

APPENDIX A: TRAFFIC AND TRANSPORTATION REPORT

TRAFFIC AND TRANSPORTATION

The Sunnyside Road Phase 3B amendment focus area includes Sunnyside Road from the east leg of SE 162nd Avenue to SE 172nd Avenue. The Sunnyside Road Phase 2/3A project is currently constructing a five lane access controlled facility from SE 122nd Avenue to SE 162nd Avenue.

EXISTING CONDITIONS

The following section summarizes the current traffic operations along the Sunnyside Road Phase 3B amendment focus area. To measure the performance of the existing transportation system, existing traffic operations for the weekday AM and PM peak hours were analyzed. The weekday PM peak hour was found to be the worst-case condition for the Sunnyside Road Phase 3B corridor based on recently conducted daily traffic counts. This is a change from the Sunnyside Road Environmental Assessment¹ which focused the traffic analysis on the weekday afternoon peak hour.

Data Collection

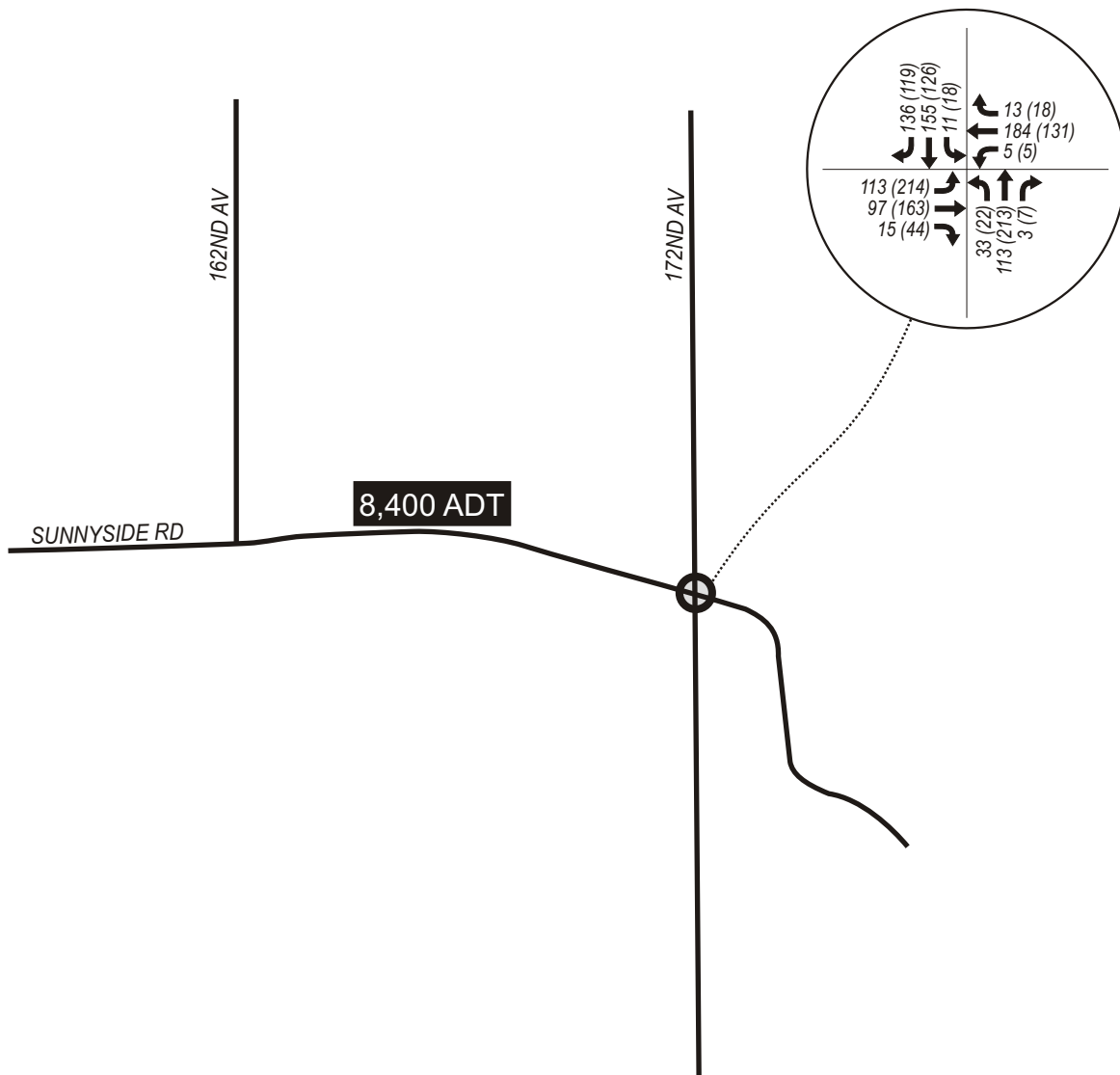
Daily bi-directional vehicle surveys were conducted on Sunnyside Road just east of SE 162nd Avenue over a two day period in January 2006 to obtain daily traffic volume, vehicle classification and vehicle speed data for the corridor. Manual turn movement vehicle counts were also conducted in January 2006 during the AM and PM peak hours at the SE 172nd Avenue/Sunnyside Road intersection. Construction of the Sunnyside Road Phase 2/3A project was underway in January 2006 which may have lowered the traffic volumes. Existing AM and PM peak hour traffic volumes are shown in Figure 1.

The traffic volume survey found 8,400 vehicles per day (4,140 westbound and 4,260 eastbound) on Sunnyside Road just east of SE 162nd Avenue. The evening commute period from 5:00 to 6:00 PM had the highest traffic volumes of the day, with an even balance of traffic traveling in each direction.


Speed surveys were conducted to determine the daily 85th percentile speed on Sunnyside Road just east of SE 162nd Avenue. By definition, 15 percent of the vehicles surveyed were traveling faster than the 85th percentile speed and 85 percent of the vehicles were traveling slower than the 85th percentile speed. The 85th percentile speed was found to be 46 mph (45 mph eastbound and 48 mph westbound) on Sunnyside Road.

Vehicle classification surveys were also conducted on Sunnyside Road just east of SE 162nd Avenue to determine the types of vehicles traveling on the roadway. The daily traffic consisted of 69% passenger cars, 30% single-unit trucks/buses and 1% multi-unit trucks.

¹ Sunnyside Road (I-205 to SE 172nd Avenue) Environmental Assessment, prepared by CH2MHill, August 1998.



LEGEND

-  - Study Intersection
- AM(PM) - Peak Hour Traffic Volumes

DKS Associates
TRANSPORTATION SOLUTIONS



Figure 1

**EXISTING YEAR 2006
TRAFFIC VOLUMES**

Motor Vehicle Operating Conditions

Level of Service (LOS) is used as a measure of effectiveness for intersection operation. It is similar to a “report card” rating based upon average vehicle delay. Level of Service A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. Level of Service D and E are progressively worse peak hour operating conditions. Level of Service F represents conditions where demand has exceeded capacity. This condition is typically evident in long queues and delays.

Unsignalized intersection level of service evaluates each movement separately to identify problems. The calculation is based on the average total delay per vehicle for stop-controlled movements (typically on the minor side street or left turn movements). Level of service (LOS) F indicates that there are insufficient gaps of suitable size to allow minor street traffic to safely enter or cross the major street. This is generally evident by long delays and queuing on the minor street. Level of service F may also result in more aggressive driving, with side street vehicles accepting shorter gaps.

The Clackamas County minimum LOS for acceptable operating conditions is LOS D for unsignalized intersections. Table 1 summarizes the current operating conditions during the AM and PM peak hour. Based on the January 2006 count data, the SE 172nd Avenue/Sunnyside Road intersection operates at an acceptable level of service during both peak hours. The SE 172nd Avenue/Sunnyside Road intersection was found to operate at LOS D during the PM peak hour in the Happy Valley TSP² based on traffic counts conducted in September 2004. The improved year 2006 PM peak hour operating conditions are likely due to lower traffic volumes as a result of the construction of the Phase 2/3A project.

Table 1: Existing Year 2006 Intersection Traffic Operations

Intersection	Traffic Control	AM Peak Hour			PM Peak Hour		
		Delay	LOS	V/C	Delay	LOS	V/C
SE 172 nd Avenue/Sunnyside Road	All-Way Stop	13.4	B	0.58	19.0	C	0.80

Delay = Average signalized intersection delay
 LOS = Level-of-service
 V/C = Volume-to-capacity ratio

Traffic Safety

Collision data was also obtained from the Oregon Department of Transportation at the SE 172nd Avenue/Sunnyside Road intersection for the period from 2001 through 2003. Table 2 includes collision data classified by fatal, non-fatal, and property damage only incidents. The accident rate was also calculated to standardize the existing data. The equivalent accident rates per million entering vehicles (MEV) are shown in Table 2. A collision rate greater than 1.0 generally indicates a safety-related problem that should be evaluated further. As shown below, both calculated accident rates are well below 1.0.

² Happy Valley Transportation System Plan, DKS Associates, Inc., adopted February 21, 2006, Table 3-4.

Table 2: Intersection Collisions

Intersection	Fatal	Non-Fatal	Property Damage Only	Total	Accident Rate*
SE 172 nd Avenue/Sunnyside Road	0	6	4	10	0.72

*Average annual accidents per million entering vehicles

Access Management

Access management is the control or limiting of vehicular access on arterial and collector facilities to maintain the capacity of the facilities and preserve their functional integrity. Access management strives to strike a balance between maintaining the integrity of the facility and providing access to adjacent parcels. Numerous driveways can erode the capacity of arterial and collector roadways. Preservation of capacity is particularly important on higher volume roadways for maintaining traffic flow and mobility. Whereas local and neighborhood streets function to provide access, collector and arterial streets serve greater traffic volume. Numerous driveways or street intersections increase the number of conflicts and potential for collisions and decrease mobility and traffic flow.

The intersections of SE 162nd Avenue and SE 172nd Avenue at Sunnyside Road are located approximately 2,900 feet apart. Today, Sunnyside Road between SE 162nd Avenue and SE 172nd Avenue has approximately twelve private driveway accesses and no public street intersections.

Pedestrian and Bicycle Facilities

Sidewalks and bike lanes are currently not provided on Sunnyside Road between SE 162nd Avenue and SE 172nd Avenue. Existing pedestrian and bicycle counts at the study intersection indicates minimal to no walking or biking activity along the corridor during the AM and PM peak hours.

Transit Operations

Currently there are no transit routes serving Sunnyside Road between SE 162nd Avenue and SE 172nd Avenue. The nearest transit service is provided on Sunnyside Road west of SE 147th Avenue connecting to the Clackamas Town Center. The planned 2025 transit network is expected to extend existing Sunnyside Road transit service to the east as development occurs and transit demand increases.

FUTURE CONDITIONS

The following section summarizes future traffic operations and assesses the needs of Sunnyside Road from the east leg of SE 162nd Avenue to SE 172nd Avenue. The performance of the future transportation system was focused on the PM peak hour.

Future Volume Forecasts

The forecast models selected for use in this analysis were the 2000 Metro Regional Travel Demand Model and the most recent 2030 Sunrise Corridor travel demand model³. The 2030 Sunrise Corridor model included the SE 162nd Avenue extension south of Sunnyside Road to the Sunrise Corridor and revised land use for the planned Rock Creek Employment Area totaling approximately 6,200 employees.

