.78	0.69	0.69	0.80	0.66	0.66	0.49	0.00	0.51	0.92	0.00	0.47
Avail Cap(c_a), veh/h	110	748	772	155	776	729	110	0	335	382	0	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.44	0.44	0.44	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.7	28.1	28.1	55.6	26.5	26.5	58.8	0.0	43.1	49.0	0.0	30.2
Incr Delay (d2), s/veh	6.5	2.3	2.3	10.2	4.3	4.6	5.9	0.0	5.5	20.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	12.4	12.8	2.8	12.2	11.6	0.4	0.0	5.1	9.9	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.2	30.4	30.4	65.8	30.8	31.1	64.7	0.0	48.6	69.7	0.0	30.4
LnGrp LOS	E	C	C	E	C	C	E	A	D	E	A	C
Approach Vol, veh/h		1113			1074			182			585	
Approach Delay, s/veh		32.2			33.7			49.6			49.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	57.3	24.8	28.0	11.7	55.4	6.0	46.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	45.5	25.5	23.5	10.5	42.5	7.5	41.5
Max Q Clear Time (g_c+I1), s	6.2	29.3	20.3	12.7	7.7	30.7	2.7	17.5
Green Ext Time (p_c), s	0.0	1.2	0.0	0.1	0.0	1.1	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	75	120	670	95	210	1400
Future Volume (veh/h)	75	120	670	95	210	1400
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.97		0.99	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1796	1796	1841	1841
Adj Flow Rate, veh/h	81	129	720	102	226	1505
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	7	7	4	4
Cap, veh/h	96	154	2312	1026	601	2682
Arrive On Green	0.16	0.16	1.00	1.00	0.06	0.77
Sat Flow, veh/h	617	983	3503	1514	1753	3589
Grp Volume(v), veh/h	211	0	720	102	226	1505
Grp Sat Flow(s),veh/h/ln	1609	0	1706	1514	1753	1749
Q Serve(g_s), s	16.6	0.0	0.0	0.0	5.1	22.9
Cycle Q Clear(g_c), s	16.6	0.0	0.0	0.0	5.1	22.9
Prop In Lane	0.38	0.61		1.00	1.00	
Lane Grp Cap(c), veh/h	251	0	2312	1026	601	2682
V/C Ratio(X)	0.84	0.00	0.31	0.10	0.38	0.56
Avail Cap(c_a), veh/h	334	0	2312	1026	782	2682
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.85	0.85	1.00	1.00
Uniform Delay (d), s/veh	53.3	0.0	0.0	0.0	5.2	6.2
Incr Delay (d2), s/veh	13.3	0.0	0.3	0.2	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	0.0	0.1	0.0	1.8	7.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	66.6	0.0	0.3	0.2	5.6	7.1
LnGrp LOS	E	A	A	A	A	A
Approach Vol, veh/h	211		822			1731
Approach Delay, s/veh	66.6		0.3			6.9
Approach LOS	E		A			A

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.6	93.1		25.3		104.7
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	21.0	68.0		27.0		93.0
Max Q Clear Time (g_c+I1), s	7.1	2.0		18.6		24.9
Green Ext Time (p_c), s	0.5	6.5		0.4		19.6

Intersection Summary	
HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

Notes

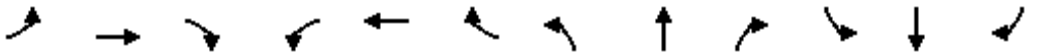
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	30	215	40	30	5	245	55	20	5	265	110
Future Vol, veh/h	20	30	215	40	30	5	245	55	20	5	265	110
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	8	8	8	3	3	3	5	5	5
Mvmt Flow	21	32	229	43	32	5	261	59	21	5	282	117
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	13.4	11.2	14.5	17.9
HCM LOS	B	B	B	C

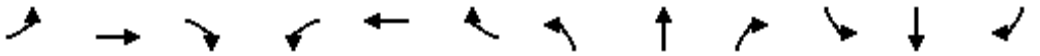
Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	8%	53%	1%
Vol Thru, %	0%	73%	11%	40%	70%
Vol Right, %	0%	27%	81%	7%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	75	265	75	380
LT Vol	245	0	20	40	5
Through Vol	0	55	30	30	265
RT Vol	0	20	215	5	110
Lane Flow Rate	261	80	282	80	404
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.488	0.134	0.446	0.154	0.631
Departure Headway (Hd)	6.74	6.041	5.698	6.94	5.618
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	532	589	626	520	639
Service Time	4.522	3.823	3.788	4.94	3.694
HCM Lane V/C Ratio	0.491	0.136	0.45	0.154	0.632
HCM Control Delay	15.9	9.8	13.4	11.2	17.9
HCM Lane LOS	C	A	B	B	C
HCM 95th-tile Q	2.7	0.5	2.3	0.5	4.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	610	40	145	385	60	65	620	190	160	1215	145
Future Volume (veh/h)	130	610	40	145	385	60	65	620	190	160	1215	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1811	1811	1811	1811	1811	1811	1841	1841	1841
Adj Flow Rate, veh/h	133	622	41	148	393	61	66	633	194	163	1240	148
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	6	6	6	6	6	6	4	4	4
Cap, veh/h	159	637	42	174	598	92	92	1559	659	188	1775	754
Arrive On Green	0.09	0.19	0.19	0.10	0.20	0.20	0.05	0.45	0.45	0.11	0.51	0.51
Sat Flow, veh/h	1753	3311	218	1725	2955	453	1725	3441	1454	1753	3497	1485
Grp Volume(v), veh/h	133	328	335	148	227	227	66	633	194	163	1240	148
Grp Sat Flow(s),veh/h/ln	1753	1749	1780	1725	1721	1688	1725	1721	1454	1753	1749	1485
Q Serve(g_s), s	9.7	24.2	24.3	11.0	15.8	16.1	4.9	16.0	10.9	11.9	35.2	7.1
Cycle Q Clear(g_c), s	9.7	24.2	24.3	11.0	15.8	16.1	4.9	16.0	10.9	11.9	35.2	7.1
Prop In Lane	1.00		0.12	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	336	342	174	348	342	92	1559	659	188	1775	754
V/C Ratio(X)	0.83	0.98	0.98	0.85	0.65	0.66	0.72	0.41	0.29	0.87	0.70	0.20
Avail Cap(c_a), veh/h	283	336	342	279	348	342	100	1559	659	209	1775	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	58.1	52.2	52.2	57.5	47.6	47.8	60.6	23.8	22.4	57.1	24.4	17.5
Incr Delay (d2), s/veh	10.8	42.3	42.7	13.0	4.3	4.8	20.6	0.8	1.1	23.1	1.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	14.6	14.9	5.4	7.2	7.3	2.7	6.7	4.0	6.5	14.8	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	94.5	95.0	70.5	51.9	52.6	81.2	24.6	23.6	80.2	26.3	18.0
LnGrp LOS	E	F	F	E	D	D	F	C	C	F	C	B
Approach Vol, veh/h		796			602			893			1551	
Approach Delay, s/veh		90.4			56.7			28.6			31.1	
Approach LOS		F			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.5	63.4	18.1	30.0	11.4	70.5	16.8	31.3
Change Period (Y+Rc), s	4.5	4.5	5.0	5.0	4.5	4.5	5.0	5.0
Max Green Setting (Gmax), s	15.5	49.5	21.0	25.0	7.5	57.5	21.0	25.0
Max Q Clear Time (g_c+I1), s	13.9	18.0	13.0	26.3	6.9	37.2	11.7	18.1
Green Ext Time (p_c), s	0.1	5.7	0.2	0.0	0.0	10.1	0.2	1.5

Intersection Summary	
HCM 6th Ctrl Delay	46.8
HCM 6th LOS	D



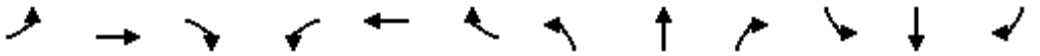
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	750	25	270	585	265	35	110	215	190	335	50
Future Volume (veh/h)	30	750	25	270	585	265	35	110	215	190	335	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.96	1.00		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1856	1856	1856	1841	1841	1841	1856	1856	1856
Adj Flow Rate, veh/h	31	781	26	281	609	276	36	115	0	198	349	52
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	3	3	3	4	4	4	3	3	3
Cap, veh/h	130	1042	35	292	918	416	131	451		186	431	64
Arrive On Green	0.08	0.31	0.31	0.33	0.79	0.79	0.08	0.25	0.00	0.10	0.28	0.28
Sat Flow, veh/h	1739	3415	114	1767	2323	1052	1753	1841	1560	1767	1567	234
Grp Volume(v), veh/h	31	397	410	281	462	423	36	115	0	198	0	401
Grp Sat Flow(s),veh/h/ln	1739	1735	1795	1767	1763	1612	1753	1841	1560	1767	0	1801
Q Serve(g_s), s	1.7	20.6	20.6	15.6	11.6	11.6	1.9	5.0	0.0	10.5	0.0	20.8
Cycle Q Clear(g_c), s	1.7	20.6	20.6	15.6	11.6	11.6	1.9	5.0	0.0	10.5	0.0	20.8
Prop In Lane	1.00		0.06	1.00		0.65	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	130	529	547	292	696	637	131	451		186	0	495
V/C Ratio(X)	0.24	0.75	0.75	0.96	0.66	0.66	0.27	0.26		1.07	0.00	0.81
Avail Cap(c_a), veh/h	130	529	547	292	696	637	131	451		186	0	495
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.76	0.76	0.76	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.6	31.3	31.3	33.2	7.6	7.6	43.7	30.4	0.0	44.8	0.0	33.8
Incr Delay (d2), s/veh	4.3	9.4	9.1	37.7	3.8	4.1	5.1	1.4	0.0	85.0	0.0	13.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	9.8	10.1	8.3	3.2	3.0	1.0	2.4	0.0	8.9	0.0	10.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	40.7	40.4	70.9	11.3	11.7	48.8	31.8	0.0	129.7	0.0	47.2
LnGrp LOS	D	D	D	E	B	B	D	C		F	A	D
Approach Vol, veh/h		838			1166			151	A		599	
Approach Delay, s/veh		40.8			25.8			35.8			74.5	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	35.0	15.0	29.0	12.0	44.0	12.0	32.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.5	30.5	10.5	24.5	7.5	39.5	7.5	27.5
Max Q Clear Time (g_c+I1), s	17.6	22.6	12.5	7.0	3.7	13.6	3.9	22.8
Green Ext Time (p_c), s	0.0	2.2	0.0	0.3	0.0	4.2	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	41.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1035	195	0	875	225	5	5	490	0	90	385
Future Volume (veh/h)	0	1035	195	0	875	225	5	5	490	0	90	385
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1841	1841	1856	1856	1856	0	1885	1885
Adj Flow Rate, veh/h	0	1089	205	0	921	0	5	5	0	0	95	405
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	0	4	4	3	3	3	0	1	1
Cap, veh/h	0	1701	319	0	2022		75	58		0	103	437
Arrive On Green	0.00	1.00	1.00	0.00	1.00	0.00	0.33	0.33	0.00	0.00	0.33	0.33
Sat Flow, veh/h	0	3035	551	0	3681	0	64	176	0	0	309	1318
Grp Volume(v), veh/h	0	651	643	0	921	0	10	0	0	0	0	500
Grp Sat Flow(s),veh/h/ln	0	1763	1731	0	1749	0	240	0	0	0	0	1627
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	29.7
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	29.9	0.0	0.0	0.0	0.0	29.7
Prop In Lane	0.00		0.32	0.00		0.00	0.50		0.00	0.00		0.81
Lane Grp Cap(c), veh/h	0	1019	1001	0	2022		134	0		0	0	540
V/C Ratio(X)	0.00	0.64	0.64	0.00	0.46		0.07	0.00		0.00	0.00	0.93
Avail Cap(c_a), veh/h	0	1019	1001	0	2022		210	0		0	0	643
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.57	0.57	0.00	0.87	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	26.3	0.0	0.0	0.0	0.0	32.2
Incr Delay (d2), s/veh	0.0	1.8	1.8	0.0	0.6	0.0	0.1	0.0	0.0	0.0	0.0	16.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.5	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	13.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.8	1.8	0.0	0.6	0.0	26.4	0.0	0.0	0.0	0.0	48.8
LnGrp LOS	A	A	A	A	A		C	A		A	A	D
Approach Vol, veh/h		1294			921	A		10	A		500	
Approach Delay, s/veh		1.8			0.6			26.4			48.8	
Approach LOS		A			A			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		62.3		37.7		62.3		37.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		51.5		39.5		51.5		39.5				
Max Q Clear Time (g_c+I1), s		2.0		31.9		2.0		31.7				
Green Ext Time (p_c), s		7.4		0.0		5.1		1.5				

Intersection Summary		
HCM 6th Ctrl Delay		10.1
HCM 6th LOS		B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	560	960	705	265	35	365	20	60	100	110	205	55
Future Volume (vph)	560	960	705	265	35	365	20	60	100	110	205	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Lane Util. Factor	0.95		0.95	1.00		0.95	0.95	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	0.97		1.00	0.86		1.00	1.00	1.00	0.98	1.00	0.97	
Flpb, ped/bikes	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.91		1.00	0.85		1.00	1.00	1.00	0.85	1.00	0.95	
Flt Protected	1.00		1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3116		3505	1345		1649	1649	1827	1517	1805	1756	
Flt Permitted	1.00		1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3116		3505	1345		1649	1649	1827	1517	1805	1756	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	571	980	719	270	36	372	20	61	102	112	209	56
RTOR Reduction (vph)	273	0	0	45	0	0	0	0	85	0	5	0
Lane Group Flow (vph)	1278	0	719	261	0	197	195	61	17	112	296	0
Confl. Peds. (#/hr)		24		22	20		22		8	8		
Confl. Bikes (#/hr)		2		1	1							
Heavy Vehicles (%)	2%	2%	3%	3%	3%	4%	4%	4%	4%	0%	0%	0%
Turn Type	NA		NA	Perm		Split	Split	NA	Perm	Split	NA	
Protected Phases	2		6			4	4	4		3	3	
Permitted Phases				6					4			
Actuated Green, G (s)	48.4		48.4	48.4		16.4	16.4	16.4	16.4	18.7	18.7	
Effective Green, g (s)	48.4		48.4	48.4		16.4	16.4	16.4	16.4	18.7	18.7	
Actuated g/C Ratio	0.48		0.48	0.48		0.16	0.16	0.16	0.16	0.19	0.19	
Clearance Time (s)	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	1508		1696	650		270	270	299	248	337	328	
v/s Ratio Prot	c0.41		0.21			c0.12	0.12	0.03		0.06	c0.17	
v/s Ratio Perm				0.19					0.01			
v/c Ratio	0.95dr		0.42	0.40		0.73	0.72	0.20	0.07	0.33	0.90	
Uniform Delay, d1	22.6		16.7	16.5		39.7	39.6	36.2	35.3	35.2	39.8	
Progression Factor	1.03		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.3		0.8	1.8		8.1	7.8	0.1	0.0	0.2	26.2	
Delay (s)	27.5		17.5	18.4		47.8	47.5	36.3	35.4	35.5	65.9	
Level of Service	C		B	B		D	D	D	D	D	E	
Approach Delay (s)	27.5		17.8					44.1			57.7	
Approach LOS	C		B					D			E	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	101.3%	ICU Level of Service	G
Analysis Period (min)	15		

