

## SECTION 5 PROJECT EFFECTS

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### *How will the project affect freeway traffic volumes in the study area?*

The Build Alternative will add capacity and allow more people to use I-405 and SR 167 in the study area compared to the No Build Alternative. The project will rebuild and improve the efficiency of the I-405/SR 167 interchange by removing a bottleneck in the center of the study area. The Build Alternative will also improve the surface streets at the I-405 interchanges with SR 181, SR 167 and SR 169 to allow more vehicles to access I-405.

Compared to the Build Alternative, the flow of traffic with the No Build Alternative would become constrained and fewer drivers would be able to use I-405 and SR 167. Freeway delays would force drivers to seek alternate routes on local and regional roadways, choose to travel by different means or different time, or forego their desired trips altogether.

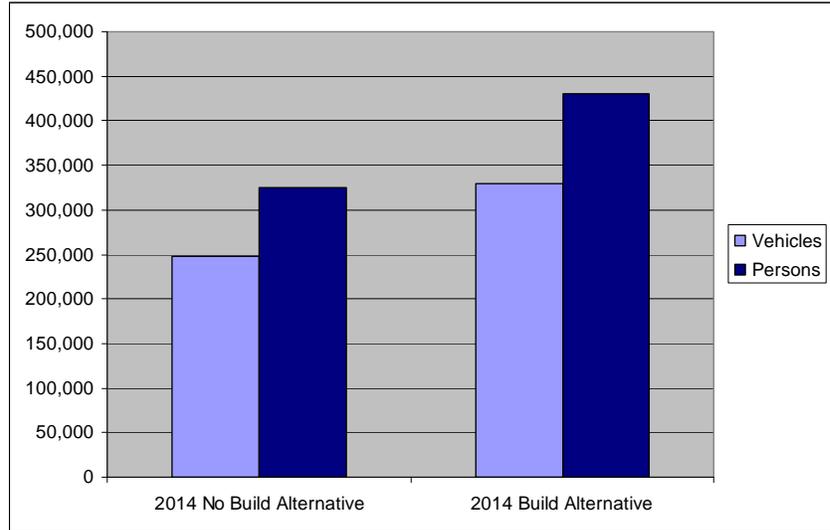
### **Daily Traffic**

Traffic analysts define weekday traffic volumes as two-directional totals with northbound and southbound traffic added together. In 2014, for the section of I-405 between I-5 and SR 167, we forecast that the Build Alternative will carry 192,000 vehicles during an average weekday. This will be 15 percent more than the 167,000 daily vehicles predicted with the No Build Alternative. For the section of I-405 between SR 167 and SR 169, we forecast that in 2014 the Build Alternative will carry 209,000 vehicles. When compared to the 166,000 vehicles with the No Build Alternative, this is a 26-percent increase. In 2014, average weekday traffic volumes for SR 167 will be 170,000 vehicles with the Build Alternative and 143,000 vehicles with the No Build Alternative, a 19 percent increase. Of these 2014 daily traffic volumes, 9 percent is expected to be truck traffic.

The Build Alternative will rebuild the I-405/SR 167 interchange, adding capacity and improving the efficiency of the freeway system. Exhibit 5-1 shows the total number of vehicles and people traveling through the I-405/ SR 167 interchange in 2014 for the hours between 6:00 to 11:00 AM, and between 2:00 to 7:00 PM. For the combined 10 hours, the 2014 Build Alternative will carry 330,100 vehicles and 430,500

persons through the I-405/SR 167 interchange, 33 percent more than the 248,000 vehicles and 324,500 people forecasted for the 2014 No Build Alternative.

*Exhibit 5-1: 2014 Build and No Build Alternative Total Number of Vehicles and Persons Traveling through the I-405/SR 167 Interchange for the 10 Hours from 6:00 to 11:00 AM and from 2:00 to 7:00 PM*



### Peak-Hour Traffic

The Build Alternative will increase the morning and afternoon peak-hour traffic volumes for most locations in the study area when compared to the No Build Alternative.