Future 2030 PM peak hour volumes were determined by comparing the 2000 base model to the 2030 future model to develop a 30-year forecasted growth. The increment of growth was adjusted to represent post processed 24-year growth that was then added to the 2006 existing traffic volumes at the SE 172nd Avenue/Sunnyside Road intersection and along the Sunnyside Road corridor west of SE 172nd Avenue to establish forecasted 2030 volumes for the PM peak hour. The 2030 forecasted PM peak hour traffic volumes are shown in Figure 2.

Future Operating Conditions

Future 2030 traffic operations were evaluated for Sunnyside Road from the east leg of SE 162nd Avenue to SE 172nd Avenue. The analysis focused on both roadway segment and intersection future operating conditions.

The Sunnyside Road Environmental Assessment⁴ recommended a 3 lane cross-section for Sunnyside Road east of SE 162nd Avenue based on 2020 forecasts. Based on the 2030 forecasts, a 5 lane cross-section would be required to provide adequate capacity on Sunnyside Road. The operating conditions for both scenarios are shown in Table 3.

Table 3: Future Year 2030 Roadway Traffic Operations - PM Peak Hour

Intersection	2030 Volume	Link Capacity	V/C	LOS
<i>Sunnyside Road 3 Lanes</i>				
SE 172 nd Avenue/Sunnyside Road	2,550	1,800	1.42	F
<i>Sunnyside Road 5 Lanes</i>				
SE 172 nd Avenue/Sunnyside Road	2,550	4,800	0.53	C

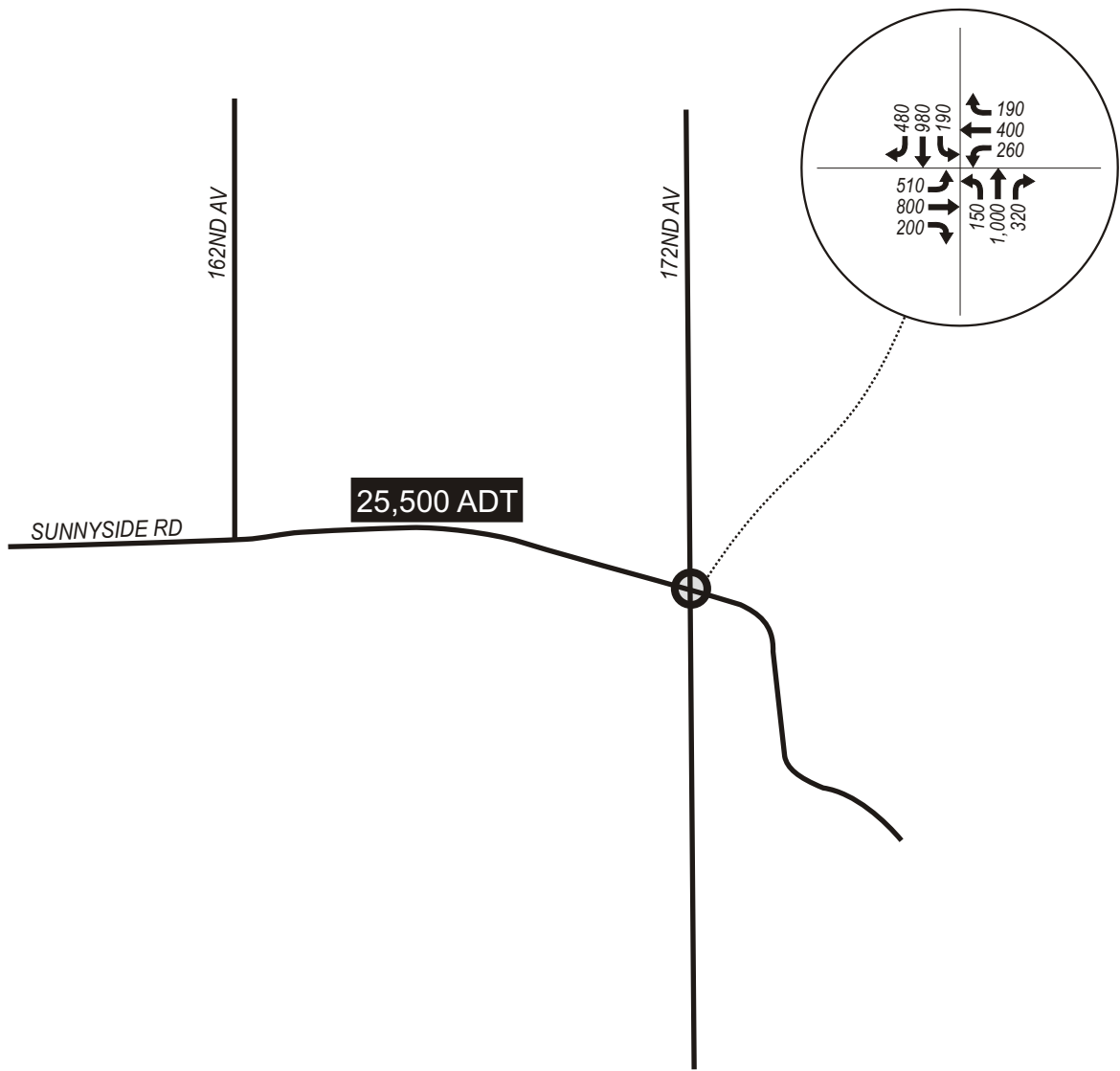
Note: 2030 volume and estimated capacity represent both directions. Link capacity estimate based on Metro guidelines for a facility with no on-street parking, bike lanes and access management.

LOS = Level-of-service

V/C = Volume-to-capacity ratio

³ 2030 Sunrise Corridor Unit 1 model, Clackamas County, updated April 2006.

⁴ Sunnyside Road (I-205 to SE 172nd Avenue) Environmental Assessment, prepared by CH2MHill, August 1998, page 31.



LEGEND



- Study Intersection

PM - Peak Hour Traffic Volumes

DKS Associates
TRANSPORTATION SOLUTIONS



NO SCALE

Figure 2

**FUTURE YEAR 2030
TRAFFIC VOLUMES**

Future 2030 traffic operations for the SE 172nd Avenue/Sunnyside Road intersection were evaluated for a “no build” scenario to establish a future base condition. The “no build” scenario is based on the existing transportation system within the study area and includes no roadway improvements. The future preferred geometry for the SE 172nd Avenue/Sunnyside Road intersection was determined based on the forecasted 2030 turn movement volumes. The future intersection geometry, shown in Figure 3, is recommended to meet County operating standards and assure adequate operation over the next 25 years. Table 4 summarizes the operating conditions with no improvements (no build scenario) and with the preferred geometry at the SE 172nd Avenue/Sunnyside Road intersection (build scenario).

Table 4: Future Year 2030 Intersection Traffic Operations - PM Peak Hour

Intersection	Traffic Control	Delay	LOS	V/C
<i>No Build Scenario</i>				
SE 172 nd Avenue/Sunnyside Road	All-Way Stop	>80.0	F	>1.0
<i>Build Scenario</i>				
SE 172 nd Avenue/Sunnyside Road	Signal	44.5	D	0.86

Delay = Average signalized intersection delay
LOS = Level-of-service
V/C = Volume-to-capacity ratio

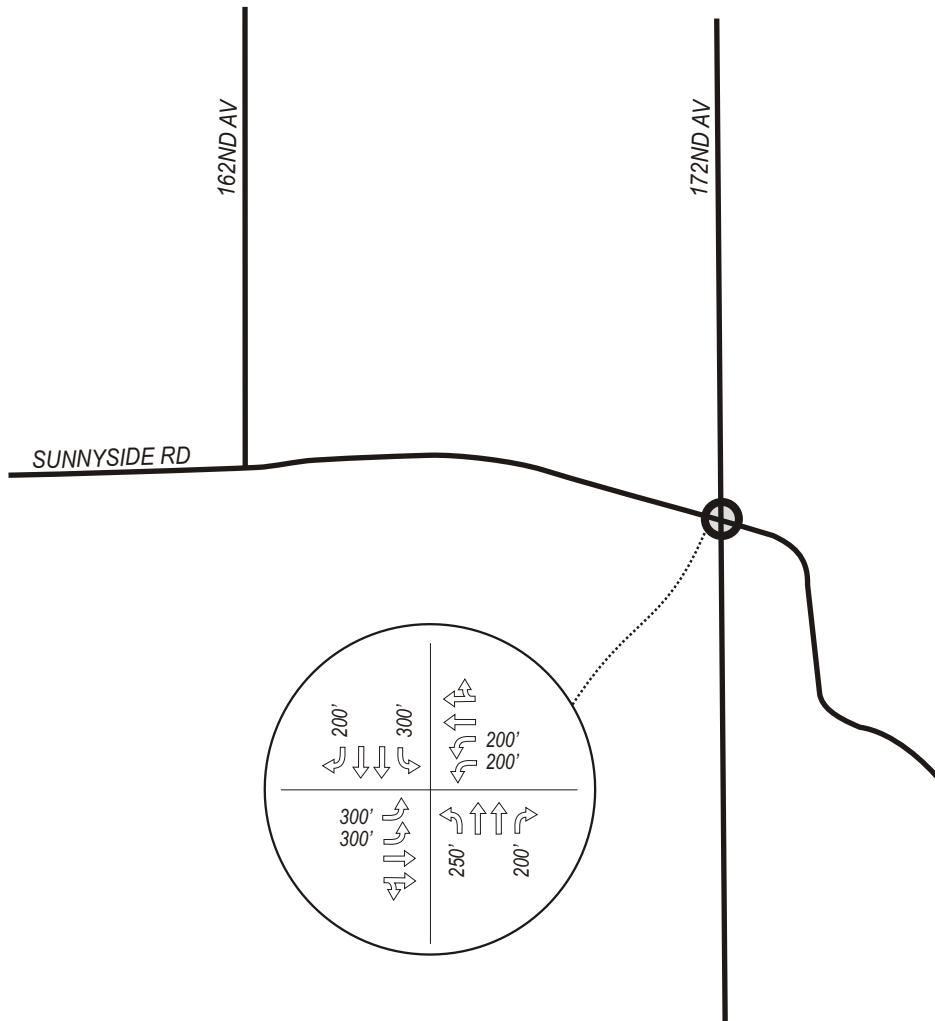
Queuing Analysis

In addition to the future roadway and intersection traffic operations, queuing analysis was performed for the build scenario at the SE 172nd Avenue/Sunnyside Road intersection. The queuing analysis performed was for a 95th percentile queue during the PM peak hour. Typically a 95th percentile queue is used to evaluate queuing for design purposes. This accommodates 95% of the potential queuing during the PM peak hour. Table 5 summarizes the future year 2030 95th percentile queuing conditions at the SE 172nd Avenue/Sunnyside Road intersection. The recommended turn lane pocket lengths are shown in Figure 3.

Table 5: Future Year 2030 Intersection Queuing Analysis - PM Peak Hour

SE 172 nd Avenue/Sunnyside Road	95% Queue Length	Recommended Pocket Length
Northbound Left	225'	250'
Northbound Right	155'	200'
Southbound Left	295'	300'
Southbound Right	175'	200'
Eastbound Double Lefts	295'	300'
Westbound Double Lefts	185'	200'

Queue length is based on the calculated 95% design queue with 25-feet required per vehicle.
Double turn lane lengths shown separately for each lane.