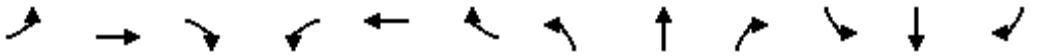
dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group



Movement	SBR2
Lane Configurations	
Traffic Volume (vph)	35
Future Volume (vph)	35
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	36
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	22
Confl. Bikes (#/hr)	
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	400	90	230	5	10	40	90	100	15	40	640	485
Future Volume (veh/h)	400	90	230	5	10	40	90	100	15	40	640	485
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1707	1707	1707	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	474	0	235	5	33	26	92	102	15	41	653	495
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	6	6	6	13	13	13	3	3	3	1	1	1
Cap, veh/h	575	0	256	126	133	113	124	1484	214	90	1648	1000
Arrive On Green	0.17	0.00	0.17	0.08	0.08	0.08	0.07	0.48	0.48	0.05	0.46	0.46
Sat Flow, veh/h	3450	0	1535	1626	1707	1447	1767	3092	446	1795	3582	1596
Grp Volume(v), veh/h	474	0	235	5	33	26	92	57	60	41	653	495
Grp Sat Flow(s),veh/h/ln	1725	0	1535	1626	1707	1447	1767	1763	1775	1795	1791	1596
Q Serve(g_s), s	11.9	0.0	13.6	0.3	1.6	1.5	4.6	1.6	1.6	2.0	10.8	15.1
Cycle Q Clear(g_c), s	11.9	0.0	13.6	0.3	1.6	1.5	4.6	1.6	1.6	2.0	10.8	15.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	575	0	256	126	133	113	124	846	852	90	1648	1000
V/C Ratio(X)	0.82	0.00	0.92	0.04	0.25	0.23	0.74	0.07	0.07	0.46	0.40	0.49
Avail Cap(c_a), veh/h	575	0	256	289	304	257	216	846	852	299	1648	1000
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31
Uniform Delay (d), s/veh	36.2	0.0	36.9	38.4	39.0	39.0	41.1	12.6	12.6	41.6	16.0	9.1
Incr Delay (d2), s/veh	9.3	0.0	35.1	0.3	2.1	2.2	3.3	0.2	0.2	0.4	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	7.5	0.1	0.8	0.6	2.1	0.6	0.7	0.9	4.3	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	0.0	72.0	38.7	41.1	41.2	44.4	12.7	12.7	42.0	16.3	9.6
LnGrp LOS	D	A	E	D	D	D	D	B	B	D	B	A
Approach Vol, veh/h		709			64			209			1189	
Approach Delay, s/veh		54.3			40.9			26.7			14.4	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	48.5		20.0	11.3	46.7		12.0				
Change Period (Y+Rc), s	5.0	5.3		5.0	5.0	5.3		5.0				
Max Green Setting (Gmax), s	15.0	23.7		15.0	11.0	27.7		16.0				
Max Q Clear Time (g_c+I1), s	4.0	3.6		15.6	6.6	17.1		3.6				
Green Ext Time (p_c), s	0.0	0.3		0.0	0.0	4.7		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		29.4
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	80	240	135	120	55	25
Future Vol, veh/h	80	240	135	120	55	25
Conflicting Peds, #/hr	28	0	0	28	28	28
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	5	5	0	0
Mvmt Flow	93	279	157	140	64	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	325	0	-	0	748	283
Stage 1	-	-	-	-	255	-
Stage 2	-	-	-	-	493	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1235	-	-	-	383	761
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	618	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1202	-	-	-	329	721
Mov Cap-2 Maneuver	-	-	-	-	329	-
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	601	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	16
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1202	-	-	-	329	721
HCM Lane V/C Ratio	0.077	-	-	-	0.194	0.04
HCM Control Delay (s)	8.2	0	-	-	18.6	10.2
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.7	0.1

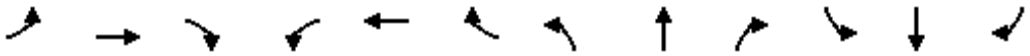
Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	65	225	245	170	75	25
Future Vol, veh/h	65	225	245	170	75	25
Conflicting Peds, #/hr	24	0	0	20	20	24
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	7	7
Mvmt Flow	76	262	285	198	87	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	507	0	-	0	842	432
Stage 1	-	-	-	-	408	-
Stage 2	-	-	-	-	434	-
Critical Hdwy	4.13	-	-	-	6.47	6.27
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	2.227	-	-	-	3.563	3.363
Pot Cap-1 Maneuver	1053	-	-	-	328	613
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	643	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1029	-	-	-	286	585
Mov Cap-2 Maneuver	-	-	-	-	286	-
Stage 1	-	-	-	-	590	-
Stage 2	-	-	-	-	628	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	20.1
HCM LOS			C

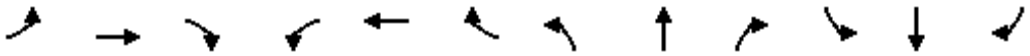
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1029	-	-	-	286	585
HCM Lane V/C Ratio	0.073	-	-	-	0.305	0.05
HCM Control Delay (s)	8.8	0	-	-	23	11.5
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	-	-	-	1.3	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	310	60	225	430	170	90	1400	190	160	915	105
Future Volume (veh/h)	200	310	60	225	430	170	90	1400	190	160	915	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89	1.00		0.90	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	204	316	61	230	439	173	92	1429	194	163	934	107
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	2	2	2	1	1	1
Cap, veh/h	205	558	105	218	479	186	114	2021	274	180	1555	178
Arrive On Green	0.11	0.19	0.19	0.12	0.20	0.20	0.06	0.45	0.45	0.10	0.48	0.48
Sat Flow, veh/h	1795	2942	556	1795	2434	944	1781	4532	615	1795	3225	369
Grp Volume(v), veh/h	204	190	187	230	321	291	92	1073	550	163	519	522
Grp Sat Flow(s),veh/h/ln	1795	1791	1706	1795	1791	1587	1781	1702	1743	1795	1791	1804
Q Serve(g_s), s	15.9	13.4	14.0	17.0	24.6	25.2	7.1	35.7	35.8	12.6	29.5	29.6
Cycle Q Clear(g_c), s	15.9	13.4	14.0	17.0	24.6	25.2	7.1	35.7	35.8	12.6	29.5	29.6
Prop In Lane	1.00		0.33	1.00		0.59	1.00		0.35	1.00		0.20
Lane Grp Cap(c), veh/h	205	340	324	218	353	312	114	1518	777	180	864	870
V/C Ratio(X)	0.99	0.56	0.58	1.05	0.91	0.93	0.81	0.71	0.71	0.91	0.60	0.60
Avail Cap(c_a), veh/h	205	345	329	218	358	317	153	1518	777	180	864	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.15	0.15	0.15	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	51.4	51.6	61.5	55.0	55.3	64.7	31.4	31.4	62.4	26.4	26.4
Incr Delay (d2), s/veh	61.1	1.9	2.5	39.6	5.7	8.1	20.5	2.8	5.4	42.0	3.1	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	6.3	6.2	10.2	11.7	10.8	3.9	15.2	16.1	7.8	13.3	13.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.0	53.3	54.1	101.1	60.8	63.4	85.2	34.2	36.8	104.4	29.5	29.5
LnGrp LOS	F	D	D	F	E	E	F	C	D	F	C	C
Approach Vol, veh/h		581			842			1715			1204	
Approach Delay, s/veh		78.0			72.7			37.7			39.6	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	67.4	22.0	31.6	13.9	72.5	21.0	32.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	14.0	62.0	17.0	27.0	12.0	64.0	16.0	28.0
Max Q Clear Time (g_c+I1), s	14.6	37.8	19.0	16.0	9.1	31.6	17.9	27.2
Green Ext Time (p_c), s	0.0	13.2	0.0	1.7	0.0	8.3	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	50.4
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	810	20	90	955	350	30	300	110	140	140	45
Future Volume (veh/h)	55	810	20	90	955	350	30	300	110	140	140	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	58	853	21	95	1005	368	32	316	116	147	147	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	2	2	2	1	1	1
Cap, veh/h	75	1504	37	120	1161	420	49	325	119	175	437	140
Arrive On Green	0.04	0.43	0.43	0.07	0.46	0.46	0.03	0.25	0.25	0.10	0.32	0.32
Sat Flow, veh/h	1753	3484	86	1795	2548	921	1781	1278	469	1795	1348	431
Grp Volume(v), veh/h	58	428	446	95	703	670	32	0	432	147	0	194
Grp Sat Flow(s),veh/h/ln	1753	1749	1821	1795	1791	1677	1781	0	1747	1795	0	1779
Q Serve(g_s), s	3.9	22.1	22.1	6.3	42.1	43.5	2.1	0.0	29.4	9.7	0.0	9.9
Cycle Q Clear(g_c), s	3.9	22.1	22.1	6.3	42.1	43.5	2.1	0.0	29.4	9.7	0.0	9.9
Prop In Lane	1.00		0.05	1.00		0.55	1.00		0.27	1.00		0.24
Lane Grp Cap(c), veh/h	75	755	786	120	816	765	49	0	444	175	0	577
V/C Ratio(X)	0.78	0.57	0.57	0.79	0.86	0.88	0.66	0.00	0.97	0.84	0.00	0.34
Avail Cap(c_a), veh/h	153	755	786	232	816	765	111	0	444	232	0	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.9	25.7	25.7	55.2	29.2	29.6	57.8	0.0	44.3	53.2	0.0	30.7
Incr Delay (d2), s/veh	11.2	2.1	2.0	11.1	11.5	13.5	14.0	0.0	36.5	18.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.5	9.9	3.2	20.2	19.9	1.2	0.0	17.1	5.2	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.1	27.8	27.7	66.3	40.7	43.1	71.9	0.0	80.8	71.6	0.0	31.1
LnGrp LOS	E	C	C	E	D	D	E	A	F	E	A	C
Approach Vol, veh/h		932			1468			464			341	
Approach Delay, s/veh		30.2			43.4			80.2			48.6	
Approach LOS		C			D			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	59.2	16.2	35.0	12.5	56.3	7.8	43.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	45.5	15.5	30.5	15.5	40.5	7.5	38.5
Max Q Clear Time (g_c+I1), s	5.9	45.5	11.7	31.4	8.3	24.1	4.1	11.9
Green Ext Time (p_c), s	0.0	0.0	0.1	0.0	0.1	5.2	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	45.5
HCM 6th LOS	D



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	130	240	1440	85	90	1040
Future Volume (veh/h)	130	240	1440	85	90	1040
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.98		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1900	1900	1870	1870	1856	1856
Adj Flow Rate, veh/h	141	261	1565	92	98	1130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	2	2	3	3
Cap, veh/h	150	278	2141	951	201	2350
Arrive On Green	0.26	0.26	0.60	0.60	0.04	0.67
Sat Flow, veh/h	574	1062	3647	1578	1767	3618
Grp Volume(v), veh/h	403	0	1565	92	98	1130
Grp Sat Flow(s),veh/h/ln	1640	0	1777	1578	1767	1763
Q Serve(g_s), s	33.7	0.0	43.8	3.4	3.0	22.0
Cycle Q Clear(g_c), s	33.7	0.0	43.8	3.4	3.0	22.0
Prop In Lane	0.35	0.65		1.00	1.00	
Lane Grp Cap(c), veh/h	430	0	2141	951	201	2350
V/C Ratio(X)	0.94	0.00	0.73	0.10	0.49	0.48
Avail Cap(c_a), veh/h	527	0	2141	951	289	2350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.56	0.56	1.00	1.00
Uniform Delay (d), s/veh	50.6	0.0	19.8	11.7	19.9	11.4
Incr Delay (d2), s/veh	22.2	0.0	1.3	0.1	1.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.4	0.0	18.0	1.3	1.5	8.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	72.8	0.0	21.0	11.9	21.7	12.2
LnGrp LOS	E	A	C	B	C	B
Approach Vol, veh/h	403		1657			1228
Approach Delay, s/veh	72.8		20.5			12.9
Approach LOS	E		C			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.0	89.4		41.7		98.3
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	12.0	69.0		45.0		85.0
Max Q Clear Time (g_c+I1), s	5.0	45.8		35.7		24.0
Green Ext Time (p_c), s	0.1	13.8		1.0		11.6

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

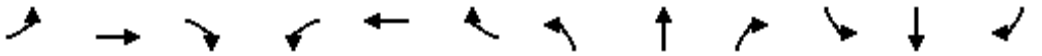
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	17.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	115	55	245	15	20	5	265	260	30	5	95	50
Future Vol, veh/h	115	55	245	15	20	5	265	260	30	5	95	50
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	4	4	4
Mvmt Flow	125	60	266	16	22	5	288	283	33	5	103	54
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	21.3	10.7	16.9	11.9
HCM LOS	C	B	C	B