During the 2014 morning peak hour, the Build Alternative will carry higher traffic volumes than the No Build Alternative for all but one location. The highest increase will be for southbound I-405 from SR 169 to SR 167, where the Build Alternative is estimated to carry 6,220 vehicles in the general-purpose lanes. When compared to the No Build Alternative, which would carry 4,510 vehicles in the general-purpose lanes, this is a 38 percent increase. Northbound SR 167 traffic is forecasted to be 50 vehicles higher with the No Build Alternative than the Build Alternative. This slight increase results from the northbound SR 167 to southbound I-405 merge being more difficult due to higher southbound I-405 traffic volumes.

In the 2014 afternoon peak hour, the highest increase in traffic volumes for the Build Alternative will be for northbound I-405 compared to the No Build Alternative. For the section of northbound I-405 from I-5 to SR 167, we estimate the Build

Alternative will carry 4,380 vehicles in the general-purpose lanes. When compared to the No Build Alternative, which would carry 2,010 vehicles in the general-purpose lanes, this is a 118 percent increase. For the next section of northbound I-405 from SR 167 to SR 169, we estimate the Build Alternative will carry 5,990 vehicles in the general-purpose lanes. When compared to the No Build Alternative carrying 3,570 vehicles in the general-purpose lanes, this is a 68 percent increase.

Only southbound I-405 from SR 167 to I-5 is projected to carry fewer vehicles with the Build Alternative. We estimate the No Build Alternative would carry 3,930 vehicles in the general-purpose lanes compared to 3,600 vehicles in the general-purpose lanes with the Build Alternative. The I-405/I-5 interchange will not be improved with the Build Alternative and will continue to act as a bottleneck, limiting traffic volumes west of the study area. The Build Alternative will deliver more traffic to the section of southbound I-405 from SR 167 to I-5. However, with higher traffic volumes congestion will become worse at the I-405/I-5 interchange and fewer vehicles will be able to travel through this section than with the No Build Alternative. Exhibits 5-2 and 5-3 show the Build Alternative 2014 morning and afternoon vehicle and person trips for the general-purpose lanes and the HOV lanes.

By the year 2030, there will be an additional lane in each direction on SR 167 south of the study area because of other planned SR 167 projects. This lane addition will remove the southbound SR 167 bottleneck for vehicles trying to leave the study area during the afternoon peak hour. The new lanes on SR 167, combined with the improved I-405/SR 167 interchange, will significantly increase traffic volumes on southbound SR 167 in the afternoon peak hour. For the section of southbound SR 167 from I-405 to SW 41st Street, we estimate the Build Alternative will carry 5,670 vehicles in the general-purpose lanes as compared to 3,680 vehicles in the general-purpose lanes with the No Build Alternative. See Appendix B for the 2030 Build Alternative and No Build Alternative morning and afternoon vehicle and person trips for the general-purpose lanes and the HOV lanes.

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Exhibit 5-2: 2014 Build Alternative Morning Peak-Hour Vehicle and Person Trips, and Average Travel Speed