LEGEND

○ - Study Intersection

XX - Recommended Storage Length

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NO SCALE

Figure 3

PREFERRED FUTURE INTERSECTION GEOMETRY

Future Pedestrian and Bicycle Facilities

The planned design of the Sunnyside Road Phase 3B project will include sidewalks and bike lanes on both sides of the roadway from SE 162nd Avenue to SE 172nd Avenue. This improved section of Sunnyside Road will result in continuous sidewalks and bike lanes on Sunnyside Road from SE 82nd Avenue to SE 172nd Avenue.

Access Management Evaluation

Access Management is a broad set of techniques that balance the need to provide efficient, safe and timely travel with the ability to allow access to individual properties. Proper implementation of access management techniques should guarantee reduced congestion, reduced accident rates, less need for roadway widening, conservation of energy, and reduced air pollution.

An access management plan was developed for Sunnyside Road from SE 162nd Avenue to SE 172nd Avenue to maintain the future capacity of the facility. The conceptual plan is shown in Figure 4. Access management strategies have been incorporated into the construction and/or design of Sunnyside Road from SE 97th Avenue to SE 162nd Avenue. It would be appropriate to continue the implementation of access management practices on Sunnyside Road east of SE 162nd Avenue. The Clackamas County Comprehensive Plan⁵ designated Sunnyside Road as a major arterial and sets access management guidelines.

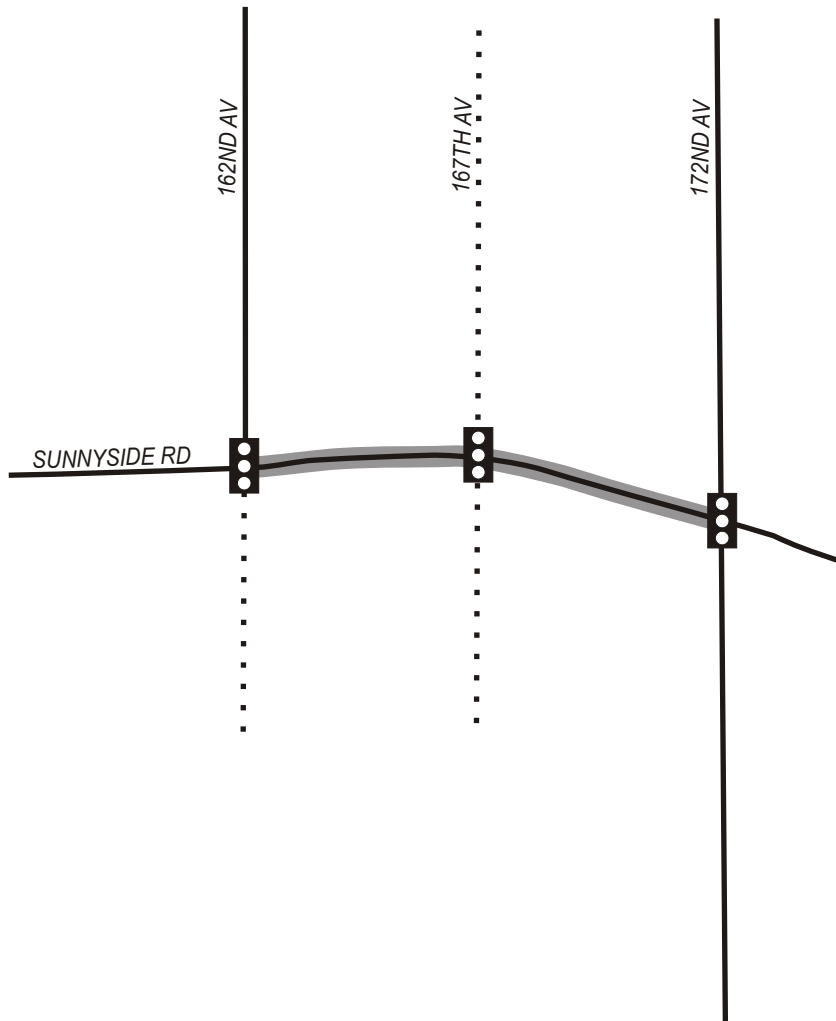
Traffic signals are planned on Sunnyside Road at SE 162nd Avenue and SE 172nd Avenue approximately 2,900 feet apart. Due to the planned 5 lane cross-section on Sunnyside Road between SE 162nd Avenue and SE 172nd Avenue, it would be desirable that full access intersections would be controlled by a traffic signal based on capacity and safety concerns. Clackamas County recommends a minimum spacing of 1,000 feet for traffic signal spacing on a major arterial roadway. Traffic signals that are spaced too closely on a corridor can result in poor operating conditions and safety issues due to the lack of adequate storage for vehicle queues.

To achieve a minimum traffic signal spacing of 1,000 feet on Sunnyside Road, only one traffic signal should be allowed between SE 162nd Avenue and SE 172nd Avenue. An appropriate location for a full access intersection with traffic signal control would be midway between the two planned traffic signals at SE 162nd Avenue and SE 172nd Avenue. This would be approximately at SE 167th Avenue. All remaining accesses (either roadways or driveways) along Sunnyside Road between SE 162nd Avenue and SE 172nd Avenue should be limited to right-in/right-out access. This access restriction could be implemented with the construction of a raised center median on Sunnyside Road.




Clackamas County recommends a minimum spacing of 400 feet for unsignalized intersections and driveways on a major arterial roadway. Today, there are approximately twelve driveways located onto Sunnyside Road between SE 162nd Avenue and SE 172nd Avenue. The majority of these driveways serve single family and/or agricultural land

⁵ Clackamas County Comprehensive Plan, Chapter 5, April 2005, Map V-2a.

uses. As redevelopment of frontage properties on Sunnyside Road occurs, the majority of these existing driveways are expected to be removed. New developments along Sunnyside Road should follow the recommended 400 foot access spacing which may require shared driveways and cross-easements between adjacent properties.



LEGEND

-  - Future Traffic Signal Control
-  - Future Roadway
-  - Access Restricted to Right-In/Right-Out

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NO SCALE

Figure 4

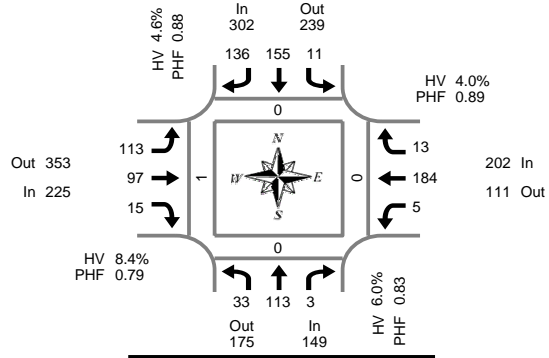
**FUTURE ACCESS
MANAGEMENT PLAN**

TECHNICAL APPENDIX

Total Vehicle Summary



Clay Carney
(503) 833-2740



SE 172nd Ave & SE Sunnyside Rd

Tuesday, January 17, 2006
7:00 AM to 9:00 AM

Peak Hour Summary
7:20 AM to 8:20 AM

5-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
07:00	4	7	0	0	2	10	15	0	5	7	0	0	1	13	1	0	65	0	0	0	0
07:05	3	8	0	0	0	13	10	0	2	7	0	0	0	18	1	0	62	0	0	0	0
07:10	2	5	0	0	1	7	8	0	4	0	1	0	1	12	2	0	43	0	0	0	0
07:15	1	7	0	0	2	20	18	0	1	2	0	0	0	13	2	0	66	0	0	0	0
07:20	2	8	0	0	3	18	14	0	14	10	0	0	0	15	2	0	86	0	0	0	0
07:25	0	14	0	0	2	10	12	0	15	4	0	0	0	14	2	0	73	0	0	0	0
07:30	4	7	0	0	0	14	9	0	6	6	0	0	0	17	2	0	65	0	0	0	0
07:35	1	8	1	0	0	13	12	0	15	9	1	0	0	11	0	0	71	0	0	0	0
07:40	5	12	0	0	0	15	14	0	8	5	3	0	1	22	0	0	85	0	0	0	0
07:45	1	10	0	0	0	9	18	0	10	4	0	0	1	15	0	0	68	0	0	0	0
07:50	6	11	0	0	0	18	8	0	5	15	0	0	0	12	1	0	76	0	0	0	0
07:55	3	12	1	0	1	17	15	0	18	16	3	0	0	11	2	0	99	0	0	0	0
08:00	3	7	0	0	3	13	9	0	7	2	3	0	0	21	3	0	71	0	0	0	0
08:05	3	7	0	0	0	7	8	0	6	7	1	0	1	12	0	0	52	0	0	0	0
08:10	1	7	0	0	2	8	6	0	5	11	2	0	2	17	1	0	62	0	0	0	1
08:15	4	10	1	0	0	13	11	0	4	8	2	0	0	17	0	0	70	0	0	0	0
08:20	2	9	1	0	2	15	10	0	2	2	0	0	1	13	0	0	57	0	0	0	0
08:25	1	8	1	0	0	11	7	0	8	10	0	0	1	25	1	0	73	0	0	0	0
08:30	2	10	0	0	1	9	12	0	11	15	1	0	1	18	0	0	80	0	0	0	0
08:35	2	6	0	0	1	7	15	0	8	6	1	0	0	19	1	0	66	0	0	0	0
08:40	2	6	2	0	0	8	7	0	14	11	0	0	0	17	0	0	67	0	0	0	0
08:45	3	8	0	0	0	7	4	0	5	5	0	0	0	17	0	0	49	0	0	0	0
08:50	2	9	0	0	0	8	10	0	5	6	2	0	0	9	2	0	53	0	0	0	0
08:55	1	6	0	0	0	9	9	0	4	8	4	0	2	11	0	0	54	0	0	0	0
Total Survey	58	202	7	0	20	279	261	0	182	176	24	0	12	369	23	0	1,613	0	0	0	1

15-Minute Interval Summary

7:00 AM to 9:00 AM

Interval Start Time	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
07:00	9	20	0	0	3	30	33	0	11	14	1	0	2	43	4	0	170	0	0	0	0
07:15	3	29	0	0	7	48	44	0	30	16	0	0	0	42	6	0	225	0	0	0	0
07:30	10	27	1	0	0	42	35	0	29	20	4	0	1	50	2	0	221	0	0	0	0
07:45	10	33	1	0	1	44	41	0	33	35	3	0	1	38	3	0	243	0	0	0	0
08:00	7	21	0	0	5	28	23	0	18	20	6	0	3	50	4	0	185	0	0	0	1
08:15	7	27	3	0	2	39	28	0	14	20	2	0	2	55	1	0	200	0	0	0	0
08:30	6	22	2	0	2	24	34	0	33	32	2	0	1	54	1	0	213	0	0	0	0
08:45	6	23	0	0	0	24	23	0	14	19	6	0	2	37	2	0	156	0	0	0	0
Total Survey	58	202	7	0	20	279	261	0	182	176	24	0	12	369	23	0	1,613	0	0	0	1

Peak Hour Summary

7:20 AM to 8:20 AM

By Approach	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	149	175	324	0	302	239	541	0	225	353	578	0	202	111	313	0	878	0	0	0	1
%HV	6.0%				4.6%				8.4%				4.0%				5.7%				
PHF	0.83				0.88				0.79				0.89				0.89				