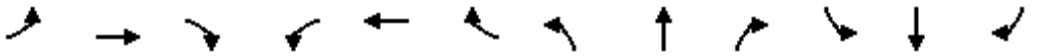
Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	28%	38%	3%
Vol Thru, %	0%	90%	13%	50%	63%
Vol Right, %	0%	10%	59%	12%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	265	290	415	40	150
LT Vol	265	0	115	15	5
Through Vol	0	260	55	20	95
RT Vol	0	30	245	5	50
Lane Flow Rate	288	315	451	43	163
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.546	0.546	0.707	0.085	0.285
Departure Headway (Hd)	6.82	6.238	5.644	7.017	6.294
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	527	577	636	513	567
Service Time	4.585	4.003	3.704	5.017	4.376
HCM Lane V/C Ratio	0.546	0.546	0.709	0.084	0.287
HCM Control Delay	17.6	16.3	21.3	10.7	11.9
HCM Lane LOS	C	C	C	B	B
HCM 95th-tile Q	3.3	3.3	5.8	0.3	1.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	405	70	180	655	95	160	1290	170	105	895	160
Future Volume (veh/h)	135	405	70	180	655	95	160	1290	170	105	895	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	138	413	71	184	668	97	163	1316	173	107	913	163
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	3	3	3
Cap, veh/h	140	571	97	207	709	103	183	1809	771	88	1621	679
Arrive On Green	0.08	0.19	0.19	0.12	0.23	0.23	0.10	0.51	0.51	0.05	0.46	0.46
Sat Flow, veh/h	1753	2948	501	1781	3082	447	1767	3526	1502	1767	3526	1476
Grp Volume(v), veh/h	138	243	241	184	385	380	163	1316	173	107	913	163
Grp Sat Flow(s),veh/h/ln	1753	1749	1700	1781	1777	1752	1767	1763	1502	1767	1763	1476
Q Serve(g_s), s	11.8	19.5	20.0	15.3	31.9	32.0	13.7	43.5	9.5	7.5	28.3	10.1
Cycle Q Clear(g_c), s	11.8	19.5	20.0	15.3	31.9	32.0	13.7	43.5	9.5	7.5	28.3	10.1
Prop In Lane	1.00		0.29	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	140	339	329	207	409	403	183	1809	771	88	1621	679
V/C Ratio(X)	0.98	0.72	0.73	0.89	0.94	0.94	0.89	0.73	0.22	1.21	0.56	0.24
Avail Cap(c_a), veh/h	140	339	329	261	415	409	183	1809	771	88	1621	679
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.79	0.79	0.79
Uniform Delay (d), s/veh	68.9	56.6	56.8	65.3	56.7	56.8	66.4	28.4	20.1	71.2	29.5	24.6
Incr Delay (d2), s/veh	70.9	7.1	8.1	24.7	29.4	30.3	38.1	2.6	0.7	152.5	1.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	9.3	9.4	8.4	17.7	17.6	8.1	18.9	3.5	7.2	12.4	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	139.8	63.8	64.9	90.0	86.2	87.1	104.5	31.0	20.8	223.7	30.6	25.3
LnGrp LOS	F	E	E	F	F	F	F	C	C	F	C	C
Approach Vol, veh/h		622			949			1652			1183	
Approach Delay, s/veh		81.1			87.3			37.1			47.4	
Approach LOS		F			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	81.5	22.5	34.1	20.0	73.5	17.0	39.5
Change Period (Y+Rc), s	4.5	4.5	5.0	5.0	4.5	4.5	5.0	5.0
Max Green Setting (Gmax), s	7.5	66.5	22.0	25.0	15.5	68.5	12.0	35.0
Max Q Clear Time (g_c+I1), s	9.5	45.5	17.3	22.0	15.7	30.3	13.8	34.0
Green Ext Time (p_c), s	0.0	11.1	0.2	0.9	0.0	8.8	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	56.9
HCM 6th LOS	E



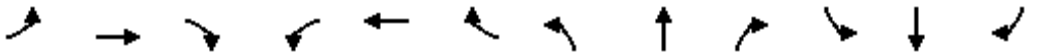
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	610	30	190	940	250	85	265	255	190	215	45
Future Volume (veh/h)	65	610	30	190	940	250	85	265	255	190	215	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.93	1.00		1.00	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1885	1885	1885	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	68	642	32	200	989	263	89	279	0	200	226	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	4	4	4	2	2	2
Cap, veh/h	120	1090	54	318	1189	315	167	410		202	356	74
Arrive On Green	0.07	0.32	0.32	0.35	0.86	0.86	0.10	0.22	0.00	0.11	0.24	0.24
Sat Flow, veh/h	1753	3378	168	1795	2754	728	1753	1841	1560	1781	1478	307
Grp Volume(v), veh/h	68	332	342	200	641	611	89	279	0	200	0	273
Grp Sat Flow(s),veh/h/ln	1753	1749	1797	1795	1791	1692	1753	1841	1560	1781	0	1786
Q Serve(g_s), s	4.1	17.5	17.5	10.2	18.9	19.5	5.3	15.3	0.0	12.3	0.0	15.1
Cycle Q Clear(g_c), s	4.1	17.5	17.5	10.2	18.9	19.5	5.3	15.3	0.0	12.3	0.0	15.1
Prop In Lane	1.00		0.09	1.00		0.43	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	120	564	580	318	773	731	167	410		202	0	430
V/C Ratio(X)	0.57	0.59	0.59	0.63	0.83	0.84	0.53	0.68		0.99	0.00	0.63
Avail Cap(c_a), veh/h	120	564	580	318	773	731	167	410		202	0	430
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.41	0.41	0.41	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.7	31.1	31.2	32.5	5.6	5.6	47.4	39.2	0.0	48.7	0.0	37.4
Incr Delay (d2), s/veh	18.2	4.5	4.4	3.8	4.4	4.8	11.6	8.8	0.0	60.2	0.0	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	8.0	8.2	4.2	3.4	3.3	2.9	7.9	0.0	8.8	0.0	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	35.6	35.5	36.3	9.9	10.4	59.0	48.0	0.0	108.9	0.0	44.4
LnGrp LOS	E	D	D	D	A	B	E	D		F	A	D
Approach Vol, veh/h		742			1452			368	A		473	
Approach Delay, s/veh		38.5			13.8			50.6			71.7	
Approach LOS		D			B			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	40.0	17.0	29.0	12.0	52.0	15.0	31.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.5	35.5	12.5	24.5	7.5	47.5	10.5	26.5
Max Q Clear Time (g_c+I1), s	12.2	19.5	14.3	17.3	6.1	21.5	7.3	17.1
Green Ext Time (p_c), s	0.2	2.5	0.0	0.6	0.0	6.6	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	33.3
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	995	140	0	970	430	5	5	480	0	50	550
Future Volume (veh/h)	0	995	140	0	970	430	5	5	480	0	50	550
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1885	1885	1870	1870	1870	0	1885	1885
Adj Flow Rate, veh/h	0	1047	147	0	1021	0	5	5	0	0	53	579
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	1	1	2	2	2	0	1	1
Cap, veh/h	0	1595	224	0	1834		62	47		0	55	599
Arrive On Green	0.00	1.00	1.00	0.00	1.00	0.00	0.41	0.41	0.00	0.00	0.41	0.41
Sat Flow, veh/h	0	3209	437	0	3770	0	31	115	0	0	135	1475
Grp Volume(v), veh/h	0	596	598	0	1021	0	10	0	0	0	0	632
Grp Sat Flow(s),veh/h/ln	0	1777	1776	0	1791	0	146	0	0	0	0	1611
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	42.2
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	42.6	0.0	0.0	0.0	0.0	42.2
Prop In Lane	0.00		0.25	0.00		0.00	0.50		0.00	0.00		0.92
Lane Grp Cap(c), veh/h	0	910	909	0	1834		108	0		0	0	654
V/C Ratio(X)	0.00	0.66	0.66	0.00	0.56		0.09	0.00		0.00	0.00	0.97
Avail Cap(c_a), veh/h	0	910	909	0	1834		117	0		0	0	666
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.70	0.70	0.00	0.79	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	26.9	0.0	0.0	0.0	0.0	31.9
Incr Delay (d2), s/veh	0.0	2.6	2.6	0.0	1.0	0.0	0.1	0.0	0.0	0.0	0.0	26.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.7	0.7	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	20.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	2.6	2.6	0.0	1.0	0.0	27.0	0.0	0.0	0.0	0.0	58.1
LnGrp LOS	A	A	A	A	A		C	A		A	A	E
Approach Vol, veh/h		1194			1021	A		10	A		632	
Approach Delay, s/veh		2.6			1.0			27.0			58.1	
Approach LOS		A			A			C			E	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.8		49.2		60.8		49.2				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		55.5		45.5		55.5		45.5				
Max Q Clear Time (g_c+I1), s		2.0		44.6		2.0		44.2				
Green Ext Time (p_c), s		6.5		0.0		5.9		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.



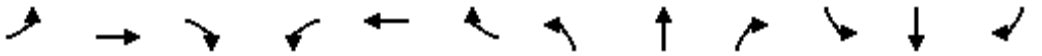
Movement	EBT	EBR	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	790	690	795	120	150	610	125	430	345	115	55	15
Future Volume (vph)	790	690	795	120	150	610	125	430	345	115	55	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Lane Util. Factor	0.95		0.95	1.00		0.95	0.95	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	0.97		1.00	0.66		1.00	1.00	1.00	0.97	1.00	0.93	
Flpb, ped/bikes	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Frt	0.93		1.00	0.85		1.00	1.00	1.00	0.85	1.00	0.95	
Flt Protected	1.00		1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3187		3574	1053		1698	1698	1881	1548	1805	1677	
Flt Permitted	1.00		1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3187		3574	1053		1698	1698	1881	1548	1805	1677	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	798	697	803	121	152	616	126	434	348	116	56	15
RTOR Reduction (vph)	149	0	0	43	0	0	0	0	109	0	5	0
Lane Group Flow (vph)	1346	0	803	230	0	370	372	434	239	116	76	0
Confl. Peds. (#/hr)		40		52	49		52		13	13		
Confl. Bikes (#/hr)				1	1							1
Heavy Vehicles (%)	2%	2%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Turn Type	NA		NA	Perm		Split	Split	NA	Perm	Split	NA	
Protected Phases	2		6			4	4	4		3	3	
Permitted Phases				6					4			
Actuated Green, G (s)	54.0		54.0	54.0		28.7	28.7	28.7	28.7	10.8	10.8	
Effective Green, g (s)	54.0		54.0	54.0		28.7	28.7	28.7	28.7	10.8	10.8	
Actuated g/C Ratio	0.49		0.49	0.49		0.26	0.26	0.26	0.26	0.10	0.10	
Clearance Time (s)	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	1564		1754	516		443	443	490	403	177	164	
v/s Ratio Prot	c0.42		0.22			0.22	0.22	c0.23		c0.06	0.05	
v/s Ratio Perm				0.22					0.15			
v/c Ratio	0.86		0.46	0.45		0.84	0.84	0.89	0.59	0.66	0.47	
Uniform Delay, d1	24.7		18.4	18.3		38.4	38.5	39.1	35.5	47.8	46.9	
Progression Factor	0.51		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.6		0.9	2.8		12.3	12.6	16.8	1.6	6.5	0.8	
Delay (s)	17.2		19.3	21.0		50.7	51.1	55.9	37.1	54.3	47.6	
Level of Service	B		B	C		D	D	E	D	D	D	
Approach Delay (s)	17.2		19.7					49.2			51.6	
Approach LOS	B		B					D			D	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR2
Lane Configurations	
Traffic Volume (vph)	10
Future Volume (vph)	10
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frpb, ped/bikes	
Flpb, ped/bikes	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.99
Adj. Flow (vph)	10
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Confl. Peds. (#/hr)	52
Confl. Bikes (#/hr)	1
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	510	25	145	5	0	110	230	830	15	20	275	425
Future Volume (veh/h)	510	25	145	5	0	110	230	830	15	20	275	425
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	545	0	149	5	0	113	237	856	15	21	284	438
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	2	2	2	2	2	2
Cap, veh/h	623	0	277	106	0	188	636	2035	36	52	850	653
Arrive On Green	0.17	0.00	0.17	0.06	0.00	0.06	0.36	0.57	0.57	0.03	0.24	0.24
Sat Flow, veh/h	3591	0	1598	1810	0	3220	1781	3573	63	1781	3554	1578
Grp Volume(v), veh/h	545	0	149	5	0	113	237	426	445	21	284	438
Grp Sat Flow(s),veh/h/ln	1795	0	1598	1810	0	1610	1781	1777	1859	1781	1777	1578
Q Serve(g_s), s	17.7	0.0	10.2	0.3	0.0	4.1	11.8	16.3	16.3	1.4	7.9	27.1
Cycle Q Clear(g_c), s	17.7	0.0	10.2	0.3	0.0	4.1	11.8	16.3	16.3	1.4	7.9	27.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	623	0	277	106	0	188	636	1012	1059	52	850	653
V/C Ratio(X)	0.87	0.00	0.54	0.05	0.00	0.60	0.37	0.42	0.42	0.40	0.33	0.67
Avail Cap(c_a), veh/h	748	0	333	181	0	322	636	1012	1059	208	850	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	48.3	0.0	45.2	53.4	0.0	55.1	28.6	14.6	14.6	57.2	37.7	28.6
Incr Delay (d2), s/veh	9.4	0.0	1.2	0.4	0.0	6.5	0.1	1.3	1.2	1.6	0.9	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	0.0	4.1	0.2	0.0	1.8	5.1	6.8	7.1	0.6	3.6	14.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	0.0	46.4	53.7	0.0	61.6	28.7	15.9	15.8	58.8	38.7	33.4
LnGrp LOS	E	A	D	D	A	E	C	B	B	E	D	C
Approach Vol, veh/h		694			118			1108			743	
Approach Delay, s/veh		55.3			61.3			18.6			36.1	
Approach LOS		E			E			B			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	73.7		25.8	48.2	34.0		12.0				
Change Period (Y+Rc), s	5.0	5.3		5.0	5.3	* 5.3		5.0				
Max Green Setting (Gmax), s	14.0	48.7		25.0	34.0	* 29		12.0				
Max Q Clear Time (g_c+I1), s	3.4	18.3		19.7	13.8	29.1		6.1				
Green Ext Time (p_c), s	0.0	3.9		1.1	0.3	0.0		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		35.0
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	180	310	10	110	65
Future Vol, veh/h	5	180	310	10	110	65
Conflicting Peds, #/hr	24	0	0	26	26	24
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	6	202	348	11	124	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	385	0	-	0	620	404
Stage 1	-	-	-	-	380	-
Stage 2	-	-	-	-	240	-
Critical Hdwy	4.12	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.218	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1173	-	-	-	453	649
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1144	-	-	-	428	618
Mov Cap-2 Maneuver	-	-	-	-	428	-
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	782	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1144	-	-	-	428	618
HCM Lane V/C Ratio	0.005	-	-	-	0.289	0.118
HCM Control Delay (s)	8.2	0	-	-	16.8	11.6
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	1.2	0.4