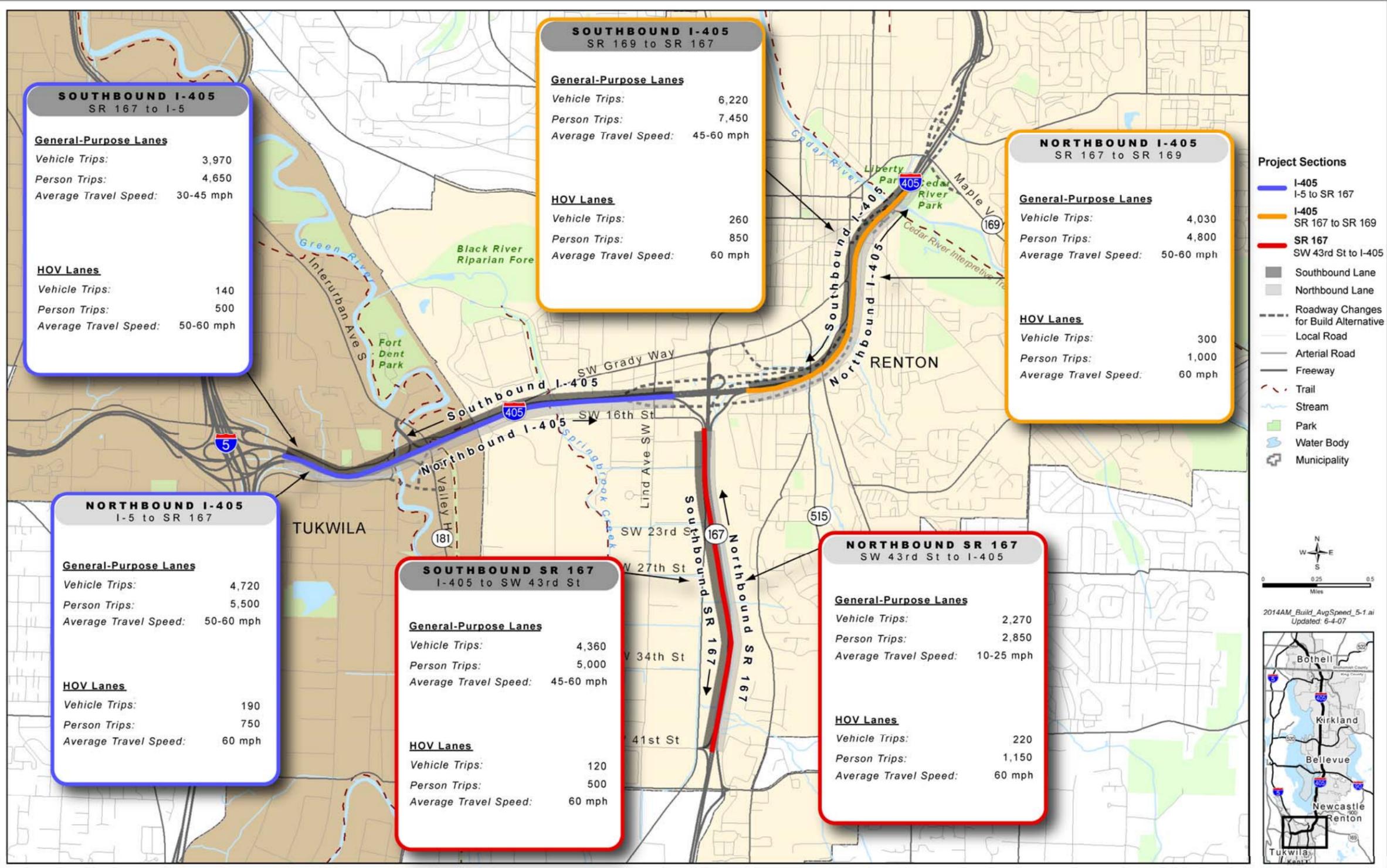
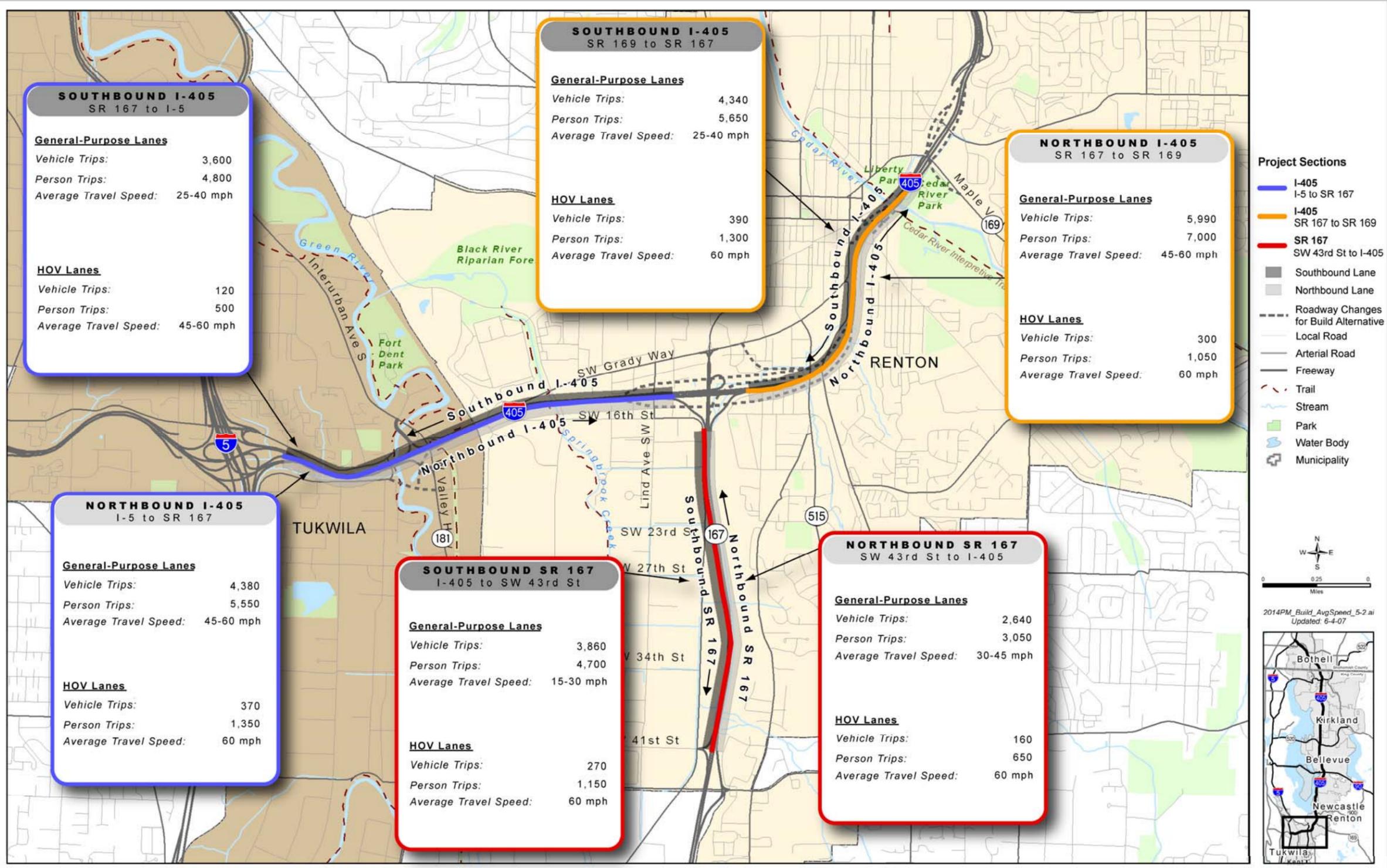