By Movement	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	33	113	3	149	11	155	136	302	113	97	15	225	5	184	13	202	878
%HV	12.1%	4.4%	0.0%	6.0%	9.1%	3.9%	5.1%	4.6%	10.6%	5.2%	13.3%	8.4%	0.0%	3.3%	15.4%	4.0%	5.7%
PHF	0.69	0.86	0.75	0.83	0.55	0.81	0.77	0.88	0.78	0.69	0.54	0.79	0.42	0.92	0.54	0.89	0.89

Rolling Hour Summary

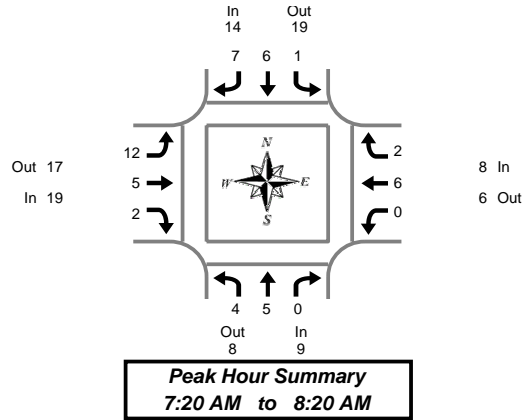
7:00 AM to 9:00 AM

Interval Start Time	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
07:00	32	109	2	0	11	164	153	0	103	85	8	0	4	173	15	0	859	0	0	0	0
07:15	30	110	2	0	13	162	143	0	110	91	13	0	5	180	15	0	874	0	0	0	1
07:30	34	108	5	0	8	153	127	0	94	95	15	0	7	193	10	0	849	0	0	0	1
07:45	30	103	6	0	10	135	126	0	98	107	13	0	7	197	9	0	841	0	0	0	1

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



SE 172nd Ave & SE Sunnyside Rd

Tuesday, January 17, 2006
7:00 AM to 9:00 AM

Heavy Vehicle 5-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
07:00	0	0	0	0	0	2	2	4	0	1	0	1	0	1	0	1	6
07:05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	2
07:15	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
07:20	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
07:25	0	1	0	1	0	0	1	1	0	0	0	0	0	0	1	1	3
07:30	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
07:35	0	0	0	0	0	0	0	0	4	0	1	5	0	0	0	0	5
07:40	1	1	0	2	0	3	0	3	2	0	0	2	0	1	0	1	8
07:45	0	1	0	1	0	1	1	2	2	0	0	2	0	1	0	1	6
07:50	1	0	0	1	0	0	0	0	1	1	0	2	0	0	0	0	3
07:55	0	2	0	2	0	1	1	2	0	2	0	2	0	0	0	0	6
08:00	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:05	1	0	0	1	0	0	3	3	1	1	0	2	0	0	0	0	6
08:10	0	0	0	0	1	1	0	2	0	0	1	1	0	0	1	1	4
08:15	1	0	0	1	0	0	1	1	0	1	0	1	0	3	0	3	6
08:20	2	0	0	2	0	1	3	4	1	0	0	1	0	1	0	1	8
08:25	0	1	0	1	0	0	4	4	1	0	0	1	0	2	0	2	8
08:30	0	2	0	2	0	1	5	6	0	0	0	0	0	0	0	0	8
08:35	0	0	0	0	0	0	3	3	2	1	0	3	0	1	0	1	7
08:40	1	2	1	4	0	0	2	2	5	0	0	5	0	0	0	0	11
08:45	1	1	0	2	0	2	1	3	2	0	0	2	0	1	0	1	8
08:50	0	2	0	2	0	0	2	2	2	0	0	2	0	0	1	1	7
08:55	0	0	0	0	0	0	2	2	1	0	0	1	0	0	0	0	3
Total Survey	8	13	1	22	1	14	31	46	26	7	2	35	1	12	4	17	120

Heavy Vehicle 15-Minute Interval Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
07:00	0	0	0	0	0	2	2	4	0	1	0	1	1	1	1	3	8
07:15	0	1	0	1	0	2	1	3	0	0	0	0	0	1	1	2	6
07:30	1	1	0	2	0	3	0	3	7	0	1	8	0	1	0	1	14
07:45	1	3	0	4	0	2	2	4	3	3	0	6	0	1	0	1	15
08:00	1	0	0	1	1	1	3	5	2	1	1	4	0	0	1	1	11
08:15	3	1	0	4	0	1	8	9	2	1	0	3	0	6	0	6	22
08:30	1	4	1	6	0	1	10	11	7	1	0	8	0	1	0	1	26
08:45	1	3	0	4	0	2	5	7	5	0	0	5	0	1	1	2	18
Total Survey	8	13	1	22	1	14	31	46	26	7	2	35	1	12	4	17	120

Heavy Vehicle Peak Hour Summary 7:20 AM to 8:20 AM

By Approach	Northbound SE 172nd Ave			Southbound SE 172nd Ave			Eastbound SE Sunnyside Rd			Westbound SE Sunnyside Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	9	8	17	14	19	33	19	17	36	8	6	14	50
PHF	0.56			0.58			0.53			0.50			0.66

By Movement	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	4	5	0	9	1	6	7	14	12	5	2	19	0	6	2	8	50
PHF	0.50	0.42	0.00	0.56	0.25	0.38	0.44	0.58	0.38	0.42	0.50	0.53	0.00	0.50	0.50	0.50	0.66

Heavy Vehicle Rolling Hour Summary 7:00 AM to 9:00 AM

Interval Start Time	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
07:00	2	5	0	7	0	9	5	14	10	4	1	15	1	4	2	7	43
07:15	3	5	0	8	1	8	6	15	12	4	2	18	0	3	2	5	46
07:30	6	5	0	11	1	7	13	21	14	5	2	21	0	8	1	9	62
07:45	6	8	1	15	1	5	23	29	14	6	1	21	0	8	1	9	74

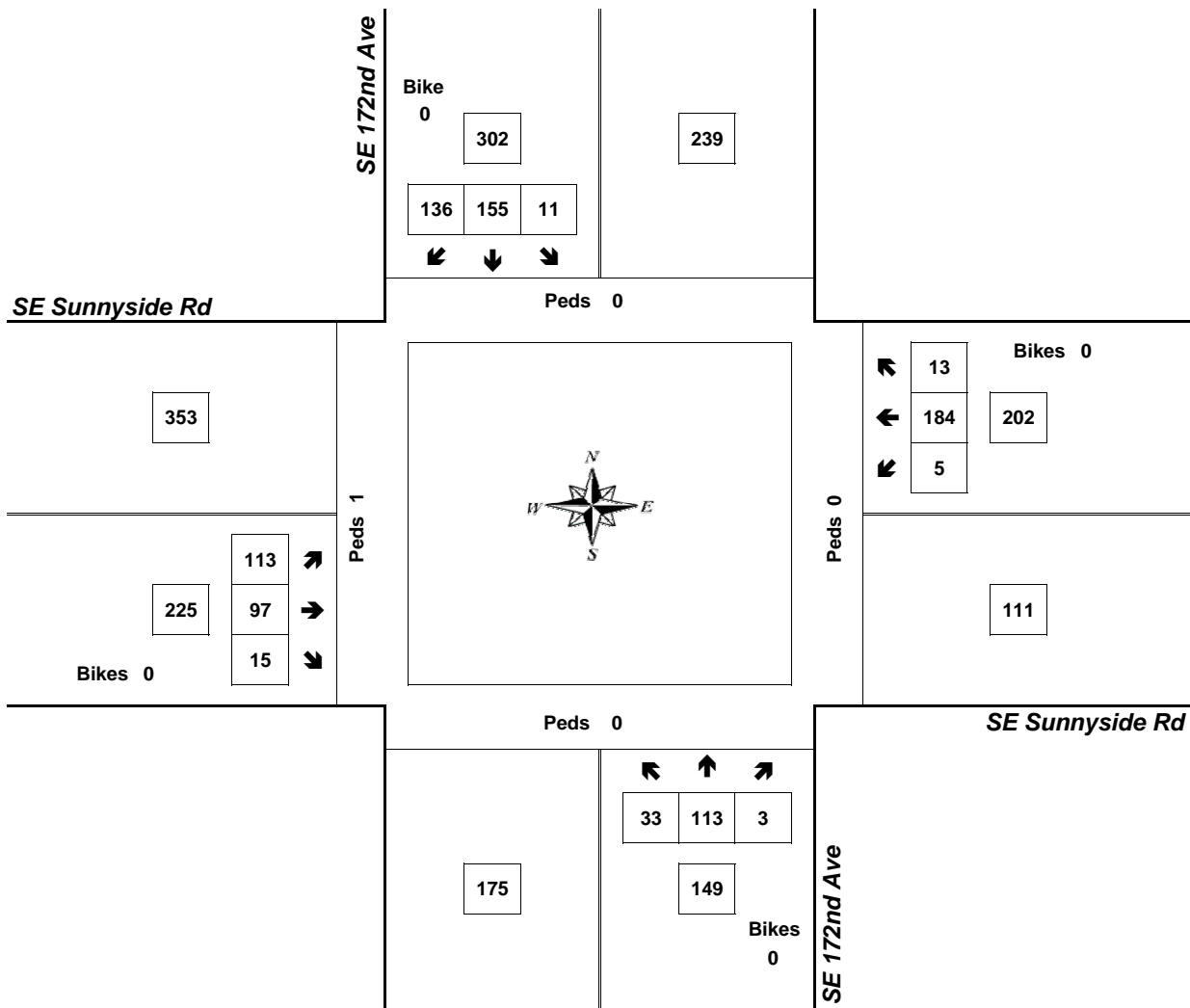
Peak Hour Summary



Clay Carney
(503) 833-2740

SE 172nd Ave & SE Sunnyside Rd

7:20 AM to 8:20 AM
Tuesday, January 17, 2006



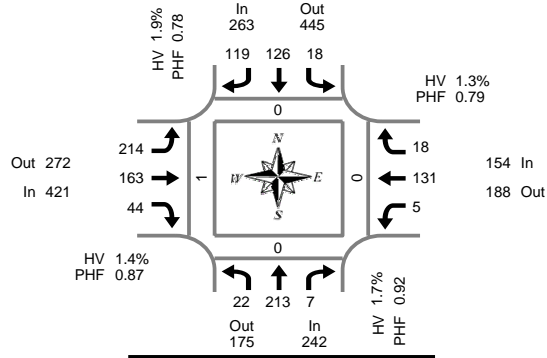
Approach	PHF	HV%	Volume
EB	0.79	8.4%	225
WB	0.89	4.0%	202
NB	0.83	6.0%	149
SB	0.88	4.6%	302
Intersection	0.89	5.7%	878