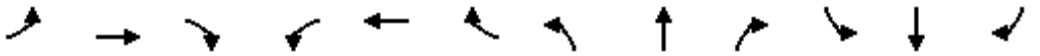
Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	275	240	65	145	75
Future Vol, veh/h	25	275	240	65	145	75
Conflicting Peds, #/hr	19	0	0	12	12	19
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	3	3
Mvmt Flow	27	302	264	71	159	82

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	354	0	-	0	687	338
Stage 1	-	-	-	-	319	-
Stage 2	-	-	-	-	368	-
Critical Hdwy	4.12	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.218	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1205	-	-	-	411	702
Stage 1	-	-	-	-	735	-
Stage 2	-	-	-	-	698	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1183	-	-	-	386	677
Mov Cap-2 Maneuver	-	-	-	-	386	-
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	685	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	17.4
HCM LOS			C

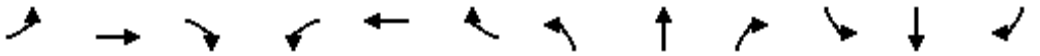
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1183	-	-	-	386	677
HCM Lane V/C Ratio	0.023	-	-	-	0.413	0.122
HCM Control Delay (s)	8.1	0	-	-	20.7	11.1
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	2	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	440	94	224	350	90	47	534	242	140	1303	100
Future Volume (veh/h)	95	440	94	224	350	90	47	534	242	140	1303	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.94	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1796	1796	1796	1856	1856	1856
Adj Flow Rate, veh/h	99	458	98	233	365	94	49	556	252	146	1357	104
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	4	4	4	4	4	4	7	7	7	3	3	3
Cap, veh/h	122	520	110	216	647	164	62	1461	640	173	1665	127
Arrive On Green	0.07	0.18	0.18	0.12	0.24	0.24	0.04	0.44	0.44	0.10	0.50	0.50
Sat Flow, veh/h	1753	2826	599	1753	2725	690	1711	3311	1451	1767	3313	253
Grp Volume(v), veh/h	99	282	274	233	232	227	49	549	259	146	720	741
Grp Sat Flow(s),veh/h/ln	1753	1749	1676	1753	1749	1666	1711	1635	1492	1767	1763	1803
Q Serve(g_s), s	7.2	20.4	20.8	16.0	15.2	15.6	3.7	14.6	15.3	10.6	44.6	45.1
Cycle Q Clear(g_c), s	7.2	20.4	20.8	16.0	15.2	15.6	3.7	14.6	15.3	10.6	44.6	45.1
Prop In Lane	1.00		0.36	1.00		0.41	1.00		0.97	1.00		0.14
Lane Grp Cap(c), veh/h	122	322	308	216	415	395	62	1443	659	173	886	906
V/C Ratio(X)	0.81	0.88	0.89	1.08	0.56	0.57	0.79	0.38	0.39	0.85	0.81	0.82
Avail Cap(c_a), veh/h	202	336	322	216	415	395	132	1443	659	272	886	906
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	51.6	51.8	57.0	43.6	43.8	62.1	24.4	24.5	57.7	27.2	27.3
Incr Delay (d2), s/veh	11.9	21.2	24.3	71.6	1.1	1.3	19.0	0.8	1.8	13.2	8.0	8.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	10.8	10.8	11.4	6.7	6.6	1.9	5.9	5.7	5.4	20.3	21.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.5	72.8	76.1	128.6	44.7	45.1	81.1	25.1	26.3	70.8	35.2	35.4
LnGrp LOS	E	E	E	F	D	D	F	C	C	E	D	D
Approach Vol, veh/h		655			692			857			1607	
Approach Delay, s/veh		74.0			73.1			28.7			38.5	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.7	62.4	21.0	28.9	9.7	70.3	14.1	35.8
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	20.0	49.0	16.0	25.0	10.0	59.0	15.0	26.0
Max Q Clear Time (g_c+I1), s	12.6	17.3	18.0	22.8	5.7	47.1	9.2	17.6
Green Ext Time (p_c), s	0.2	6.4	0.0	0.8	0.0	7.6	0.1	1.8

Intersection Summary	
HCM 6th Ctrl Delay	48.7
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	877	50	79	604	270	10	80	72	245	240	30
Future Volume (veh/h)	55	877	50	79	604	270	10	80	72	245	240	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	62	997	57	90	686	307	11	91	82	278	273	34
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	1	1	1
Cap, veh/h	79	1428	82	112	1040	465	23	176	158	304	579	72
Arrive On Green	0.04	0.42	0.42	0.06	0.44	0.44	0.01	0.20	0.20	0.17	0.35	0.35
Sat Flow, veh/h	1767	3388	194	1767	2363	1058	1767	898	809	1795	1643	205
Grp Volume(v), veh/h	62	519	535	90	512	481	11	0	173	278	0	307
Grp Sat Flow(s),veh/h/ln	1767	1763	1819	1767	1763	1658	1767	0	1707	1795	0	1848
Q Serve(g_s), s	4.2	28.9	29.0	6.0	27.5	27.5	0.7	0.0	10.9	18.3	0.0	15.5
Cycle Q Clear(g_c), s	4.2	28.9	29.0	6.0	27.5	27.5	0.7	0.0	10.9	18.3	0.0	15.5
Prop In Lane	1.00		0.11	1.00		0.64	1.00		0.47	1.00		0.11
Lane Grp Cap(c), veh/h	79	743	767	112	776	730	23	0	334	304	0	651
V/C Ratio(X)	0.78	0.70	0.70	0.80	0.66	0.66	0.49	0.00	0.52	0.92	0.00	0.47
Avail Cap(c_a), veh/h	110	743	767	155	776	730	110	0	334	382	0	651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.43	0.43	0.43	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.7	28.5	28.5	55.4	26.5	26.5	58.8	0.0	43.2	49.0	0.0	30.2
Incr Delay (d2), s/veh	6.3	2.4	2.3	13.0	4.4	4.6	5.9	0.0	5.6	20.7	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	12.5	12.9	3.1	12.3	11.6	0.4	0.0	5.1	9.9	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.0	30.8	30.8	68.4	30.9	31.1	64.7	0.0	48.8	69.7	0.0	30.4
LnGrp LOS	E	C	C	E	C	C	E	A	D	E	A	C
Approach Vol, veh/h		1116			1083			184			585	
Approach Delay, s/veh		32.6			34.1			49.8			49.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	57.3	24.8	28.0	12.1	55.1	6.0	46.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	7.5	45.5	25.5	23.5	10.5	42.5	7.5	41.5
Max Q Clear Time (g_c+I1), s	6.2	29.5	20.3	12.9	8.0	31.0	2.7	17.5
Green Ext Time (p_c), s	0.0	1.2	0.0	0.1	0.0	1.1	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	37.5
HCM 6th LOS	D



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	82	128	670	106	226	1400
Future Volume (veh/h)	82	128	670	106	226	1400
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.97		0.99	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1796	1796	1841	1841
Adj Flow Rate, veh/h	88	138	720	114	243	1505
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	7	7	4	4
Cap, veh/h	102	160	2271	1007	597	2657
Arrive On Green	0.16	0.16	1.00	1.00	0.06	0.76
Sat Flow, veh/h	624	979	3503	1514	1753	3589
Grp Volume(v), veh/h	227	0	720	114	243	1505
Grp Sat Flow(s),veh/h/ln	1611	0	1706	1514	1753	1749
Q Serve(g_s), s	17.8	0.0	0.0	0.0	5.7	23.6
Cycle Q Clear(g_c), s	17.8	0.0	0.0	0.0	5.7	23.6
Prop In Lane	0.39	0.61		1.00	1.00	
Lane Grp Cap(c), veh/h	263	0	2271	1007	597	2657
V/C Ratio(X)	0.86	0.00	0.32	0.11	0.41	0.57
Avail Cap(c_a), veh/h	335	0	2271	1007	769	2657
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.85	0.85	1.00	1.00
Uniform Delay (d), s/veh	52.9	0.0	0.0	0.0	5.5	6.6
Incr Delay (d2), s/veh	16.7	0.0	0.3	0.2	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	0.0	0.1	0.1	2.0	8.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	69.7	0.0	0.3	0.2	6.0	7.5
LnGrp LOS	E	A	A	A	A	A
Approach Vol, veh/h	227		834			1748
Approach Delay, s/veh	69.7		0.3			7.3
Approach LOS	E		A			A
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.2	91.5		26.2		103.8
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	21.0	68.0		27.0		93.0
Max Q Clear Time (g_c+I1), s	7.7	2.0		19.8		25.6
Green Ext Time (p_c), s	0.6	6.6		0.4		19.6

Intersection Summary	
HCM 6th Ctrl Delay	10.2
HCM 6th LOS	B

Notes

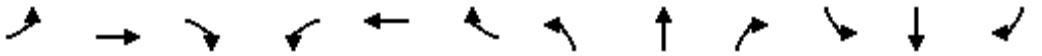
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	17.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	30	235	40	30	5	279	55	20	5	265	125
Future Vol, veh/h	29	30	235	40	30	5	279	55	20	5	265	125
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	8	8	8	3	3	3	5	5	5
Mvmt Flow	31	32	250	43	32	5	297	59	21	5	282	133
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	15.5	11.8	17.3	21.5
HCM LOS	C	B	C	C

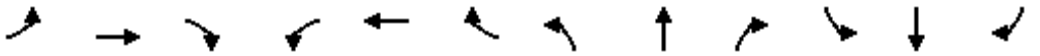
Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	10%	53%	1%
Vol Thru, %	0%	73%	10%	40%	67%
Vol Right, %	0%	27%	80%	7%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	279	75	294	75	395
LT Vol	279	0	29	40	5
Through Vol	0	55	30	30	265
RT Vol	0	20	235	5	125
Lane Flow Rate	297	80	313	80	420
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.581	0.141	0.523	0.162	0.696
Departure Headway (Hd)	7.042	6.342	6.017	7.309	5.965
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	513	565	597	489	609
Service Time	4.79	4.089	4.064	5.38	3.965
HCM Lane V/C Ratio	0.579	0.142	0.524	0.164	0.69
HCM Control Delay	19.2	10.1	15.5	11.8	21.5
HCM Lane LOS	C	B	C	B	C
HCM 95th-tile Q	3.7	0.5	3	0.6	5.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	614	40	145	387	60	65	631	190	160	1222	145
Future Volume (veh/h)	130	614	40	145	387	60	65	631	190	160	1222	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1811	1811	1811	1811	1811	1811	1841	1841	1841
Adj Flow Rate, veh/h	133	627	41	148	395	61	66	644	194	163	1247	148
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	6	6	6	6	6	6	4	4	4
Cap, veh/h	159	637	42	174	599	91	92	1559	659	188	1775	754
Arrive On Green	0.09	0.19	0.19	0.10	0.20	0.20	0.05	0.45	0.45	0.11	0.51	0.51
Sat Flow, veh/h	1753	3313	216	1725	2957	452	1725	3441	1454	1753	3497	1485
Grp Volume(v), veh/h	133	330	338	148	228	228	66	644	194	163	1247	148
Grp Sat Flow(s),veh/h/ln	1753	1749	1781	1725	1721	1688	1725	1721	1454	1753	1749	1485
Q Serve(g_s), s	9.7	24.5	24.6	11.0	15.8	16.2	4.9	16.4	10.9	11.9	35.5	7.1
Cycle Q Clear(g_c), s	9.7	24.5	24.6	11.0	15.8	16.2	4.9	16.4	10.9	11.9	35.5	7.1
Prop In Lane	1.00		0.12	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	336	342	174	348	342	92	1559	659	188	1775	754
V/C Ratio(X)	0.83	0.98	0.99	0.85	0.65	0.67	0.72	0.41	0.29	0.87	0.70	0.20
Avail Cap(c_a), veh/h	283	336	342	279	348	342	100	1559	659	209	1775	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78
Uniform Delay (d), s/veh	58.1	52.3	52.3	57.5	47.7	47.8	60.6	23.9	22.4	57.1	24.5	17.5
Incr Delay (d2), s/veh	10.8	44.2	44.7	13.0	4.4	4.9	20.6	0.8	1.1	22.9	1.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	14.8	15.2	5.4	7.2	7.3	2.7	6.8	4.0	6.5	14.9	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.9	96.5	97.0	70.5	52.0	52.7	81.2	24.7	23.6	80.0	26.4	18.0
LnGrp LOS	E	F	F	E	D	D	F	C	C	E	C	B
Approach Vol, veh/h		801			604			904			1558	
Approach Delay, s/veh		92.1			56.8			28.6			31.2	
Approach LOS		F			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.5	63.4	18.1	30.0	11.4	70.5	16.8	31.3
Change Period (Y+Rc), s	4.5	4.5	5.0	5.0	4.5	4.5	5.0	5.0
Max Green Setting (Gmax), s	15.5	49.5	21.0	25.0	7.5	57.5	21.0	25.0
Max Q Clear Time (g_c+I1), s	13.9	18.4	13.0	26.6	6.9	37.5	11.7	18.2
Green Ext Time (p_c), s	0.1	5.8	0.2	0.0	0.0	10.1	0.2	1.5