Exhibit 5-3: 2014 Build Alternative Afternoon Peak-Hour Vehicle and Person Trips, and Average Travel Speed



The Build Alternative carries the same or more traffic in the HOV lanes for all locations in the study area compared to the No Build Alternative. In 2014, the highest increase in HOV traffic volumes for the Build Alternative is for the section of northbound I-405 from I-5 to SR 167 during the afternoon peak hour. For this section of northbound I-405, the Build Alternative will carry 370 vehicles in the HOV lanes and the No Build Alternative would carry 200 vehicles in the HOV lanes.

### ***How will the project affect freeway operations in the study area?***

The Tukwila to Renton Project will add capacity to I-405 and will improve traffic operations compared to the No Build Alternative.

#### **No Build Alternative**

With the No Build Alternative, peak travel periods would continue to extend to the point that congestion would commonly last for several hours during the morning and afternoon. In the year 2014, the slowest general-purpose lanes average travel speeds would be 10 to 25 miles per hour on northbound SR 167 during the morning peak hour. By the year 2030, we believe the traffic congestion would continue to worsen and travel speeds would continue to decrease. Exhibits 4-7 and 4-8 in the baseline conditions show the No Build Alternative 2014 morning and afternoon peak-hour average travel speeds. Appendix B provides the results for the 2030 average travel speeds for the No Build Alternative and the Build Alternative.