Count Period: 7:00 AM to 9:00 AM

Total Vehicle Summary



Clay Carney
(503) 833-2740



SE 172nd Ave & SE Sunnyside Rd

Tuesday, January 17, 2006

4:00 PM to 6:00 PM

Peak Hour Summary
4:45 PM to 5:45 PM

5-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
16:00	1	13	0	0	2	8	7	0	16	15	1	0	1	14	1	0	79	0	0	0	0
16:05	0	15	0	0	2	16	14	0	8	15	3	0	1	4	1	0	79	0	0	0	0
16:10	2	22	1	0	1	11	8	0	19	12	3	0	1	8	3	0	91	0	0	0	0
16:15	2	22	0	0	2	14	13	0	12	19	3	0	0	12	1	0	100	0	0	0	0
16:20	2	11	2	0	1	16	11	0	29	19	3	0	0	7	2	0	103	0	0	0	0
16:25	1	14	0	0	1	8	11	0	16	15	1	0	0	25	4	0	96	0	0	0	0
16:30	3	16	1	0	4	12	9	0	20	20	1	0	3	11	3	0	103	0	0	0	0
16:35	2	18	1	0	0	8	8	0	17	17	3	0	0	16	1	0	91	0	0	0	0
16:40	1	10	1	0	2	12	5	0	13	13	1	0	2	9	2	0	71	0	0	0	0
16:45	3	15	0	0	2	13	6	0	14	14	4	0	1	8	2	0	82	0	0	0	0
16:50	0	22	1	0	3	7	10	0	19	17	3	0	0	11	2	0	95	0	0	0	0
16:55	2	18	1	0	2	6	12	0	16	12	2	0	0	10	0	0	81	0	0	0	0
17:00	2	11	0	0	0	10	6	0	15	16	6	0	0	10	2	0	78	0	0	0	0
17:05	0	20	0	0	0	8	11	0	12	15	0	0	0	8	3	0	77	0	0	0	0
17:10	2	19	0	0	2	14	12	0	20	11	5	0	0	10	1	0	96	0	0	0	0
17:15	3	19	0	0	2	17	10	0	19	8	6	0	1	13	0	0	98	0	0	0	0
17:20	2	16	2	0	3	14	10	0	20	20	2	0	0	14	4	0	107	0	0	0	0
17:25	2	16	0	0	1	7	9	0	21	12	5	0	1	15	1	0	90	0	0	0	0
17:30	0	21	0	0	1	14	9	0	25	11	5	0	0	7	2	0	95	0	0	0	1
17:35	2	19	1	0	2	8	10	0	16	12	4	0	1	15	1	0	91	0	0	0	0
17:40	4	17	2	0	0	8	14	0	17	15	2	0	1	10	0	0	90	0	0	0	0
17:45	1	12	1	0	0	8	18	0	15	8	2	0	1	10	2	0	78	0	0	0	0
17:50	2	6	1	0	0	9	15	0	11	23	1	0	2	4	2	0	76	0	0	0	0
17:55	3	22	0	0	1	8	3	0	13	10	5	0	1	8	2	0	76	0	0	0	0
Total Survey	42	394	15	0	34	256	241	0	403	349	71	0	17	259	42	0	2,123	0	0	0	1

15-Minute Interval Summary

4:00 PM to 6:00 PM

Interval Start Time	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
16:00	3	50	1	0	5	35	29	0	43	42	7	0	3	26	5	0	249	0	0	0	0
16:15	5	47	2	0	4	38	35	0	57	53	7	0	0	44	7	0	299	0	0	0	0
16:30	6	44	3	0	6	32	22	0	50	50	5	0	5	36	6	0	265	0	0	0	0
16:45	5	55	2	0	7	26	28	0	49	43	9	0	1	29	4	0	258	0	0	0	0
17:00	4	50	0	0	2	32	29	0	47	42	11	0	0	28	6	0	251	0	0	0	0
17:15	7	51	2	0	6	38	29	0	60	40	13	0	2	42	5	0	295	0	0	0	0
17:30	6	57	3	0	3	30	33	0	58	38	11	0	2	32	3	0	276	0	0	0	1
17:45	6	40	2	0	1	25	36	0	39	41	8	0	4	22	6	0	230	0	0	0	0
Total Survey	42	394	15	0	34	256	241	0	403	349	71	0	17	259	42	0	2,123	0	0	0	1

Peak Hour Summary

4:45 PM to 5:45 PM

By Approach	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Total	Pedestrians Crosswalk			
	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes	In	Out	Total	Bikes		North	South	East	West
Volume	242	175	417	0	263	445	708	0	421	272	693	0	154	188	342	0	1,080	0	0	0	1
%HV	1.7%				1.9%				1.4%				1.3%				1.6%				
PHF	0.92				0.78				0.87				0.79				0.90				

By Movement	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	22	213	7	242	18	126	119	263	214	163	44	421	5	131	18	154	1,080
%HV	9.1%	0.9%	0.0%	1.7%	0.0%	3.2%	0.8%	1.9%	0.9%	1.2%	4.5%	1.4%	0.0%	1.5%	0.0%	1.3%	1.6%
PHF	0.79	0.92	0.58	0.92	0.64	0.70	0.90	0.78	0.81	0.91	0.79	0.87	0.63	0.78	0.64	0.79	0.90

Rolling Hour Summary

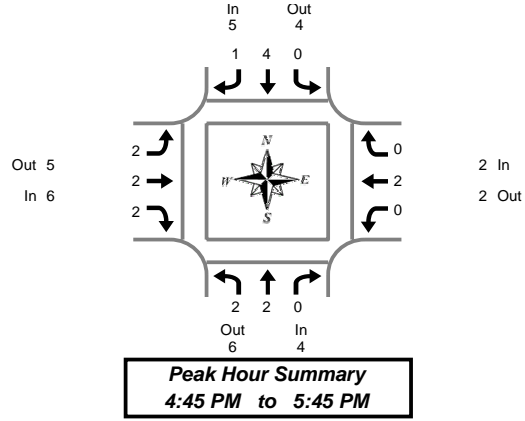
4:00 PM to 6:00 PM

Interval Start Time	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Interval Total	Pedestrians Crosswalk			
	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes	L	T	R	Bikes		North	South	East	West
16:00	19	196	8	0	22	131	114	0	199	188	28	0	9	135	22	0	1,071	0	0	0	0
16:15	20	196	7	0	19	128	114	0	203	188	32	0	6	137	23	0	1,073	0	0	0	0
16:30	22	200	7	0	21	128	108	0	206	175	38	0	8	135	21	0	1,069	0	0	0	0
16:45	22	213	7	0	18	126	119	0	214	163	44	0	5	131	18	0	1,080	0	0	0	1

Heavy Vehicle Summary



Clay Carney
(503) 833-2740



SE 172nd Ave & SE Sunnyside Rd

Tuesday, January 17, 2006
4:00 PM to 6:00 PM

Heavy Vehicle 5-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
16:00	1	0	0	1	0	1	1	2	1	0	0	1	0	1	0	1	5
16:05	0	0	0	0	0	2	4	6	0	0	0	0	0	0	0	0	6
16:10	1	0	0	1	0	0	0	0	1	0	1	2	0	0	1	1	4
16:15	0	0	0	0	0	0	1	1	0	0	1	1	0	1	0	1	3
16:20	1	1	0	2	0	0	0	0	2	1	0	3	0	0	0	0	5
16:25	0	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
16:30	0	1	0	1	1	1	0	2	0	1	0	1	0	0	0	0	4
16:35	0	0	1	1	0	1	1	2	2	0	0	2	0	1	1	2	7
16:40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
16:45	1	1	0	2	0	1	0	1	0	0	1	1	0	0	0	0	4
16:50	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
16:55	0	1	0	1	0	0	0	0	1	0	0	1	0	1	0	1	3
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:05	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	2
17:10	1	0	0	1	0	1	0	1	0	0	1	1	0	0	0	0	3
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:20	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2
17:25	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
17:35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
17:50	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2
17:55	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total Survey	5	6	1	12	1	9	9	19	10	6	4	20	0	5	3	8	59

Heavy Vehicle 15-Minute Interval Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
16:00	2	0	0	2	0	3	5	8	2	0	1	3	0	1	1	2	15
16:15	1	2	0	3	0	0	2	2	2	1	1	4	0	1	0	1	10
16:30	0	1	1	2	1	2	1	4	2	1	0	3	0	1	2	3	12
16:45	1	2	0	3	0	1	0	1	1	0	1	2	0	2	0	2	8
17:00	1	0	0	1	0	2	1	3	0	0	1	1	0	0	0	0	5
17:15	0	0	0	0	0	1	0	1	1	1	0	2	0	0	0	0	3
17:30	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
17:45	0	1	0	1	0	0	0	0	2	2	0	4	0	0	0	0	5
Total Survey	5	6	1	12	1	9	9	19	10	6	4	20	0	5	3	8	59

Heavy Vehicle Peak Hour Summary 4:45 PM to 5:45 PM

By Approach	Northbound SE 172nd Ave			Southbound SE 172nd Ave			Eastbound SE Sunnyside Rd			Westbound SE Sunnyside Rd			Total
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	
Volume	4	6	10	5	4	9	6	5	11	2	2	4	17
PHF	0.33			0.42			0.50			0.25			0.53

By Movement	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
Volume	2	2	0	4	0	4	1	5	2	2	2	6	0	2	0	2	17
PHF	0.50	0.25	0.00	0.33	0.00	0.50	0.25	0.42	0.50	0.25	0.50	0.50	0.00	0.25	0.00	0.25	0.53

Heavy Vehicle Rolling Hour Summary 4:00 PM to 6:00 PM

Interval Start Time	Northbound SE 172nd Ave				Southbound SE 172nd Ave				Eastbound SE Sunnyside Rd				Westbound SE Sunnyside Rd				Interval Total
	L	T	R	Total	L	T	R	Total	L	T	R	Total	L	T	R	Total	
16:00	4	5	1	10	1	6	8	15	7	2	3	12	0	5	3	8	45
16:15	3	5	1	9	1	5	4	10	5	2	3	10	0	4	2	6	35
16:30	2	3	1	6	1	6	2	9	4	2	2	8	0	3	2	5	28
16:45	2	2	0	4	0	4	1	5	2	2	2	6	0	2	0	2	17