Intersection Summary	
HCM 6th Ctrl Delay	47.2
HCM 6th LOS	D



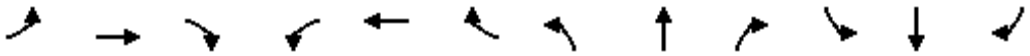
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	750	25	270	585	287	35	118	215	195	348	52
Future Volume (veh/h)	34	750	25	270	585	287	35	118	215	195	348	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.96	1.00		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1856	1856	1856	1841	1841	1841	1856	1856	1856
Adj Flow Rate, veh/h	35	781	26	281	609	299	36	123	0	203	362	54
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	3	3	3	4	4	4	3	3	3
Cap, veh/h	130	1042	35	292	891	437	131	451		186	431	64
Arrive On Green	0.08	0.31	0.31	0.33	0.79	0.79	0.08	0.25	0.00	0.10	0.28	0.28
Sat Flow, veh/h	1739	3415	114	1767	2255	1107	1753	1841	1560	1767	1567	234
Grp Volume(v), veh/h	35	397	410	281	476	432	36	123	0	203	0	416
Grp Sat Flow(s),veh/h/ln	1739	1735	1795	1767	1763	1599	1753	1841	1560	1767	0	1801
Q Serve(g_s), s	1.9	20.6	20.6	15.6	12.3	12.3	1.9	5.4	0.0	10.5	0.0	21.8
Cycle Q Clear(g_c), s	1.9	20.6	20.6	15.6	12.3	12.3	1.9	5.4	0.0	10.5	0.0	21.8
Prop In Lane	1.00		0.06	1.00		0.69	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	130	529	547	292	696	632	131	451		186	0	495
V/C Ratio(X)	0.27	0.75	0.75	0.96	0.68	0.68	0.27	0.27		1.09	0.00	0.84
Avail Cap(c_a), veh/h	130	529	547	292	696	632	131	451		186	0	495
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.75	0.75	0.75	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.7	31.3	31.3	33.2	7.6	7.6	43.7	30.5	0.0	44.8	0.0	34.2
Incr Delay (d2), s/veh	5.0	9.4	9.1	37.4	4.1	4.5	5.1	1.5	0.0	93.4	0.0	15.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	9.8	10.1	8.3	3.3	3.1	1.0	2.6	0.0	9.4	0.0	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.6	40.7	40.4	70.6	11.7	12.1	48.8	32.0	0.0	138.2	0.0	49.9
LnGrp LOS	D	D	D	E	B	B	D	C		F	A	D
Approach Vol, veh/h		842			1189			159	A		619	
Approach Delay, s/veh		40.9			25.8			35.8			78.8	
Approach LOS		D			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	35.0	15.0	29.0	12.0	44.0	12.0	32.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	16.5	30.5	10.5	24.5	7.5	39.5	7.5	27.5
Max Q Clear Time (g_c+I1), s	17.6	22.6	12.5	7.4	3.9	14.3	3.9	23.8
Green Ext Time (p_c), s	0.0	2.2	0.0	0.3	0.0	4.3	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	42.6
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1040	195	0	882	225	5	5	490	0	90	400
Future Volume (veh/h)	0	1040	195	0	882	225	5	5	490	0	90	400
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1856	1856	0	1841	1841	1856	1856	1856	0	1885	1885
Adj Flow Rate, veh/h	0	1095	205	0	928	0	5	5	0	0	95	421
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	0	4	4	3	3	3	0	1	1
Cap, veh/h	0	1675	312	0	1990		75	58		0	102	452
Arrive On Green	0.00	1.00	1.00	0.00	1.00	0.00	0.34	0.34	0.00	0.00	0.34	0.34
Sat Flow, veh/h	0	3038	549	0	3681	0	60	169	0	0	299	1326
Grp Volume(v), veh/h	0	653	647	0	928	0	10	0	0	0	0	516
Grp Sat Flow(s),veh/h/ln	0	1763	1731	0	1749	0	230	0	0	0	0	1625
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	30.7
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	30.9	0.0	0.0	0.0	0.0	30.7
Prop In Lane	0.00		0.32	0.00		0.00	0.50		0.00	0.00		0.82
Lane Grp Cap(c), veh/h	0	1003	985	0	1990		132	0		0	0	554
V/C Ratio(X)	0.00	0.65	0.66	0.00	0.47		0.08	0.00		0.00	0.00	0.93
Avail Cap(c_a), veh/h	0	1003	985	0	1990		197	0		0	0	642
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.56	0.56	0.00	0.87	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	26.0	0.0	0.0	0.0	0.0	31.8
Incr Delay (d2), s/veh	0.0	1.9	1.9	0.0	0.7	0.0	0.1	0.0	0.0	0.0	0.0	17.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.5	0.5	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	1.9	1.9	0.0	0.7	0.0	26.1	0.0	0.0	0.0	0.0	49.6
LnGrp LOS	A	A	A	A	A		C	A		A	A	D
Approach Vol, veh/h		1300			928	A		10	A		516	
Approach Delay, s/veh		1.9			0.7			26.1			49.6	
Approach LOS		A			A			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		61.4		38.6		61.4		38.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		51.5		39.5		51.5		39.5				
Max Q Clear Time (g_c+I1), s		2.0		32.9		2.0		32.7				
Green Ext Time (p_c), s		7.5		0.0		5.2		1.5				

Intersection Summary												
HCM 6th Ctrl Delay			10.5									
HCM 6th LOS			B									

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	563	962	708	265	35	365	24	71	100	110	205	55
Future Volume (vph)	563	962	708	265	35	365	24	71	100	110	205	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Lane Util. Factor	0.95		0.95	1.00		0.95	0.95	1.00	1.00	1.00	1.00	
Frt	0.91		1.00	0.85		1.00	1.00	1.00	0.85	1.00	0.95	
Flt Protected	1.00		1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3204		3505	1568		1649	1649	1827	1553	1805	1808	
Flt Permitted	1.00		1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3204		3505	1568		1649	1649	1827	1553	1805	1808	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	574	982	722	270	36	372	24	72	102	112	209	56
RTOR Reduction (vph)	273	0	0	45	0	0	0	0	85	0	6	0
Lane Group Flow (vph)	1283	0	722	261	0	197	199	72	17	112	302	0
Heavy Vehicles (%)	2%	2%	3%	3%	3%	4%	4%	4%	4%	0%	0%	0%
Turn Type	NA		NA	Perm		Split	Split	NA	Perm	Split	NA	
Protected Phases	2		6			4	4	4		3	3	
Permitted Phases				6					4			
Actuated Green, G (s)	48.4		48.4	48.4		16.5	16.5	16.5	16.5	18.6	18.6	
Effective Green, g (s)	48.4		48.4	48.4		16.5	16.5	16.5	16.5	18.6	18.6	
Actuated g/C Ratio	0.48		0.48	0.48		0.16	0.16	0.16	0.16	0.19	0.19	
Clearance Time (s)	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	1550		1696	758		272	272	301	256	335	336	
v/s Ratio Prot	c0.40		0.21			0.12	c0.12	0.04		0.06	c0.17	
v/s Ratio Perm				0.17					0.01			
v/c Ratio	0.93dr		0.43	0.34		0.72	0.73	0.24	0.07	0.33	0.90	
Uniform Delay, d1	22.2		16.8	16.0		39.6	39.6	36.3	35.2	35.3	39.8	
Progression Factor	1.04		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.7		0.8	1.2		7.8	8.4	0.2	0.0	0.2	24.9	
Delay (s)	26.8		17.6	17.2		47.4	48.1	36.4	35.3	35.5	64.6	
Level of Service	C		B	B		D	D	D	D	D	E	
Approach Delay (s)	26.8		17.5					44.1			56.9	
Approach LOS	C		B					D			E	

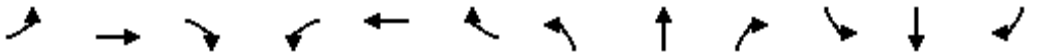
Intersection Summary			
HCM 2000 Control Delay	30.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group



Movement	SBR2
Lane Configurations	
Traffic Volume (vph)	42
Future Volume (vph)	42
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.98
Adj. Flow (vph)	43
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	
Intersection Summary	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	90	230	5	10	40	90	100	15	40	640	487
Future Volume (veh/h)	415	90	230	5	10	40	90	100	15	40	640	487
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1707	1707	1707	1856	1856	1856	1885	1885	1885
Adj Flow Rate, veh/h	489	0	235	5	33	26	92	102	15	41	653	497
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	6	6	6	13	13	13	3	3	3	1	1	1
Cap, veh/h	575	0	256	126	133	113	124	1484	214	90	1648	1000
Arrive On Green	0.17	0.00	0.17	0.08	0.08	0.08	0.07	0.48	0.48	0.05	0.46	0.46
Sat Flow, veh/h	3450	0	1535	1626	1707	1447	1767	3092	446	1795	3582	1596
Grp Volume(v), veh/h	489	0	235	5	33	26	92	57	60	41	653	497
Grp Sat Flow(s),veh/h/ln	1725	0	1535	1626	1707	1447	1767	1763	1775	1795	1791	1596
Q Serve(g_s), s	12.4	0.0	13.6	0.3	1.6	1.5	4.6	1.6	1.6	2.0	10.8	15.2
Cycle Q Clear(g_c), s	12.4	0.0	13.6	0.3	1.6	1.5	4.6	1.6	1.6	2.0	10.8	15.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	575	0	256	126	133	113	124	846	852	90	1648	1000
V/C Ratio(X)	0.85	0.00	0.92	0.04	0.25	0.23	0.74	0.07	0.07	0.46	0.40	0.50
Avail Cap(c_a), veh/h	575	0	256	289	304	257	216	846	852	299	1648	1000
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.31	0.31	0.31
Uniform Delay (d), s/veh	36.4	0.0	36.9	38.4	39.0	39.0	41.1	12.6	12.6	41.6	16.0	9.1
Incr Delay (d2), s/veh	11.4	0.0	35.1	0.3	2.1	2.2	3.3	0.2	0.2	0.4	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	7.5	0.1	0.8	0.6	2.1	0.6	0.7	0.9	4.3	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	0.0	72.0	38.7	41.1	41.2	44.4	12.7	12.7	42.0	16.3	9.7
LnGrp LOS	D	A	E	D	D	D	D	B	B	D	B	A
Approach Vol, veh/h		724			64			209			1191	
Approach Delay, s/veh		55.7			40.9			26.7			14.4	
Approach LOS		E			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	48.5		20.0	11.3	46.7		12.0				
Change Period (Y+Rc), s	5.0	5.3		5.0	5.0	5.3		5.0				
Max Green Setting (Gmax), s	15.0	23.7		15.0	11.0	27.7		16.0				
Max Q Clear Time (g_c+I1), s	4.0	3.6		15.6	6.6	17.2		3.6				
Green Ext Time (p_c), s	0.0	0.3		0.0	0.0	4.7		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		30.0	
HCM 6th LOS		C	

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	92	255	143	142	68	32
Future Vol, veh/h	92	255	143	142	68	32
Conflicting Peds, #/hr	28	0	0	28	28	28
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	2	2	5	5	0	0
Mvmt Flow	107	297	166	165	79	37

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	359	0	-	0	816	305
Stage 1	-	-	-	-	277	-
Stage 2	-	-	-	-	539	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1200	-	-	-	349	740
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	589	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1168	-	-	-	294	701
Mov Cap-2 Maneuver	-	-	-	-	294	-
Stage 1	-	-	-	-	670	-
Stage 2	-	-	-	-	573	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	18.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1168	-	-	-	294	701
HCM Lane V/C Ratio	0.092	-	-	-	0.269	0.053
HCM Control Delay (s)	8.4	0	-	-	21.7	10.4
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	1.1	0.2

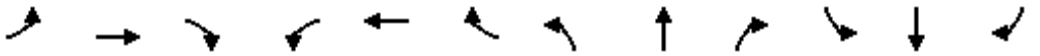
Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	80	238	267	197	91	33
Future Vol, veh/h	80	238	267	197	91	33
Conflicting Peds, #/hr	24	0	0	20	20	24
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	3	3	3	3	7	7
Mvmt Flow	93	277	310	229	106	38

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	563	0	-	0	932	473
Stage 1	-	-	-	-	449	-
Stage 2	-	-	-	-	483	-
Critical Hdwy	4.13	-	-	-	6.47	6.27
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	2.227	-	-	-	3.563	3.363
Pot Cap-1 Maneuver	1003	-	-	-	290	581
Stage 1	-	-	-	-	633	-
Stage 2	-	-	-	-	610	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	980	-	-	-	246	555
Mov Cap-2 Maneuver	-	-	-	-	246	-
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	596	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	25.4
HCM LOS			D