#### **Build Alternative**

The Build Alternative will improve travel speeds for most locations in the study area compared to the No Build Alternative. The Build Alternative will rebuild the I-405/SR 167 interchange, adding capacity and improving the efficiency of the freeway system. The project will replace the southbound I-405 to southbound SR 167 loop ramp with a more efficient direct-connector ramp. This new ramp will carry more vehicles with a design speed of 45 miles per hour compared to the loop ramp with the No Build Alternative that has a design speed of 25 miles per hour.

The highest increases in freeway average travel speeds will be for northbound I-405. Compared to the No Build Alternative, the Build Alternative will increase northbound I-405 average travel speeds by 15 to 30 miles per hour during the 2014 morning peak hour, and by 20 to 30 miles per hour during the 2014 afternoon peak hour.

The Build Alternative shows lower average travel speeds in some locations because it will improve operations and deliver higher traffic volumes to the bottleneck locations at the edges of the study area. Those locations include southbound I-405 approaching the I-405/I-5 interchange and southbound SR 167 south of SW 41st Street. The higher traffic volumes will likely create more congestion in the bottleneck locations and slow travel speeds in those areas.

In the year 2014, the slowest average travel speeds in the general-purpose lanes will be 10 to 25 miles per hour on northbound SR 167 during the morning peak hour, which is the same condition as forecasted for the No Build Alternative. The high volume of northbound SR 167 vehicles trying to merge onto northbound I-405 will cause the slow travel speeds.

The Build Alternative will improve freight travel speeds and travel time reliability compared to the No Build Alternative. Exhibits 5-2 and 5-3 show the Build Alternative 2014 morning and afternoon peak-hour average travel speeds.

### ***How will the project affect freeway safety?***

Historically, the majority of crashes on I-405 have been rear-end collisions related to congestion. The Build Alternative will add capacity to I-405 and SR 167, and reduce stop-and-go traffic compared to the No Build Alternative. The reduced congestion should decrease the overall crash rate in the study area, in particular the frequency of rear-end crashes on I-405 and SR 167.

Consistent with the I-405 Corridor Program, the Build Alternative will limit access to the HOV lanes to designated locations, and add a four-foot-wide striped buffer separating the HOV lane from the general-purpose lanes. The Build Alternative will have a buffer on I-405 between SR 181 and SR 169, and on SR 167 between SW 43rd Street and I-405. This wider separation distance will reduce the frequency and

severity of accidents compared to the No Build HOV lane configuration.

The limited entry and exit points, along with a designed merging area to enter the HOV lane, will reduce the number of sideswipe and rear-end accidents between the HOV lane and the general-purpose lanes. The Build Alternative will increase safety by defining problem weaving areas and by providing a specific lane where the weaving will occur.

The Build Alternative improves the I-405 interchanges at SR 181, SR 167, and SR 169, and the nearby surface streets. These improvements will rebuild the following four High Accident Locations (HALs) on I-405:

- I-405 southbound off-ramp to southbound SR 167;
- I-405 southbound off-ramp to northbound SR 167 (Rainier Avenue S);
- I-405 northbound collector-distributor lane at SR 167; and
- I-405 northbound off-ramp to southbound SR 169.

The Build Alternative will construct the Tukwila Parkway extension, which will divert traffic from the SR 181 interchange. This extension will lower traffic volumes and improve operations at these two HALs:

- SR 181 within the I-405 interchange; and
- I-405 northbound off-ramp to SR 181.

All of the HAL ramps should experience a reduction in rear-end crashes due to reduced congestion on the I-405 mainline and surface streets near the interchanges.

The Build Alternative will remove the northbound I-405 on-ramp from Tukwila Parkway, a High Accident Location, thereby increasing safety on the freeway by eliminating the vehicles merging on the ramp. This new ramp, combined with the added lanes on I-405 between I-5 and SR 167, will increase safety. Additionally, once these improvements are made, we anticipate that this section of I-405 will no longer be classified as a HAC.