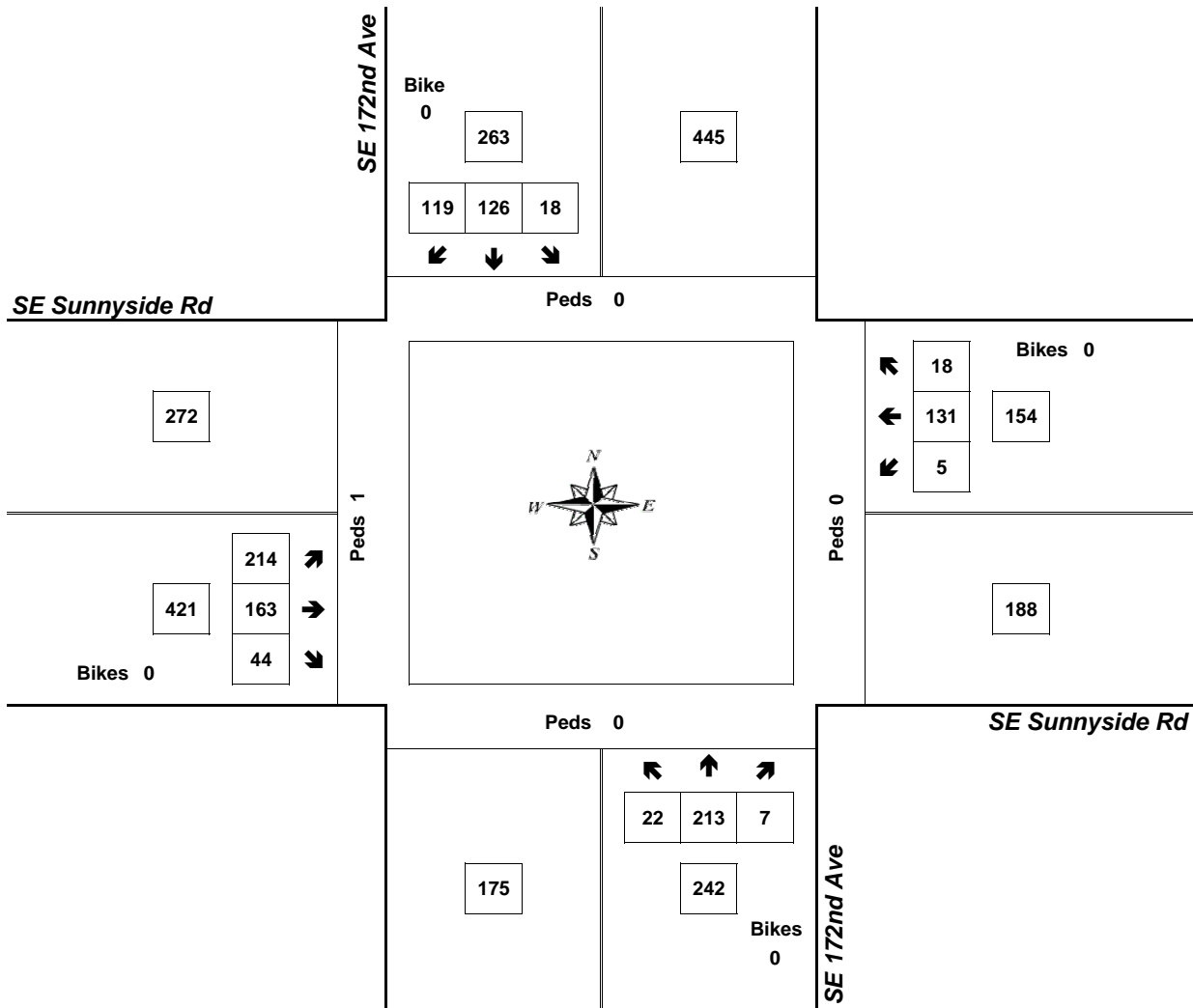
Peak Hour Summary



Clay Carney
(503) 833-2740

SE 172nd Ave & SE Sunnyside Rd

4:45 PM to 5:45 PM
Tuesday, January 17, 2006



Approach	PHF	HV%	Volume
EB	0.87	1.4%	421
WB	0.79	1.3%	154
NB	0.92	1.7%	242
SB	0.78	1.9%	263
Intersection	0.90	1.6%	1,080

Count Period: 4:00 PM to 6:00 PM

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
01/17/06	1	18	4	0	1	0	0	0	0	0	0	0	0	1	25
01:00	1	7	1	0	0	0	0	0	0	0	0	0	0	0	9
02:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	5	3	0	1	0	0	0	0	0	0	0	0	1	10
05:00	0	16	6	0	2	0	0	0	0	0	0	0	0	3	27
06:00	0	48	18	0	4	0	0	0	0	0	0	0	0	0	70
07:00	0	125	40	2	5	3	6	1	0	0	0	0	0	2	184
08:00	0	111	54	2	10	5	5	1	0	2	0	0	0	1	191
09:00	0	91	46	0	7	3	6	0	0	2	0	0	0	3	158
10:00	0	123	56	1	13	6	5	1	0	2	0	0	0	2	209
11:00	0	161	41	0	9	1	8	1	0	1	0	0	0	1	223
12 PM	5	184	49	0	16	7	7	2	0	3	0	0	0	3	276
13:00	1	168	66	3	14	9	7	0	0	1	0	0	0	2	271
14:00	0	269	77	0	19	7	9	2	0	2	0	0	0	3	388
15:00	0	255	93	1	12	4	6	3	0	3	0	0	0	2	379
16:00	0	283	84	1	17	0	0	0	1	0	0	0	0	0	386
17:00	0	314	98	0	17	0	0	1	0	0	0	0	0	1	431
18:00	0	243	66	0	16	0	0	0	0	0	0	0	0	0	325
19:00	1	196	59	0	9	0	0	0	0	0	0	0	0	0	265
20:00	0	124	40	0	9	0	0	2	0	0	0	0	0	0	175
21:00	2	104	25	0	4	0	0	0	0	0	0	0	0	1	136
22:00	1	55	18	0	1	0	0	0	0	0	0	0	0	1	76
23:00	1	32	3	0	0	0	0	0	0	0	0	0	0	2	38
Total	13	2940	950	10	186	45	59	14	1	16	0	0	0	29	4263
Percent	0.3%	69.0%	22.3%	0.2%	4.4%	1.1%	1.4%	0.3%	0.0%	0.4%	0.0%	0.0%	0.0%	0.7%	
AM Peak	00:00	11:00	10:00	07:00	10:00	10:00	11:00	07:00		08:00				05:00	
Vol.	1	161	56	2	13	6	8	1		2				3	
PM Peak	12:00	17:00	17:00	13:00	14:00	13:00	14:00	15:00	16:00	12:00				12:00	
Vol.	5	314	98	3	19	9	9	3	1	3				3	

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
01/18/06	0	18	1	0	1	0	0	0	0	0	0	0	0	0	20
01:00	0	11	2	0	0	0	0	0	0	0	0	0	0	1	14
02:00	0	4	3	0	0	0	0	0	0	0	0	0	0	0	7
03:00	0	3	1	0	0	0	0	0	0	0	0	0	0	1	5
04:00	0	5	1	0	0	0	0	0	0	0	0	0	0	1	7
05:00	1	22	7	0	0	0	0	0	0	0	0	0	0	0	30
06:00	6	59	11	0	3	0	0	0	0	0	0	0	0	1	80
07:00	11	156	26	1	8	0	0	1	0	0	0	0	0	2	205
08:00	8	136	29	2	9	2	0	1	0	0	0	0	0	0	187
09:00	6	111	23	0	10	4	0	0	0	1	0	0	0	19	174
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	1	93	33	2	3	3	0	2	1	0	0	0	1	21	160
12 PM	1	172	43	0	15	4	0	1	0	0	0	0	0	4	240
13:00	5	203	49	0	19	6	1	2	0	0	0	0	0	0	285
14:00	7	239	51	1	15	7	0	1	1	0	0	0	0	2	324
15:00	9	270	64	2	20	0	0	1	0	0	0	0	0	1	367
16:00	5	300	71	1	15	2	0	1	1	1	0	0	0	2	399
17:00	6	319	77	0	12	1	0	0	0	0	0	0	0	3	418
18:00	4	254	38	0	11	0	0	0	0	0	0	0	0	0	307
19:00	3	187	42	0	1	0	0	0	1	0	0	0	0	1	235
20:00	1	189	33	0	9	1	0	0	0	0	0	0	0	2	235
21:00	3	144	18	0	4	0	0	0	0	0	0	0	0	0	169
22:00	3	81	9	0	1	0	0	0	0	0	0	0	0	1	95
23:00	1	42	7	0	2	0	0	0	0	0	0	0	0	0	52
Total	81	3018	639	9	158	30	1	10	4	2	0	0	1	62	4015
Percent	2.0%	75.2%	15.9%	0.2%	3.9%	0.7%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	1.5%	
AM Peak	07:00	07:00	11:00	08:00	09:00	09:00		11:00	11:00	09:00			11:00	11:00	
Vol.	11	156	33	2	10	4		2	1	1			1	21	
PM Peak	15:00	17:00	17:00	15:00	15:00	14:00	13:00	13:00	14:00	16:00				12:00	
Vol.	9	319	77	2	20	7	1	2	1	1				4	
Grand Total	94	5958	1589	19	344	75	60	24	5	18	0	0	1	91	8278
Percent	1.1%	72.0%	19.2%	0.2%	4.2%	0.9%	0.7%	0.3%	0.1%	0.2%	0.0%	0.0%	0.0%	1.1%	

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
01/17/06	1	15	2	0	1	0	0	0	0	0	0	0	0	0	19
01:00	1	4	1	0	0	0	0	0	0	0	0	0	0	0	6
02:00	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
03:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
04:00	0	24	6	0	0	0	0	0	1	0	0	0	0	0	31
05:00	0	64	16	0	5	0	0	1	1	2	0	0	0	1	90
06:00	2	158	53	0	12	1	0	0	0	0	0	0	1	1	228
07:00	1	268	82	0	10	3	0	0	0	0	0	0	0	2	366
08:00	10	231	61	5	20	11	2	2	1	3	0	0	1	2	349
09:00	3	162	47	1	12	11	0	1	0	1	0	0	0	1	239
10:00	0	152	68	1	18	15	0	0	0	0	0	0	0	0	254
11:00	1	164	66	2	16	12	0	1	1	0	0	0	1	1	265
12 PM	3	194	51	1	14	14	0	4	1	1	0	0	0	1	284
13:00	1	175	39	2	7	12	3	1	0	0	0	0	1	2	243
14:00	1	153	47	4	14	10	4	0	1	2	0	0	0	0	236
15:00	0	197	53	1	11	5	2	0	0	0	0	0	0	3	272
16:00	2	191	65	2	14	4	2	0	0	0	0	0	0	2	282
17:00	0	214	64	0	11	0	0	0	0	1	0	0	0	0	290
18:00	0	181	54	0	6	0	0	0	0	0	0	0	0	1	242
19:00	0	106	29	0	6	0	0	0	0	0	0	0	0	2	143
20:00	0	86	36	0	4	0	0	0	0	0	0	0	0	0	126
21:00	0	73	19	0	3	0	0	0	0	0	0	0	0	0	95
22:00	0	29	9	0	1	0	0	0	0	0	0	0	0	1	40
23:00	0	15	11	0	3	0	0	0	0	0	0	0	0	0	29
Total	26	2869	880	19	188	98	13	10	6	10	0	0	4	20	4143
Percent	0.6%	69.2%	21.2%	0.5%	4.5%	2.4%	0.3%	0.2%	0.1%	0.2%	0.0%	0.0%	0.1%	0.5%	
AM Peak	08:00	07:00	07:00	08:00	08:00	10:00	08:00	08:00	04:00	08:00			06:00	07:00	
Vol.	10	268	82	5	20	15	2	2	1	3			1	2	
PM Peak	12:00	17:00	16:00	14:00	12:00	12:00	14:00	12:00	12:00	14:00			13:00	15:00	
Vol.	3	214	65	4	14	14	4	4	1	2			1	3	