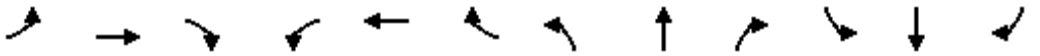
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	980	-	-	-	246	555
HCM Lane V/C Ratio	0.095	-	-	-	0.43	0.069
HCM Control Delay (s)	9.1	0	-	-	30.2	12
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0.3	-	-	-	2	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	310	60	225	430	170	94	1408	194	160	914	105
Future Volume (veh/h)	200	310	60	225	430	170	94	1408	194	160	914	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.89	1.00		0.90	1.00		0.98	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	204	316	61	230	439	173	96	1437	198	163	933	107
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	1	1	1	1	2	2	2	1	1	1
Cap, veh/h	205	558	105	218	479	186	118	2017	278	180	1547	177
Arrive On Green	0.11	0.19	0.19	0.12	0.20	0.20	0.07	0.45	0.45	0.10	0.48	0.48
Sat Flow, veh/h	1795	2942	556	1795	2434	944	1781	4522	623	1795	3225	370
Grp Volume(v), veh/h	204	190	187	230	321	291	96	1081	554	163	518	522
Grp Sat Flow(s),veh/h/ln	1795	1791	1706	1795	1791	1587	1781	1702	1741	1795	1791	1804
Q Serve(g_s), s	15.9	13.4	14.0	17.0	24.6	25.2	7.4	36.1	36.2	12.6	29.6	29.7
Cycle Q Clear(g_c), s	15.9	13.4	14.0	17.0	24.6	25.2	7.4	36.1	36.2	12.6	29.6	29.7
Prop In Lane	1.00		0.33	1.00		0.59	1.00		0.36	1.00		0.21
Lane Grp Cap(c), veh/h	205	340	324	218	353	312	118	1518	777	180	859	865
V/C Ratio(X)	0.99	0.56	0.58	1.05	0.91	0.93	0.81	0.71	0.71	0.91	0.60	0.60
Avail Cap(c_a), veh/h	205	345	329	218	358	317	153	1518	777	180	859	865
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.15	0.15	0.15	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	51.4	51.6	61.5	55.0	55.3	64.5	31.5	31.5	62.4	26.6	26.7
Incr Delay (d2), s/veh	61.1	1.9	2.5	39.6	5.7	8.1	22.1	2.9	5.5	42.0	3.1	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	6.3	6.2	10.2	11.7	10.8	4.1	15.4	16.3	7.8	13.4	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.0	53.3	54.1	101.1	60.8	63.4	86.7	34.4	37.0	104.4	29.8	29.8
LnGrp LOS	F	D	D	F	E	E	F	C	D	F	C	C
Approach Vol, veh/h		581			842			1731			1203	
Approach Delay, s/veh		78.0			72.7			38.1			39.9	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	67.4	22.0	31.6	14.3	72.2	21.0	32.6
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	14.0	62.0	17.0	27.0	12.0	64.0	16.0	28.0
Max Q Clear Time (g_c+I1), s	14.6	38.2	19.0	16.0	9.4	31.7	17.9	27.2
Green Ext Time (p_c), s	0.0	13.2	0.0	1.7	0.0	8.3	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	50.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	814	20	90	955	350	30	300	113	140	140	45
Future Volume (veh/h)	55	814	20	90	955	350	30	300	113	140	140	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1885	1885	1885	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	58	857	21	95	1005	368	32	316	119	147	147	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	2	2	2	1	1	1
Cap, veh/h	75	1504	37	120	1161	420	49	322	121	175	437	140
Arrive On Green	0.04	0.43	0.43	0.07	0.46	0.46	0.03	0.25	0.25	0.10	0.32	0.32
Sat Flow, veh/h	1753	3485	85	1795	2548	921	1781	1268	477	1795	1348	431
Grp Volume(v), veh/h	58	430	448	95	703	670	32	0	435	147	0	194
Grp Sat Flow(s),veh/h/ln	1753	1749	1821	1795	1791	1677	1781	0	1745	1795	0	1779
Q Serve(g_s), s	3.9	22.2	22.2	6.3	42.1	43.5	2.1	0.0	29.7	9.7	0.0	9.9
Cycle Q Clear(g_c), s	3.9	22.2	22.2	6.3	42.1	43.5	2.1	0.0	29.7	9.7	0.0	9.9
Prop In Lane	1.00		0.05	1.00		0.55	1.00		0.27	1.00		0.24
Lane Grp Cap(c), veh/h	75	755	786	120	816	765	49	0	443	175	0	577
V/C Ratio(X)	0.78	0.57	0.57	0.79	0.86	0.88	0.66	0.00	0.98	0.84	0.00	0.34
Avail Cap(c_a), veh/h	153	755	786	232	816	765	111	0	443	232	0	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.9	25.7	25.7	55.2	29.2	29.6	57.8	0.0	44.5	53.2	0.0	30.7
Incr Delay (d2), s/veh	11.2	2.1	2.0	11.1	11.5	13.5	14.0	0.0	38.2	18.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.6	10.0	3.2	20.2	19.9	1.2	0.0	17.4	5.2	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.1	27.8	27.7	66.3	40.7	43.1	71.9	0.0	82.7	71.6	0.0	31.1
LnGrp LOS	E	C	C	E	D	D	E	A	F	E	A	C
Approach Vol, veh/h		936			1468			467			341	
Approach Delay, s/veh		30.3			43.4			82.0			48.6	
Approach LOS		C			D			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	59.2	16.2	35.0	12.5	56.3	7.8	43.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	45.5	15.5	30.5	15.5	40.5	7.5	38.5
Max Q Clear Time (g_c+I1), s	5.9	45.5	11.7	31.7	8.3	24.2	4.1	11.9
Green Ext Time (p_c), s	0.0	0.0	0.1	0.0	0.1	5.2	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	142	256	1440	84	89	1040
Future Volume (veh/h)	142	256	1440	84	89	1040
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.98		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1870	1870	1856	1856
Adj Flow Rate, veh/h	154	278	1565	91	97	1130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	2	2	3	3
Cap, veh/h	163	294	2078	923	192	2290
Arrive On Green	0.28	0.28	0.58	0.58	0.04	0.65
Sat Flow, veh/h	584	1055	3647	1578	1767	3618
Grp Volume(v), veh/h	433	0	1565	91	97	1130
Grp Sat Flow(s),veh/h/ln	1643	0	1777	1578	1767	1763
Q Serve(g_s), s	36.1	0.0	45.7	3.6	3.1	23.1
Cycle Q Clear(g_c), s	36.1	0.0	45.7	3.6	3.1	23.1
Prop In Lane	0.36	0.64		1.00	1.00	
Lane Grp Cap(c), veh/h	458	0	2078	923	192	2290
V/C Ratio(X)	0.94	0.00	0.75	0.10	0.50	0.49
Avail Cap(c_a), veh/h	528	0	2078	923	280	2290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.56	0.56	1.00	1.00
Uniform Delay (d), s/veh	49.4	0.0	21.6	12.8	21.7	12.6
Incr Delay (d2), s/veh	24.4	0.0	1.5	0.1	2.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.9	0.0	19.0	1.3	1.5	9.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	73.8	0.0	23.0	12.9	23.7	13.4
LnGrp LOS	E	A	C	B	C	B
Approach Vol, veh/h	433		1656			1227
Approach Delay, s/veh	73.8		22.5			14.2
Approach LOS	E		C			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.1	86.9		44.1		95.9
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	12.0	69.0		45.0		85.0
Max Q Clear Time (g_c+I1), s	5.1	47.7		38.1		25.1
Green Ext Time (p_c), s	0.1	13.0		0.9		11.6

Intersection Summary	
HCM 6th Ctrl Delay	26.1
HCM 6th LOS	C

Notes

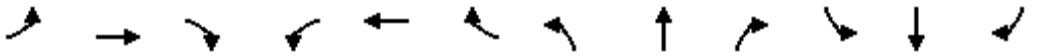
User approved volume balancing among the lanes for turning movement.

Intersection	
Intersection Delay, s/veh	20.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	130	55	281	15	20	5	262	260	30	5	95	49
Future Vol, veh/h	130	55	281	15	20	5	262	260	30	5	95	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	5	5	5	2	2	2	4	4	4
Mvmt Flow	141	60	305	16	22	5	285	283	33	5	103	53
Number of Lanes	0	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	27.4	10.9	17.8	12.3
HCM LOS	D	B	C	B

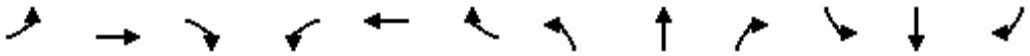
Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	28%	38%	3%
Vol Thru, %	0%	90%	12%	50%	64%
Vol Right, %	0%	10%	60%	12%	33%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	262	290	466	40	149
LT Vol	262	0	130	15	5
Through Vol	0	260	55	20	95
RT Vol	0	30	281	5	49
Lane Flow Rate	285	315	507	43	162
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.555	0.563	0.797	0.087	0.293
Departure Headway (Hd)	7.012	6.429	5.664	7.201	6.511
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	513	558	633	500	547
Service Time	4.79	4.207	3.733	5.201	4.608
HCM Lane V/C Ratio	0.556	0.565	0.801	0.086	0.296
HCM Control Delay	18.3	17.3	27.4	10.9	12.3
HCM Lane LOS	C	C	D	B	B
HCM 95th-tile Q	3.3	3.5	7.9	0.3	1.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	405	70	180	659	95	160	1289	170	105	907	160
Future Volume (veh/h)	135	405	70	180	659	95	160	1289	170	105	907	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.92	1.00		0.93	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	138	413	71	184	672	97	163	1315	173	107	926	163
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	4	4	4	2	2	2	3	3	3	3	3	3
Cap, veh/h	140	573	97	207	712	103	183	1807	770	88	1619	678
Arrive On Green	0.08	0.19	0.19	0.12	0.23	0.23	0.10	0.51	0.51	0.05	0.46	0.46
Sat Flow, veh/h	1753	2948	501	1781	3085	445	1767	3526	1502	1767	3526	1475
Grp Volume(v), veh/h	138	243	241	184	387	382	163	1315	173	107	926	163
Grp Sat Flow(s),veh/h/ln	1753	1749	1700	1781	1777	1753	1767	1763	1502	1767	1763	1475
Q Serve(g_s), s	11.8	19.5	20.0	15.3	32.1	32.2	13.7	43.5	9.5	7.5	28.9	10.1
Cycle Q Clear(g_c), s	11.8	19.5	20.0	15.3	32.1	32.2	13.7	43.5	9.5	7.5	28.9	10.1
Prop In Lane	1.00		0.29	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	140	340	330	207	410	404	183	1807	770	88	1619	678
V/C Ratio(X)	0.98	0.72	0.73	0.89	0.94	0.95	0.89	0.73	0.22	1.21	0.57	0.24
Avail Cap(c_a), veh/h	140	340	330	261	415	409	183	1807	770	88	1619	678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77
Uniform Delay (d), s/veh	68.9	56.5	56.7	65.3	56.7	56.8	66.4	28.4	20.1	71.2	29.7	24.7
Incr Delay (d2), s/veh	70.9	7.0	7.9	24.7	29.9	30.8	38.1	2.6	0.7	151.4	1.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	9.3	9.3	8.4	17.8	17.7	8.1	18.9	3.5	7.1	12.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	139.8	63.5	64.7	90.0	86.7	87.5	104.5	31.0	20.8	222.6	30.9	25.3
LnGrp LOS	F	E	E	F	F	F	F	C	C	F	C	C
Approach Vol, veh/h		622			953			1651			1196	
Approach Delay, s/veh		80.9			87.7			37.2			47.3	
Approach LOS		F			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	81.4	22.5	34.1	20.0	73.4	17.0	39.6
Change Period (Y+Rc), s	4.5	4.5	5.0	5.0	4.5	4.5	5.0	5.0
Max Green Setting (Gmax), s	7.5	66.5	22.0	25.0	15.5	68.5	12.0	35.0
Max Q Clear Time (g_c+I1), s	9.5	45.5	17.3	22.0	15.7	30.9	13.8	34.2
Green Ext Time (p_c), s	0.0	11.1	0.2	0.9	0.0	9.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	56.9
HCM 6th LOS	E



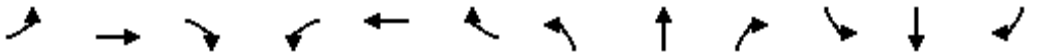
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	610	30	190	940	248	85	264	255	198	239	49
Future Volume (veh/h)	65	610	30	190	940	248	85	264	255	198	239	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.93	1.00		1.00	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1885	1885	1885	1841	1841	1841	1870	1870	1870
Adj Flow Rate, veh/h	68	642	32	200	989	261	89	278	0	208	252	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	1	1	1	4	4	4	2	2	2
Cap, veh/h	120	1090	54	318	1192	313	167	410		202	357	74
Arrive On Green	0.07	0.32	0.32	0.35	0.86	0.86	0.10	0.22	0.00	0.11	0.24	0.24
Sat Flow, veh/h	1753	3378	168	1795	2760	724	1753	1841	1560	1781	1481	306
Grp Volume(v), veh/h	68	332	342	200	640	610	89	278	0	208	0	304
Grp Sat Flow(s),veh/h/ln	1753	1749	1797	1795	1791	1693	1753	1841	1560	1781	0	1786
Q Serve(g_s), s	4.1	17.5	17.5	10.2	18.8	19.3	5.3	15.2	0.0	12.5	0.0	17.1
Cycle Q Clear(g_c), s	4.1	17.5	17.5	10.2	18.8	19.3	5.3	15.2	0.0	12.5	0.0	17.1
Prop In Lane	1.00		0.09	1.00		0.43	1.00		1.00	1.00		0.17
Lane Grp Cap(c), veh/h	120	564	580	318	773	731	167	410		202	0	430
V/C Ratio(X)	0.57	0.59	0.59	0.63	0.83	0.83	0.53	0.68		1.03	0.00	0.71
Avail Cap(c_a), veh/h	120	564	580	318	773	731	167	410		202	0	430
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.41	0.41	0.41	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.7	31.1	31.2	32.5	5.5	5.6	47.4	39.1	0.0	48.7	0.0	38.2
Incr Delay (d2), s/veh	18.2	4.5	4.4	3.8	4.3	4.8	11.6	8.7	0.0	70.6	0.0	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	8.0	8.2	4.2	3.4	3.3	2.9	7.8	0.0	9.5	0.0	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	35.6	35.5	36.3	9.9	10.4	59.0	47.9	0.0	119.4	0.0	47.6
LnGrp LOS	E	D	D	D	A	B	E	D		F	A	D
Approach Vol, veh/h		742			1450			367	A		512	
Approach Delay, s/veh		38.5			13.7			50.6			76.8	
Approach LOS		D			B			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	40.0	17.0	29.0	12.0	52.0	15.0	31.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	19.5	35.5	12.5	24.5	7.5	47.5	10.5	26.5
Max Q Clear Time (g_c+I1), s	12.2	19.5	14.5	17.2	6.1	21.3	7.3	19.1
Green Ext Time (p_c), s	0.2	2.5	0.0	0.6	0.0	6.6	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1003	140	0	969	430	5	5	480	0	50	549
Future Volume (veh/h)	0	1003	140	0	969	430	5	5	480	0	50	549
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1885	1885	1870	1870	1870	0	1885	1885
Adj Flow Rate, veh/h	0	1056	147	0	1020	0	5	5	0	0	53	578
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	1	1	2	2	2	0	1	1
Cap, veh/h	0	1599	222	0	1836		62	47		0	55	598
Arrive On Green	0.00	1.00	1.00	0.00	1.00	0.00	0.41	0.41	0.00	0.00	0.41	0.41
Sat Flow, veh/h	0	3213	434	0	3770	0	31	115	0	0	135	1475
Grp Volume(v), veh/h	0	601	602	0	1020	0	10	0	0	0	0	631
Grp Sat Flow(s),veh/h/ln	0	1777	1776	0	1791	0	146	0	0	0	0	1611
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	42.1
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	42.5	0.0	0.0	0.0	0.0	42.1
Prop In Lane	0.00		0.24	0.00		0.00	0.50		0.00	0.00		0.92
Lane Grp Cap(c), veh/h	0	911	910	0	1836		109	0		0	0	653
V/C Ratio(X)	0.00	0.66	0.66	0.00	0.56		0.09	0.00		0.00	0.00	0.97
Avail Cap(c_a), veh/h	0	911	910	0	1836		117	0		0	0	666
HCM Platoon Ratio	1.00	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.69	0.69	0.00	0.79	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	26.9	0.0	0.0	0.0	0.0	31.9
Incr Delay (d2), s/veh	0.0	2.6	2.6	0.0	1.0	0.0	0.1	0.0	0.0	0.0	0.0	26.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.7	0.7	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	20.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	2.6	2.6	0.0	1.0	0.0	27.1	0.0	0.0	0.0	0.0	58.0
LnGrp LOS	A	A	A	A	A		C	A		A	A	E
Approach Vol, veh/h		1203			1020	A		10	A		631	
Approach Delay, s/veh		2.6			1.0			27.1			58.0	
Approach LOS		A			A			C			E	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.9		49.1		60.9		49.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		55.5		45.5		55.5		45.5				
Max Q Clear Time (g_c+I1), s		2.0		44.5		2.0		44.1				
Green Ext Time (p_c), s		6.5		0.0		5.9		0.5				