### ***How will the project affect transit service and HOV trips?***

The Build Alternative will add HOV lane direct-connector ramps at the I-405/SR 167 interchange. The new HOV ramps will be built from the northbound SR 167 HOV lane to the northbound I-405 HOV lane, and from the southbound I-405 HOV lane to southbound SR 167 HOV lane. The new ramps will make the freeway system more efficient and save transit and HOV time because they will no longer need to weave across the general-purpose lanes to enter and exit the freeway.

With the current No Build configuration, HOVs traveling in the southbound I-405 HOV lane must move out of the HOV lane to the right lane to exit to southbound SR 167. At that point, HOVs must queue with the general-purpose traffic to get to the southbound SR 167 loop ramp. Then, HOVs enter southbound SR 167 via the right lane and merge across the general-purpose lanes to the HOV lane on the left side of the freeway.

The HOV lane direct-ramp connections will operate at free-flow conditions during the morning and afternoon peak periods.

The Build Alternative will allow access to the HOV lanes at designated locations, and add a four-foot-wide striped buffer separating the HOV lane from the general-purpose lanes. The HOV lane buffers, and limited entry and exit points will prevent random access to the lanes. Drivers will be less concerned with vehicles merging into the HOV lane from the slower, general-purpose lanes, thereby enabling traffic to flow more smoothly as drivers are better able to maintain their travel speeds.

We anticipate the HOV lane will operate at 60 miles per hour for locations with the buffer. The Build Alternative will have a buffer for most of the study area, on I-405 between SR 181 and SR 169, and on SR 167 between SW 43rd Street and I-405. The No Build Alternative will have slower HOV lane speeds when there is congestion in the general-purpose lanes.

For both the 2014 Build and No Build Alternatives, the HOV lane designation is assumed to change from HOV 2+ to HOV 3+. The HOV lane volumes and travel speeds for the 2014 No Build Alternative morning and afternoon peak hours are shown in Exhibits 4-7 and 4-8, respectively. The same

information for the Build Alternative is shown in Exhibits 5-2 and 5-3.

### ***How will the project affect local traffic operations?***

We calculated intersection level of service with CORSIM microsimulation software. Refer to Exhibit 3-1 on page 3-4 for a definition of intersection level of service (LOS) and delay. The level of service at most study intersections will stay the same or improve with the Build Alternative compared to the No Build Alternative. The Build Alternative will increase freeway volumes and, in turn, more vehicles will use the local streets to enter and exit the freeway. The Build Alternative will construct local street improvements to accommodate the higher traffic volumes. While the increased freeway traffic volumes will increase traffic near the interchanges, it will also mean a decrease in volumes on local streets used to bypass the freeway.

The 2014 No Build Alternative local street traffic conditions are described on pages 4-15 and 4-16 in Section 4, Baseline Conditions, and the intersection level of service is shown in Exhibits 4-9 and 4-10. The Build Alternative intersection LOS for the morning and afternoon peak hour is shown in Exhibits 5-4 and 5-5, respectively. The dashed lines on the Build Alternative exhibits indicate the new roadways that will be built with the Build Alternative. The forecasted 2030 intersection traffic volumes for the No Build and Build Alternatives morning and afternoon peak hours are shown in Appendix B.

The total number of intersections studied for the No Build Alternative and the Build Alternative differ. With the No Build Alternative, 47 intersections were studied. The Build Alternative adds four intersections and removes one intersection as part of the reconstruction of the SR 181, SR 167, and SR 169 interchanges, for a total of 50 intersections studied. In the 2014 morning peak hour, the No Build Alternative would have no intersections performing at LOS F. However, four intersections would perform at LOS E, and the remaining study intersections would perform at LOS D or better. The Build Alternative will have no intersections performing at LOS F. However, two intersections will perform at LOS E, and the remaining study intersections will perform at LOS D or better.