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
01/18/06	0	9	3	0	0	0	0	0	0	0	0	0	0	0	12
01:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
03:00	0	8	2	0	0	0	0	0	0	0	0	0	0	0	10
04:00	0	22	3	0	1	0	0	0	0	0	0	0	0	1	27
05:00	0	67	17	0	6	0	0	0	0	0	0	0	2	0	92
06:00	0	155	64	0	10	0	0	0	0	1	0	0	1	1	232
07:00	1	266	74	1	8	2	0	0	0	0	0	0	0	2	354
08:00	0	235	62	6	15	12	0	0	2	0	0	1	0	1	334
09:00	0	168	58	0	14	2	0	2	0	0	0	0	0	2	246
10:00	2	153	59	2	11	5	3	2	2	0	0	0	0	1	240
11:00	4	189	48	3	13	4	2	2	2	0	0	0	0	2	269
12 PM	5	167	59	1	18	4	3	1	1	0	0	0	0	1	260
13:00	1	173	55	1	13	3	2	1	1	0	0	0	0	0	250
14:00	4	168	67	1	13	2	1	0	1	0	0	0	0	2	259
15:00	2	195	54	2	13	2	1	2	1	0	0	0	0	0	272
16:00	1	217	81	1	14	1	0	1	0	0	0	0	0	1	317
17:00	1	227	81	1	14	1	0	1	0	0	0	0	0	3	329
18:00	0	196	52	0	8	0	0	0	0	0	0	0	0	2	258
19:00	0	133	39	0	8	0	0	1	0	0	0	0	0	1	182
20:00	0	101	19	0	3	0	0	0	0	0	0	0	0	0	123
21:00	0	70	16	0	2	0	0	0	0	0	0	0	0	1	89
22:00	0	43	6	0	2	0	0	0	0	0	0	0	0	0	51
23:00	0	24	11	0	1	0	0	0	0	0	0	0	0	0	36
Total	21	2996	933	19	187	38	12	13	10	1	0	1	3	21	4255
Percent	0.5%	70.4%	21.9%	0.4%	4.4%	0.9%	0.3%	0.3%	0.2%	0.0%	0.0%	0.0%	0.1%	0.5%	
AM Peak	11:00	07:00	07:00	08:00	08:00	08:00	10:00	09:00	08:00	06:00		08:00	05:00	07:00	
Vol.	4	266	74	6	15	12	3	2	2	1		1	2	2	
PM Peak	12:00	17:00	16:00	15:00	12:00	12:00	12:00	15:00	12:00					17:00	
Vol.	5	227	81	2	18	4	3	2	1					3	
Grand Total	47	5865	1813	38	375	136	25	23	16	11	0	1	7	41	8398
Percent	0.6%	69.8%	21.6%	0.5%	4.5%	1.6%	0.3%	0.3%	0.2%	0.1%	0.0%	0.0%	0.1%	0.5%	

EB

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
01/17/06	1	0	0	2	4	6	10	1	1	0	0	0	0	0	25	44	50
01:00	0	0	0	1	1	3	3	1	0	0	0	0	0	0	9	43	46
02:00	0	0	0	0	1	1	2	0	0	1	0	0	0	0	5	42	56
03:00	0	0	0	0	1	1	3	1	0	0	0	0	0	0	6	43	46
04:00	1	0	1	0	1	2	2	2	1	0	0	0	0	0	10	46	47
05:00	3	0	0	1	6	9	5	3	0	0	0	0	0	0	27	44	47
06:00	3	0	0	4	20	17	18	7	0	0	1	0	0	0	70	44	47
07:00	10	1	2	1	21	85	54	9	1	0	0	0	0	0	184	44	46
08:00	8	0	2	0	20	77	63	16	5	0	0	0	0	0	191	45	49
09:00	24	2	3	6	22	56	36	8	0	1	0	0	0	0	158	43	46
10:00	27	2	1	15	28	60	58	14	3	1	0	0	0	0	209	44	48
11:00	44	1	7	7	23	63	60	16	2	0	0	0	0	0	223	44	47
12 PM	16	1	4	15	42	69	97	27	5	0	0	0	0	0	276	45	49
13:00	13	4	4	6	24	104	103	12	0	1	0	0	0	0	271	44	45
14:00	7	0	1	6	67	179	105	21	2	0	0	0	0	0	388	44	46
15:00	5	0	2	2	28	136	168	33	3	2	0	0	0	0	379	45	48
16:00	0	0	1	10	28	121	180	38	5	3	0	0	0	0	386	45	49
17:00	1	0	3	2	19	159	197	45	5	0	0	0	0	0	431	45	49
18:00	0	0	1	4	42	124	118	33	3	0	0	0	0	0	325	45	48
19:00	9	0	5	3	21	81	102	35	8	1	0	0	0	0	265	46	50
20:00	0	0	0	8	25	56	67	16	2	1	0	0	0	0	175	45	48
21:00	1	0	0	4	24	48	39	16	4	0	0	0	0	0	136	45	49
22:00	1	0	0	0	9	23	21	17	4	1	0	0	0	0	76	48	51
23:00	2	0	0	0	5	10	12	6	3	0	0	0	0	0	38	47	51
Total	176	11	37	97	482	1490	1523	377	57	12	1	0	0	0	4263		
Percent	4.1%	0.3%	0.9%	2.3%	11.3%	35.0%	35.7%	8.8%	1.3%	0.3%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	09:00	11:00	10:00	10:00	07:00	08:00	08:00	08:00	02:00	06:00				11:00		
Vol.	44	2	7	15	28	85	63	16	5	1	1				223		
PM Peak	12:00	13:00	19:00	12:00	14:00	14:00	17:00	17:00	19:00	16:00					17:00		
Vol.	16	4	5	15	67	179	197	45	8	3					431		

EB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	85th Percent	95th Percent
01/18/06	0	0	0	0	1	3	12	3	1	0	0	0	0	0	20	46	48
01:00	1	0	0	0	3	3	4	2	1	0	0	0	0	0	14	46	47
02:00	0	0	0	0	0	0	4	2	0	0	1	0	0	0	7	47	61
03:00	1	0	0	0	3	0	1	0	0	0	0	0	0	0	5	33	41
04:00	1	0	1	0	0	3	1	1	0	0	0	0	0	0	7	45	46
05:00	3	0	0	2	3	11	9	2	0	0	0	0	0	0	30	43	45
06:00	4	0	0	0	5	36	23	12	0	0	0	0	0	0	80	45	48
07:00	21	3	0	0	13	61	80	21	5	1	0	0	0	0	205	45	49
08:00	18	0	0	3	17	64	60	22	3	0	0	0	0	0	187	45	49
09:00	14	1	1	4	22	50	61	18	3	0	0	0	0	0	174	45	48
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
11:00	23	5	10	22	47	27	24	2	0	0	0	0	0	0	160	41	44
12 PM	9	2	2	16	37	79	75	16	3	1	0	0	0	0	240	44	48
13:00	11	3	4	8	33	110	87	19	10	0	0	0	0	0	285	45	49
14:00	15	4	0	8	52	115	98	30	2	0	0	0	0	0	324	45	48
15:00	11	3	2	6	34	116	141	48	6	0	0	0	0	0	367	45	49
16:00	5	1	1	7	28	133	161	56	7	0	0	0	0	0	399	46	49
17:00	18	8	7	3	22	142	183	31	4	0	0	0	0	0	418	45	48
18:00	2	0	2	8	11	114	119	40	10	1	0	0	0	0	307	46	50
19:00	3	0	1	2	11	55	123	35	4	1	0	0	0	0	235	46	49
20:00	5	0	2	2	13	74	101	33	4	1	0	0	0	0	235	46	49
21:00	2	0	0	0	6	38	94	24	4	1	0	0	0	0	169	46	50
22:00	2	0	0	1	5	15	45	23	4	0	0	0	0	0	95	48	50
23:00	1	0	0	0	3	6	23	16	2	1	0	0	0	0	52	49	50
Total	170	30	33	92	369	1255	1529	456	73	7	1	0	0	0	4015		
Percent	4.2%	0.7%	0.8%	2.3%	9.2%	31.3%	38.1%	11.4%	1.8%	0.2%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	11:00	11:00	11:00	11:00	08:00	07:00	08:00	07:00	07:00	02:00				07:00		
Vol.	23	5	10	22	47	64	80	22	5	1	1				205		
PM Peak	17:00	17:00	17:00	12:00	14:00	17:00	17:00	16:00	13:00	12:00					17:00		
Vol.	18	8	7	16	52	142	183	56	10	1					418		
Grand Total	346	41	70	189	851	2745	3052	833	130	19	2	0	0	0	8278		
Percent	4.2%	0.5%	0.8%	2.3%	10.3%	33.2%	36.9%	10.1%	1.6%	0.2%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 34 MPH
 50th Percentile : 40 MPH
 85th Percentile : 45 MPH
 95th Percentile : 49 MPH

Statistics
 10 MPH Pace Speed : 36-45 MPH
 Number in Pace : 5797
 Percent in Pace : 70.0%
 Number of Vehicles > 35 MPH : 6781
 Percent of Vehicles > 35 MPH : 81.9%
 Mean Speed(Average) : 39 MPH

WB

Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	85th Percent	95th Percent
01/17/06	0	0	0	1	5	9	4	0	0	0	0	0	0	0	19	41	43
01:00	0	0	0	1	1	1	2	0	1	0	0	0	0	0	6	42	51
02:00	1	0	0	0	0	2	3	1	0	0	0	0	0	0	7	43	46
03:00	1	0	0	3	0	2	1	0	0	0	0	0	0	0	7	37	41
04:00	1	0	0	1	4	9	7	9	0	0	0	0	0	0	31	47	49
05:00	3	0	0	5	16	23	29	13	1	0	0	0	0	0	90	45	48
06:00	6	0	0	7	49	79	61	22	3	1	0	0	0	0	228	45	49
07:00	11	0	6	29	73	111	107	28	1	0	0	0	0	0	366	44	47
08:00	24	1	11	38	95	98	63	17	2	0	0	0	0	0	349	43	46
09:00	10	2	4	21	61	63	54	17	5	2	0	0	0	0	239	44	49
10:00	12	0	2	3	32	72	88	38	7	0	0	0	0	0	254	46	50
11:00	6	1	0	9	27	80	85	45	12	0	0	0	0	0	265	47	50
12 PM	18	1	2	19	36	71	90	39	7	1	0	0	0	0	284	46	50
13:00	8	1	4	3	22	77	79	38	11	0	0	0	0	0	243	47	50
14:00	9	3	9	8	20	51	75	45	14	2	0	0	0	0	236	48	52
15:00	2	3	1	2	27	82	84	55	15	1	0	0	0	0	272	48	51
16:00	11	3	5	10	28	57	83	69	12	3	1	0	0	0	282	49	51
17:00	6	1	2	6	24	81	103	57	10	0	0	0	0	0	290	47	50
18:00	1	0	2	3	30	64	90	44	6	1	0	1	0	0	242	47	50
19:00	3	0	0	1	10	54	40	26	5	4	0	0	0	0	143	48	52
20:00	0	0	2	1	7	15	62	26	11	2	0	0	0	0	126	49	53
21:00	0	0	0	3	8	33	22	22	6	1	0	0	0	0	95	49	51
22:00	3	0	0	0	5	7	17	3	5	0	0	0	0	0	40	49	53
23:00	0	0	0	0	2	10	8	7	2	0	0	0	0	0	29	48	51
Total	136	16	50	174	582	1151	1257	621	136	18	1	1	0	0	4143		
Percent	3.3%	0.4%	1.2%	4.2%	14.0%	27.8%	30.3%	15.0%	3.3%	0.4%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	09:00	08:00	08:00	08:00	07:00	07:00	11:00	11:00	09:00					07:00		
Vol.	24	2	11	38	95	111	107	45	12	2					366		
PM Peak	12:00	14:00	14:00	12:00	12:00	15:00	17:00	16:00	15:00	19:00	16:00	18:00			17:00		
Vol.	18	3	9	19	36	82	103	69	15	4	1	1			290		