Intersection Summary		
HCM 6th Ctrl Delay		14.3
HCM 6th LOS		B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

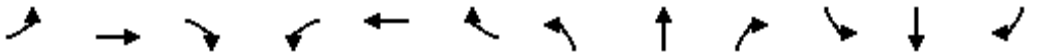
Movement	EBT	EBR	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	794	694	795	120	150	610	124	429	345	115	55	15
Future Volume (vph)	794	694	795	120	150	610	124	429	345	115	55	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Lane Util. Factor	0.95		0.95	1.00		0.95	0.95	1.00	1.00	1.00	1.00	
Frt	0.93		1.00	0.85		1.00	1.00	1.00	0.85	1.00	0.94	
Flt Protected	1.00		1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	3292		3574	1599		1698	1698	1881	1599	1805	1787	
Flt Permitted	1.00		1.00	1.00		0.95	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	3292		3574	1599		1698	1698	1881	1599	1805	1787	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	802	701	803	121	152	616	125	433	348	116	56	15
RTOR Reduction (vph)	150	0	0	43	0	0	0	0	124	0	10	0
Lane Group Flow (vph)	1353	0	803	230	0	370	371	433	224	116	83	0
Heavy Vehicles (%)	2%	2%	1%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Turn Type	NA		NA	Perm		Split	Split	NA	Perm	Split	NA	
Protected Phases	2		6			4	4	4		3	3	
Permitted Phases				6					4			
Actuated Green, G (s)	53.6		53.6	53.6		29.1	29.1	29.1	29.1	10.8	10.8	
Effective Green, g (s)	53.6		53.6	53.6		29.1	29.1	29.1	29.1	10.8	10.8	
Actuated g/C Ratio	0.49		0.49	0.49		0.26	0.26	0.26	0.26	0.10	0.10	
Clearance Time (s)	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5	
Vehicle Extension (s)	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)	1604		1741	779		449	449	497	423	177	175	
v/s Ratio Prot	c0.41		0.22			0.22	0.22	c0.23		c0.06	0.05	
v/s Ratio Perm				0.14					0.14			
v/c Ratio	0.84		0.46	0.30		0.82	0.83	0.87	0.53	0.66	0.47	
Uniform Delay, d1	24.6		18.7	16.9		38.0	38.1	38.7	34.6	47.8	46.9	
Progression Factor	0.51		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.0		0.9	1.0		11.1	11.3	14.9	0.6	6.5	0.7	
Delay (s)	16.6		19.5	17.9		49.2	49.3	53.6	35.2	54.3	47.7	
Level of Service	B		B	B		D	D	D	D	D	D	
Approach Delay (s)	16.6		19.1					47.3			51.3	
Approach LOS	B		B					D			D	

Intersection Summary			
HCM 2000 Control Delay	29.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	SBR2
Lane Configurations	
Traffic Volume (vph)	22
Future Volume (vph)	22
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.99
Adj. Flow (vph)	22
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Heavy Vehicles (%)	0%
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	508	25	145	5	0	110	230	830	15	20	275	429
Future Volume (veh/h)	508	25	145	5	0	110	230	830	15	20	275	429
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1900	1900	1900	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	543	0	149	5	0	113	237	856	15	21	284	442
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	1	1	0	0	0	2	2	2	2	2	2
Cap, veh/h	621	0	276	106	0	188	637	2037	36	52	850	652
Arrive On Green	0.17	0.00	0.17	0.06	0.00	0.06	0.36	0.57	0.57	0.03	0.24	0.24
Sat Flow, veh/h	3591	0	1598	1810	0	3220	1781	3573	63	1781	3554	1578
Grp Volume(v), veh/h	543	0	149	5	0	113	237	426	445	21	284	442
Grp Sat Flow(s),veh/h/ln	1795	0	1598	1810	0	1610	1781	1777	1859	1781	1777	1578
Q Serve(g_s), s	17.7	0.0	10.2	0.3	0.0	4.1	11.8	16.3	16.3	1.4	7.9	27.4
Cycle Q Clear(g_c), s	17.7	0.0	10.2	0.3	0.0	4.1	11.8	16.3	16.3	1.4	7.9	27.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	621	0	276	106	0	188	637	1013	1060	52	850	652
V/C Ratio(X)	0.87	0.00	0.54	0.05	0.00	0.60	0.37	0.42	0.42	0.40	0.33	0.68
Avail Cap(c_a), veh/h	748	0	333	181	0	322	637	1013	1060	208	850	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	48.3	0.0	45.3	53.4	0.0	55.1	28.5	14.6	14.6	57.2	37.7	28.8
Incr Delay (d2), s/veh	9.3	0.0	1.2	0.4	0.0	6.5	0.1	1.3	1.2	1.6	0.9	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	0.0	4.1	0.2	0.0	1.8	5.1	6.8	7.1	0.6	3.6	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	0.0	46.5	53.7	0.0	61.6	28.7	15.9	15.8	58.8	38.6	33.6
LnGrp LOS	E	A	D	D	A	E	C	B	B	E	D	C
Approach Vol, veh/h		692			118			1108			747	
Approach Delay, s/veh		55.3			61.3			18.6			36.2	
Approach LOS		E			E			B			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.5	73.7		25.8	48.2	34.0		12.0				
Change Period (Y+Rc), s	5.0	5.3		5.0	5.3	* 5.3		5.0				
Max Green Setting (Gmax), s	14.0	48.7		25.0	34.0	* 29		12.0				
Max Q Clear Time (g_c+I1), s	3.4	18.3		19.7	13.8	29.4		6.1				
Green Ext Time (p_c), s	0.0	3.9		1.1	0.3	0.0		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		34.9
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	179	325	8	133	78
Future Vol, veh/h	4	179	325	8	133	78
Conflicting Peds, #/hr	24	0	0	26	26	24
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	4	201	365	9	149	88

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	400	0	-	0	631	420
Stage 1	-	-	-	-	396	-
Stage 2	-	-	-	-	235	-
Critical Hdwy	4.12	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.218	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1159	-	-	-	447	635
Stage 1	-	-	-	-	682	-
Stage 2	-	-	-	-	806	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1130	-	-	-	423	605
Mov Cap-2 Maneuver	-	-	-	-	423	-
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	786	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1130	-	-	-	423	605
HCM Lane V/C Ratio	0.004	-	-	-	0.353	0.145
HCM Control Delay (s)	8.2	0	-	-	18.1	12
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	1.6	0.5

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	298	238	63	173	90
Future Vol, veh/h	24	298	238	63	173	90
Conflicting Peds, #/hr	19	0	0	12	12	19
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	3	3
Mvmt Flow	26	327	262	69	190	99

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	350	0	-	0	707	335
Stage 1	-	-	-	-	316	-
Stage 2	-	-	-	-	391	-
Critical Hdwy	4.12	-	-	-	6.43	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	2.218	-	-	-	3.527	3.327
Pot Cap-1 Maneuver	1209	-	-	-	400	705
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	681	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1187	-	-	-	375	680
Mov Cap-2 Maneuver	-	-	-	-	375	-
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	669	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	19.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1187	-	-	-	375	680
HCM Lane V/C Ratio	0.022	-	-	-	0.507	0.145
HCM Control Delay (s)	8.1	0	-	-	24.1	11.2
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	2.8	0.5

UW Behavioral Health Teaching Facility
Trip Generation Summary by User Group

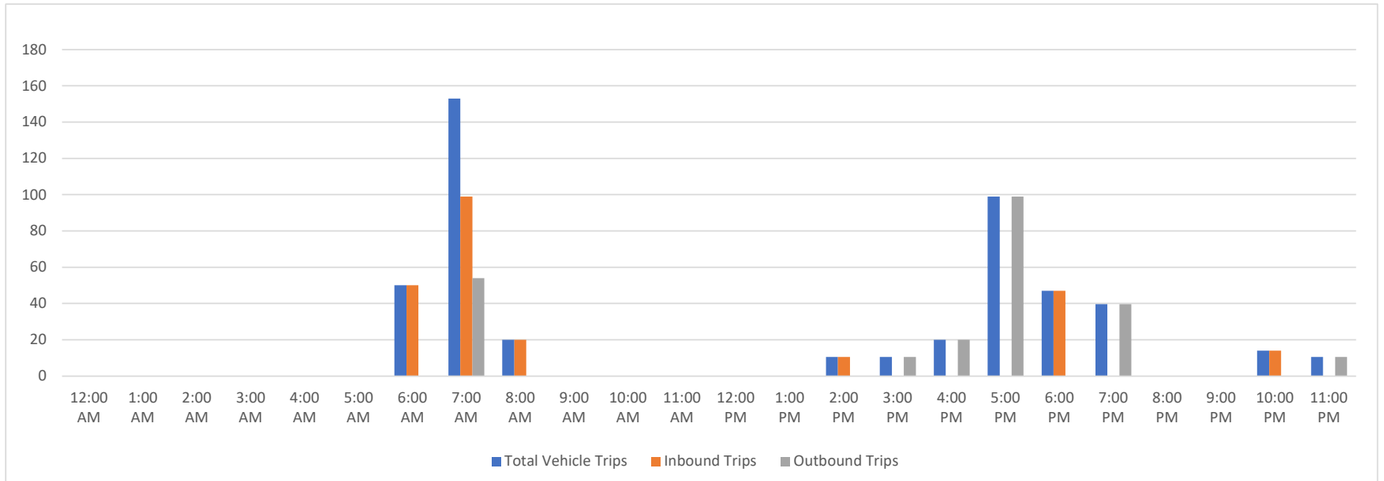
General Assumptions
50 Med Surge beds and 100 Behavioral Health (BH) beds at the BHTF
1 Nurse and 1 Certified Nursing Assistant (CNA) per 4 Med Surge beds; 1 Nurse and 1 CNA per 6 BH beds
100 total medial staff (9 doctors, 29 nurses, 29 CNAs, 33 students) at peak
80 visitors at peak based on bed capacity and average daily census
Assumed typical visiting hours of 8am-5pm with 100% SOV
Assumed 75% of nurses and CNAs work 12-hour shifts, 25% work 8-hour shifts
Assumed 30 administrative staff working 8am-5pm
Assumed 33 students on campus between 8am-5pm with 50% SOV
Assumed most recent CTR survey SOV mode split of 74.7% for all employees during day and evening shifts. Assumed 100% SOV for employees during night shift.

Hourly Parking Demand by User Group				12:00 AM					1:00 AM					2:00 AM				
User Group	**Approximate Shift Time**	**Population**	**SOV Mode Split**	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips
Doctors Day Shift	7:00 am - 7:00 pm	9	74.7%		0		0	0		0		0	0		0		0	0
Doctors Night Shift	7:00 pm - 7:00 am	3	100.0%		0		0	0		0		0	0		0		0	0
Nurses 12-Hr Shift, Day Shift	7:00 am - 7:00 pm	22	74.7%		0		0	0		0		0	0		0		0	0
Nurses 12-Hr Shift, Night Shift	7:00 pm - 7:00 am	22	100.0%		0		0	0		0		0	0		0		0	0
Nurses 8-Hr Shift, Day	7:00 am - 3:00 pm	7	74.7%		0		0	0		0		0	0		0		0	0
Nurses 8-Hr Shift, Evening	3:00 pm - 11:00 pm	7	74.7%		0		0	0		0		0	0		0		0	0
Nurses 8-Hr Shift, Night	11:00 pm - 7:00 am	7	100.0%		0		0	0		0		0	0		0		0	0
CNAs 12-Hr Shift, Day Shift	7:00 am - 7:00 pm	22	74.7%		0		0	0		0		0	0		0		0	0
CNAs 12-Hr Shift, Night Shift	7:00 pm - 7:00 am	22	100.0%		0		0	0		0		0	0		0		0	0
CNAs 8-Hr Shift, Day	7:00 am - 3:00 pm	7	74.7%		0		0	0		0		0	0		0		0	0
CNAs 8-Hr Shift, Evening	3:00 pm - 11:00 pm	7	74.7%		0		0	0		0		0	0		0		0	0
CNAs 8-Hr Shift, Night	11:00 pm - 7:00 am	7	100.0%		0		0	0		0		0	0		0		0	0
Administrative Staff Members	Assumed 8:00 am - 5:00 pm	30	74.7%		0		0	0		0		0	0		0		0	0
Students	Assumed 8:00 am - 5:00 pm	33	50.0%		0		0	0		0		0	0		0		0	0
Visitors	Assumed 8:00 am - 5:00 pm	80	100.0%		0		0	0		0		0	0		0		0	0
Total BHTF Vehicles Parked On Campus					*0*		*0*	*0*		*0*		*0*	*0*		*0*		*0*	*0*

Summary

Hour	Total Vehicle Trips	Inbound Trips	Outbound Trips
12:00 AM	0	0	0
1:00 AM	0	0	0
2:00 AM	0	0	0
3:00 AM	0	0	0
4:00 AM	0	0	0
5:00 AM	0	0	0
6:00 AM	50	50	0
7:00 AM	153	99	54
8:00 AM	20	20	0
9:00 AM	0	0	0
10:00 AM	0	0	0
11:00 AM	0	0	0
12:00 PM	0	0	0
1:00 PM	0	0	0
2:00 PM	10	10	0
3:00 PM	10	0	10
4:00 PM	20	0	20
5:00 PM	99	0	99
6:00 PM	47	47	0
7:00 PM	40	0	40
8:00 PM	0	0	0
9:00 PM	0	0	0
10:00 PM	14	14	0
11:00 PM	10	0	10

	Total Vehicle Trips	Inbound Trips	Outbound Trips
AM Peak Hour Trip Gen	**153**	**99**	**54**
PM Peak Hour Trip Gen	**99**	**0**	**99**



3:00 AM					4:00 AM					5:00 AM					6:00 AM					7:00 AM				
Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips
	0		0	0		0		0	0		0		0	0	100%	7		0	7		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0	100%	3	3
	0		0	0		0		0	0		0		0	0	100%	16		0	16		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0	100%	22	22
	0		0	0		0		0	0		0		0	0	100%	5		0	5		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0	100%	16		0	16		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0	100%	22	22
	0		0	0		0		0	0		0		0	0	100%	5		0	5		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0	100%	7	7
	0		0	0		0		0	0		0		0	0		0		0	0	100%	22		0	22
	0		0	0		0		0	0		0		0	0		0		0	0	100%	17		0	17
	0		0	0		0		0	0		0		0	0		0		0	0	75%	60		0	60
	0		*0*	*0*		*0*		*0*	*0*		*0*		*0*	*0*		*50*		*0*	*50*		*99*		*54*	*153*

8:00 AM					9:00 AM					10:00 AM					11:00 AM					12:00 PM				
Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
25%	20		0	20		0		0	0		0		0	0		0		0	0		0		0	0
	20		*0*	*20*		*0*		*0*	*0*		*0*		*0*	*0*		*0*		*0*	*0*		*0*		*0*	*0*

1:00 PM					2:00 PM					3:00 PM					4:00 PM					5:00 PM				
Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0	100%	5	5		0		0	0		0		0	0
	0		0	0	100%	5		0	5		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0	100%	5	5		0		0	0		0		0	0
	0		0	0	100%	5		0	5		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0	100%	22	22
	0		0	0		0		0	0		0		0	0		0		0	0		0	100%	17	17
	0		0	0		0		0	0		0		0	0		0	25%	20	20		0	75%	60	60
	0		*0*	*0*		*10*		*0*	*10*		*0*		*10*	*10*		*0*		*20*	*20*		*0*		*99*	*99*

6:00 PM					7:00 PM					8:00 PM					9:00 PM					10:00 PM				
Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips	Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips
	0		0	0		0	100%	7	7		0		0	0		0		0	0		0		0	0
100%	3		0	3		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0	100%	16	16		0		0	0		0		0	0		0		0	0
100%	22		0	22		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0	100%	7		0	7
	0		0	0		0	100%	16	16		0		0	0		0		0	0		0		0	0
100%	22		0	22		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0	100%	7		0	7
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
	0		0	0		0		0	0		0		0	0		0		0	0		0		0	0
47		*0*	*47*		*0*		*40*	*40*		*0*		*0*	*0*		*0*		*0*	*0*		*14*		*0*	*14*	

11:00 PM				
Percent Inbound Trips	Inbound Trips	Percent Outbound Trips	Outbound Trips	Total SOV Trips
	0		0	0
	0		0	0
	0		0	0
	0		0	0
	0		0	0
	0	100%	5	5
	0		0	0
	0		0	0
	0		0	0
	0		0	0
	0	100%	5	5
	0		0	0
	0		0	0
	0		0	0
	0		0	0
0			*10*	*10*

UW Behavioral Health Teaching Facility
Parking Demand Summary by User Group

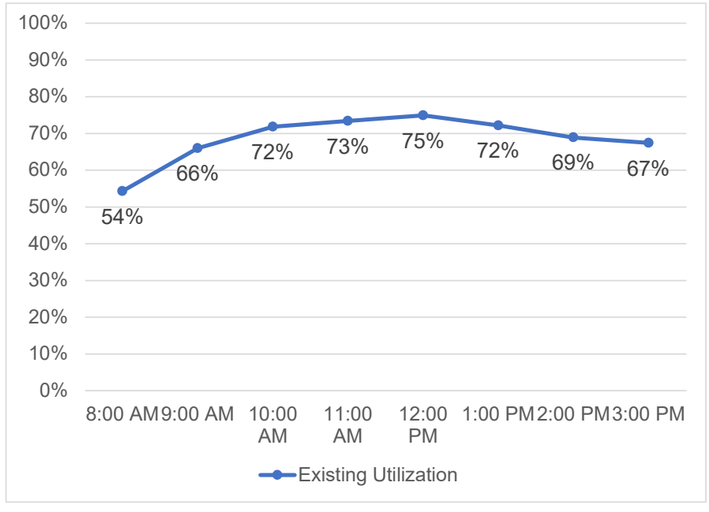
General Assumptions
50 Med Surge beds and 100 Behavioral Health (BH) beds at the BHTF
1 Nurse and 1 Certified Nursing Assistant (CNA) per 4 Med Surge beds; 1 Nurse and 1 CNA per 6 BH beds
100 total medial staff (9 doctors, 29 nurses, 29 CNAs, 33 students) at peak
24 visitors at peak based on bed capacity and average daily census
Assumed typical visiting hours of 8am-5pm with 100% SOV
Assumed 75% of nurses and CNAs work 12-hour shifts, 25% work 8-hour shifts
Assumed 30 administrative staff working 8am-5pm
Assumed 33 students on campus between 8am-5pm with 50% SOV
Assumed most recent CTR survey SOV mode split of 74.7% for all employees during day and evening shifts. Assumed 100% SOV for employees during night shift

Hourly Parking Demand by User Group				12:00 AM		1:00 AM		2:00 AM		3:00 AM		4:00 AM		5:00 AM		6:00 AM	
User Group	**Approximate Shift Time**	**Population**	**SOV Mode Split**	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus
Doctors Day Shift	7:00 am - 7:00 pm	9	74.7%	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Doctors Night Shift	7:00 pm - 7:00 am	3	100.0%	100%	3	100%	3	100%	3	100%	3	100%	3	100%	3	100%	3
Nurses 12-Hr Shift, Day Shift	7:00 am - 7:00 pm	22	74.7%	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Nurses 12-Hr Shift, Night Shift	7:00 pm - 7:00 am	22	100.0%	100%	22	100%	22	100%	22	100%	22	100%	22	100%	22	100%	22
Nurses 8-Hr Shift, Day	7:00 am - 3:00 pm	7	74.7%	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Nurses 8-Hr Shift, Evening	3:00 pm - 11:00 pm	7	74.7%	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Nurses 8-Hr Shift, Night	11:00 pm - 7:00 am	7	100.0%	100%	7	100%	7	100%	7	100%	7	100%	7	100%	7	100%	7
CNAs 12-Hr Shift, Day Shift	7:00 am - 7:00 pm	22	74.7%	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
CNAs 12-Hr Shift, Night Shift	7:00 pm - 7:00 am	22	100.0%	100%	22	100%	22	100%	22	100%	22	100%	22	100%	22	100%	22
CNAs 8-Hr Shift, Day	7:00 am - 3:00 pm	7	74.7%	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
CNAs 8-Hr Shift, Evening	3:00 pm - 11:00 pm	7	74.7%	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
CNAs 8-Hr Shift, Night	11:00 pm - 7:00 am	7	100.0%	100%	7	100%	7	100%	7	100%	7	100%	7	100%	7	100%	7
Administrative Staff Members	Assumed 8:00 am - 5:00 pm	30	74.7%	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Students	Assumed 8:00 am - 5:00 pm	33	50.0%	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Visitors	Assumed 8:00 am - 5:00 pm	80	100.0%	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Total BHTF Vehicles Parked On Campus					*61*		*61*		*61*		*61*		*61*		*61*		*61*

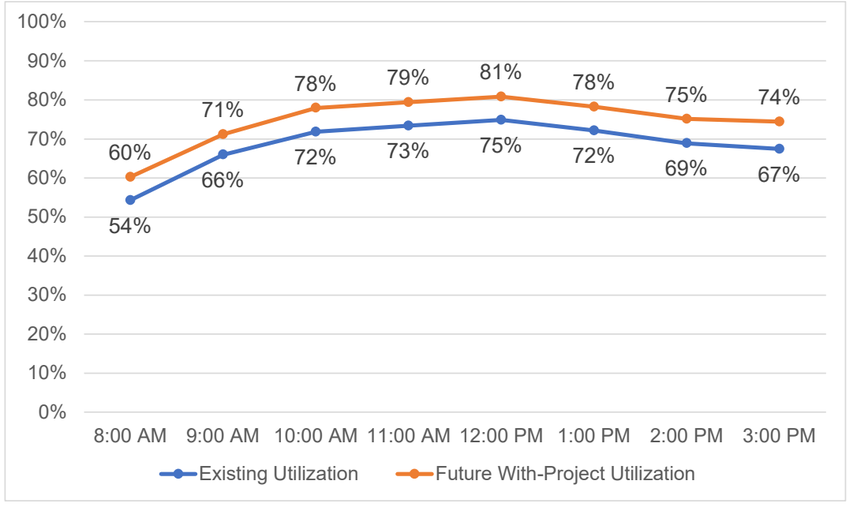
Summary

Sept 2019 Data

Hour	**Total BHTF Vehicles Parked**	Existing Utilization	Existing Demand	Existing Supply	Existing Demand to be Removed	Future With-Project Demand	Future With-Project Supply	Future With-Project Utilization
12:00 AM	61	0%		1618		61	1618	4%
1:00 AM	61	0%		1618		61	1618	4%
2:00 AM	61	0%		1618		61	1618	4%
3:00 AM	61	0%		1618		61	1618	4%
4:00 AM	61	0%		1618		61	1618	4%
5:00 AM	61	0%		1618		61	1618	4%
6:00 AM	61	0%		1618		61	1618	4%
7:00 AM	64	0%		1618		64	1618	4%
8:00 AM	149	54%	878	1618	-53	974	1618	60%
9:00 AM	149	66%	1068	1618	-65	1152	1618	71%
10:00 AM	169	72%	1162	1618	-70	1261	1618	78%
11:00 AM	169	73%	1188	1618	-72	1284	1618	79%
12:00 PM	169	75%	1211	1618	-73	1307	1618	81%
1:00 PM	169	72%	1168	1618	-71	1266	1618	78%
2:00 PM	169	69%	1115	1618	-68	1216	1618	75%
3:00 PM	179	67%	1091	1618	-66	1204	1618	74%
4:00 PM	149	0%		1618		149	1618	9%
5:00 PM	149	0%		1618		149	1618	9%
6:00 PM	50	0%		1618		50	1618	3%
7:00 PM	97	0%		1618		97	1618	6%
8:00 PM	57	0%		1618		57	1618	4%
9:00 PM	57	0%		1618		57	1618	4%
10:00 PM	57	0%		1618		57	1618	4%
11:00 PM	71	0%		1618		71	1618	4%



7:00 AM		8:00 AM		9:00 AM		10:00 AM		11:00 AM		12:00 PM		1:00 PM		2:00 PM	
Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus
100%	7	100%	7	100%	7	100%	7	100%	7	100%	7	100%	7	100%	7
0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
100%	16	100%	16	100%	16	100%	16	100%	16	100%	16	100%	16	100%	16
0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
100%	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%	5
0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
100%	7	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
100%	16	100%	16	100%	16	100%	16	100%	16	100%	16	100%	16	100%	16
0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
100%	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%	5
0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
100%	7	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
0%	0	100%	22	100%	22	100%	22	100%	22	100%	22	100%	22	100%	22
0%	0	100%	17	100%	17	100%	17	100%	17	100%	17	100%	17	100%	17
0%	0	75%	60	75%	60	100%	80	100%	80	100%	80	100%	80	100%	80
64	*149*		*149*		*169*		*169*		*169*		*169*		*169*		



3:00 PM		4:00 PM		5:00 PM		6:00 PM		7:00 PM		8:00 PM		9:00 PM		10:00 PM		11:00 PM	
Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus	Percent of Peak Users On-Campus	Vehicles On-Campus
100%	7	100%	7	100%	7	100%	7	100%	7	0%	0	0%	0	0%	0	0%	0
0%	0	0%	0	0%	0	0%	0	100%	3	100%	3	100%	3	100%	3	100%	3
100%	16	100%	16	100%	16	100%	16	100%	16	0%	0	0%	0	0%	0	0%	0
0%	0	0%	0	0%	0	0%	0	100%	22	100%	22	100%	22	100%	22	100%	22
100%	5	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
100%	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%	5
0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	100%	7
100%	16	100%	16	100%	16	100%	16	100%	16	0%	0	0%	0	0%	0	0%	0
0%	0	0%	0	0%	0	0%	0	100%	22	100%	22	100%	22	100%	22	100%	22
100%	5	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
100%	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%	5	100%	5
0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	100%	7
100%	22	100%	22	100%	22	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
100%	17	100%	17	100%	17	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
100%	80	75%	60	75%	60	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
179		*149*		*149*		*50*		*97*		*57*		*57*		*57*		*71*	