WB

Start Time	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	85th Percent	95th Percent
	15	20	25	30	35	40	45	50	55	60	65	70	75	999			
01/18/06	0	0	0	1	2	1	2	3	2	1	0	0	0	0	12	51	52
01:00	0	0	0	0	1	0	1	2	0	0	1	0	0	0	5	47	61
02:00	0	0	0	1	0	3	3	1	0	0	0	0	0	0	8	43	46
03:00	0	0	0	0	2	6	1	1	0	0	0	0	0	0	10	40	45
04:00	1	0	0	0	3	9	9	4	1	0	0	0	0	0	27	46	49
05:00	3	0	0	1	10	29	28	15	5	1	0	0	0	0	92	48	51
06:00	5	0	1	3	21	54	88	45	13	2	0	0	0	0	232	48	51
07:00	8	3	7	6	29	88	129	65	18	1	0	0	0	0	354	48	51
08:00	11	3	10	10	37	85	111	51	14	2	0	0	0	0	334	47	50
09:00	9	2	2	15	31	57	87	29	13	1	0	0	0	0	246	46	51
10:00	5	0	3	12	21	64	92	37	5	1	0	0	0	0	240	46	50
11:00	33	2	3	24	55	85	52	13	2	0	0	0	0	0	269	43	46
12 PM	15	0	3	16	47	61	74	35	8	1	0	0	0	0	260	46	50
13:00	4	1	1	8	23	65	94	41	13	0	0	0	0	0	250	47	50
14:00	14	0	1	12	30	59	80	44	15	4	0	0	0	0	259	48	52
15:00	7	0	3	5	22	64	104	45	19	3	0	0	0	0	272	48	52
16:00	10	1	5	3	24	69	93	79	25	5	2	0	0	1	317	49	54
17:00	9	3	3	5	26	73	98	85	26	1	0	0	0	0	329	49	52
18:00	12	0	1	0	18	52	98	59	15	3	0	0	0	0	258	49	52
19:00	11	0	1	2	3	35	66	38	24	2	0	0	0	0	182	50	54
20:00	6	0	0	1	7	20	42	33	14	0	0	0	0	0	123	50	53
21:00	1	0	0	1	4	16	30	23	11	3	0	0	0	0	89	51	55
22:00	3	1	0	0	4	13	16	10	4	0	0	0	0	0	51	48	51
23:00	2	0	0	0	4	5	13	8	3	0	1	0	0	0	36	49	52
Total	169	16	44	126	424	1013	1411	766	250	31	4	0	0	1	4255		
Percent	4.0%	0.4%	1.0%	3.0%	10.0%	23.8%	33.2%	18.0%	5.9%	0.7%	0.1%	0.0%	0.0%	0.0%			
AM Peak	11:00	07:00	08:00	11:00	11:00	07:00	07:00	07:00	07:00	06:00	01:00				07:00		
Vol.	33	3	10	24	55	88	129	65	18	2	1				354		
PM Peak	12:00	17:00	16:00	12:00	12:00	17:00	15:00	17:00	17:00	16:00	16:00			16:00	17:00		
Vol.	15	3	5	16	47	73	104	85	26	5	2			1	329		
Grand Total	305	32	94	300	1006	2164	2668	1387	386	49	5	1	0	1	8398		
Percent	3.6%	0.4%	1.1%	3.6%	12.0%	25.8%	31.8%	16.5%	4.6%	0.6%	0.1%	0.0%	0.0%	0.0%			

15th Percentile : 33 MPH
 50th Percentile : 41 MPH
 85th Percentile : 48 MPH
 95th Percentile : 51 MPH

Statistics
 10 MPH Pace Speed : 36-45 MPH
 Number in Pace : 4832
 Percent in Pace : 57.5%
 Number of Vehicles > 35 MPH : 6661
 Percent of Vehicles > 35 MPH : 79.3%
 Mean Speed(Average) : 40 MPH

 Sunnyside Road Phase 3B Amendment
 2005 Existing Conditions
 AM Peak Hour

Scenario Report

Scenario: AM
 Command: AM
 Volume: AM
 Geometry: AM
 Impact Fee: Default Impact Fee
 Trip Generation: Default Trip Generation
 Trip Distribution: Default Trip Distribution
 Paths: Default Paths
 Routes: Default Routes
 Configuration: Default Configuration

 Sunnyside Road Phase 3B Amendment
 2005 Existing Conditions
 AM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS Veh	V/ C	Del/ LOS Veh	V/ C	
# 21 172nd Ave/Sunnyside Rd	B 13.4	0.578	B 13.4	0.578	+ 0.000 V/C

Sunnyside Road Phase 3B Amendment
 2005 Existing Conditions
 AM Peak Hour

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #21 172nd Ave/Sunnyside Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.578
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 13.4
 Optimal Cycle: 0 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0

Volume Module: >> Count Date: 17 Jan 2006 << 720-820

Base Vol:	33	113	3	11	155	136	113	97	15	5	184	13
Growth 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
Initial Bse:	33	113	3	11	155	136	113	97	15	5	184	13
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	113	3	11	155	136	113	97	15	5	184	13
User 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
PHF Adj:	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
PHF Volume:	40	136	4	13	187	164	136	117	18	6	222	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	40	136	4	13	187	164	136	117	18	6	222	16
PCE 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
MLF 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
Final Vol.:	40	136	4	13	187	164	136	117	18	6	222	16

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.22	0.76	0.02	0.04	0.51	0.45	0.50	0.43	0.07	0.02	0.92	0.06
Final Sat.:	120	411	11	23	323	284	286	246	38	14	518	37

Capacity Analysis Module:

Vol/Sat:	0.33	0.33	0.33	0.58	0.58	0.58	0.48	0.48	0.48	0.43	0.43	0.43
Crit Moves:	****			****			****			****		
Delay/Veh:	11.5	11.5	11.5	14.7	14.7	14.7	13.4	13.4	13.4	12.6	12.6	12.6
Delay 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
AdjDel/Veh:	11.5	11.5	11.5	14.7	14.7	14.7	13.4	13.4	13.4	12.6	12.6	12.6
LOS by Move:	B	B	B	B	B	B	B	B	B	B	B	B
ApproachDel:	11.5			14.7			13.4			12.6		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	11.5			14.7			13.4			12.6		
LOS by Appr:	B			B			B			B		

 Sunnyside Road Phase 3B Amendment
 2005 Existing Conditions
 PM Peak Hour

Scenario Report

Scenario: PM
 Command: PM
 Volume: PM
 Geometry: PM
 Impact Fee: Default Impact Fee
 Trip Generation: Default Trip Generation
 Trip Distribution: Default Trip Distribution
 Paths: Default Paths
 Routes: Default Routes
 Configuration: Default Configuration

 Sunnyside Road Phase 3B Amendment
 2005 Existing Conditions
 PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS Veh	V/ C	Del/ LOS Veh	V/ C	
# 21 172nd Ave/Sunnyside Rd	C 19.0	0.796	C 19.0	0.796	+ 0.000 V/C

Sunnyside Road Phase 3B Amendment
 2005 Existing Conditions
 PM Peak Hour

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #21 172nd Ave/Sunnyside Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.796
 Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 19.0
 Optimal Cycle: 0 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0

Volume Module: >> Count Date: 17 Jan 2006 << 445-545

Base Vol:	22	213	7	18	126	119	214	163	44	5	131	18
Growth 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
Initial Bse:	22	213	7	18	126	119	214	163	44	5	131	18
User 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
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	24	237	8	20	140	132	238	181	49	6	146	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	237	8	20	140	132	238	181	49	6	146	20
PCE 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
MLF 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
Final Vol.:	24	237	8	20	140	132	238	181	49	6	146	20

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.09	0.88	0.03	0.07	0.48	0.45	0.51	0.39	0.10	0.03	0.85	0.12
Final Sat.:	47	457	15	37	261	246	299	228	61	16	417	57

Capacity Analysis Module:

Vol/Sat:	0.52	0.52	0.52	0.54	0.54	0.54	0.80	0.80	0.80	0.35	0.35	0.35
Crit Moves:	****			****			****			****		
Delay/Veh:	15.0	15.0	15.0	14.9	14.9	14.9	26.3	26.3	26.3	12.3	12.3	12.3
Delay 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
AdjDel/Veh:	15.0	15.0	15.0	14.9	14.9	14.9	26.3	26.3	26.3	12.3	12.3	12.3
LOS by Move:	C	C	C	B	B	B	D	D	D	B	B	B
ApproachDel:	15.0			14.9			26.3			12.3		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	15.0			14.9			26.3			12.3		
LOS by Appr:	C			B			D			B		

Sunnyside Road Phase 3B Amendment
2030 Future Conditions - No Build
PM Peak Hour

Scenario Report

Scenario: Default Scenario
Command: Default Command
Volume: Default Volume
Geometry: Default Geometry
Impact Fee: Default Impact Fee
Trip Generation: Default Trip Generation
Trip Distribution: Default Trip Distribution
Paths: Default Paths
Routes: Default Routes
Configuration: Default Configuration

Sunnyside Road Phase 3B Amendment
2030 Future Conditions - No Build
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS Veh	V/ C	Del/ LOS Veh	V/ C	
# 21 172nd Ave/Sunnyside Rd	F OVRFL	4.112	F OVRFL	4.112	+ 0.000 V/C

Sunnyside Road Phase 3B Amendment
2030 Future Conditions - No Build
PM Peak Hour

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #21 172nd Ave/Sunnyside Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 4.112
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 1199.7
Optimal Cycle: 0 Level Of Service: F

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and 3 rows: Movement, Control, Rights, Min. Green, Lanes.

Volume Module:

Table with 12 columns representing different traffic volumes and 12 rows representing various adjustment factors like Growth Adj, Initial Bse, Added Vol, etc.

Saturation Flow Module:

Table with 12 columns and 3 rows: Adjustment, Lanes, Final Sat.

Capacity Analysis Module:

Table with 12 columns and 10 rows: Vol/Sat, Crit Moves, Delay/Veh, Delay Adj, AdjDel/Veh, LOS by Move, ApproachDel, Delay Adj, ApprAdjDel, LOS by Appr.

Sunnyside Road Phase 3B Amendment
2030 Future Conditions
PM Peak Hour

Scenario Report

Scenario: Default Scenario
Command: Default Command
Volume: Default Volume
Geometry: Default Geometry
Impact Fee: Default Impact Fee
Trip Generation: Default Trip Generation
Trip Distribution: Default Trip Distribution
Paths: Default Paths
Routes: Default Routes
Configuration: Default Configuration

Sunnyside Road Phase 3B Amendment
2030 Future Conditions
PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base		Future		Change in
	Del/ LOS Veh	V/ C	Del/ LOS Veh	V/ C	
# 21 172nd Ave/Sunnyside Rd	D 44.5	0.856	D 44.5	0.856	+ 0.000 D/V

Sunnyside Road Phase 3B Amendment
2030 Future Conditions
PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #21 172nd Ave/Sunnyside Rd

Cycle (sec): 120 Critical Vol./Cap. (X): 0.856
Loss Time (sec): 16 (Y+R = 4 sec) Average Delay (sec/veh): 44.5
Optimal Cycle: 110 Level Of Service: D

Table with 4 columns: Approach (North Bound, South Bound, East Bound, West Bound) and Movement (L, T, R). Rows include Control, Rights, Min. Green, and Lanes.

Volume Module table with 12 columns representing different traffic volumes and 12 rows for various adjustment factors like Base Vol, Growth Adj, Initial Bse, etc.

Saturation Flow Module table with 12 columns for saturation flow and 4 rows for Sat/Lane, Adjustment, Lanes, and Final Sat.

Capacity Analysis Module table with 12 columns for capacity metrics and 10 rows for Vol/Sat, Crit Moves, Green/Cycle, etc.