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Exhibit 5-4: 2014 Build Alternative Morning Peak-Hour Intersection Level of Service

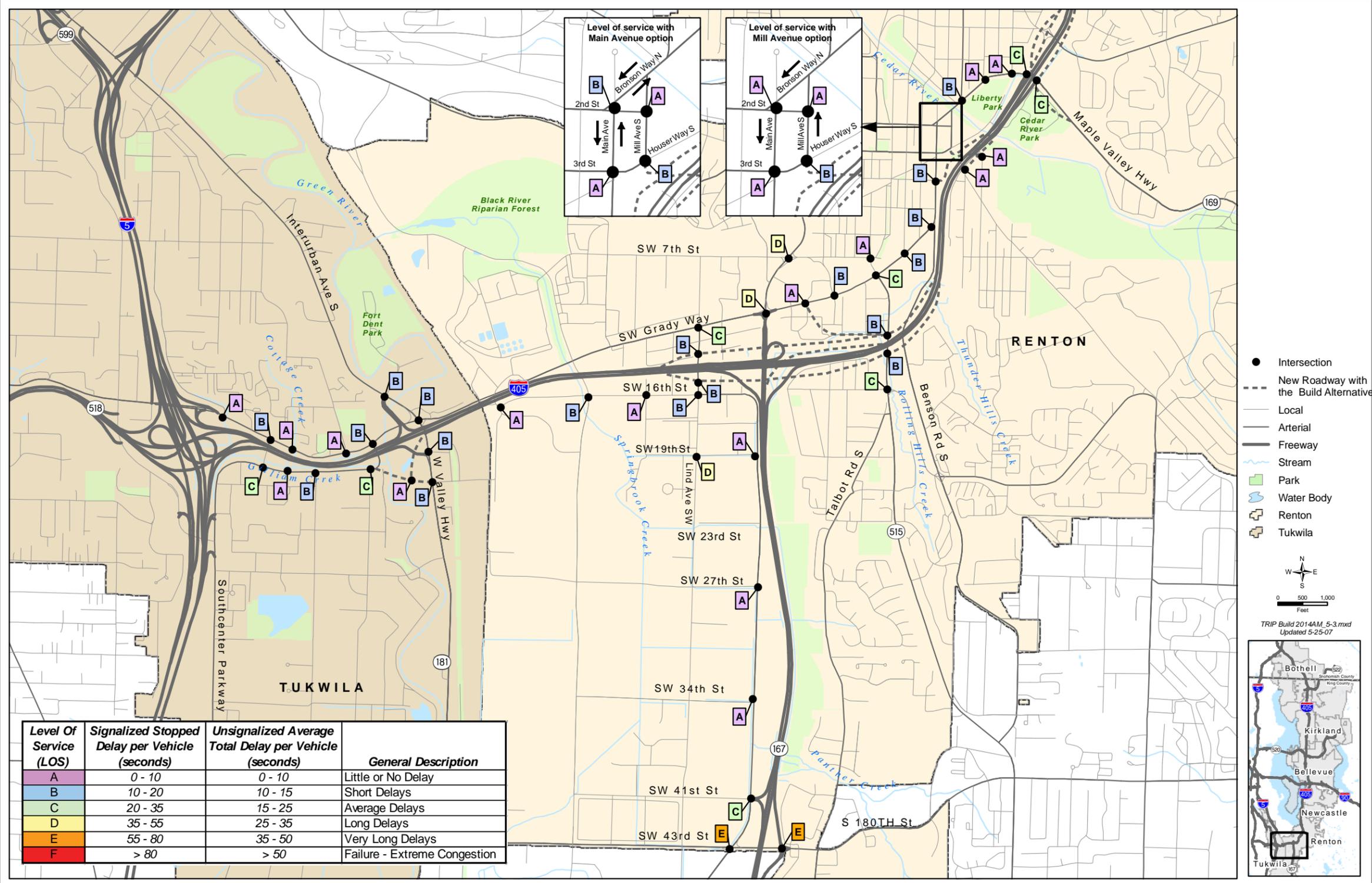
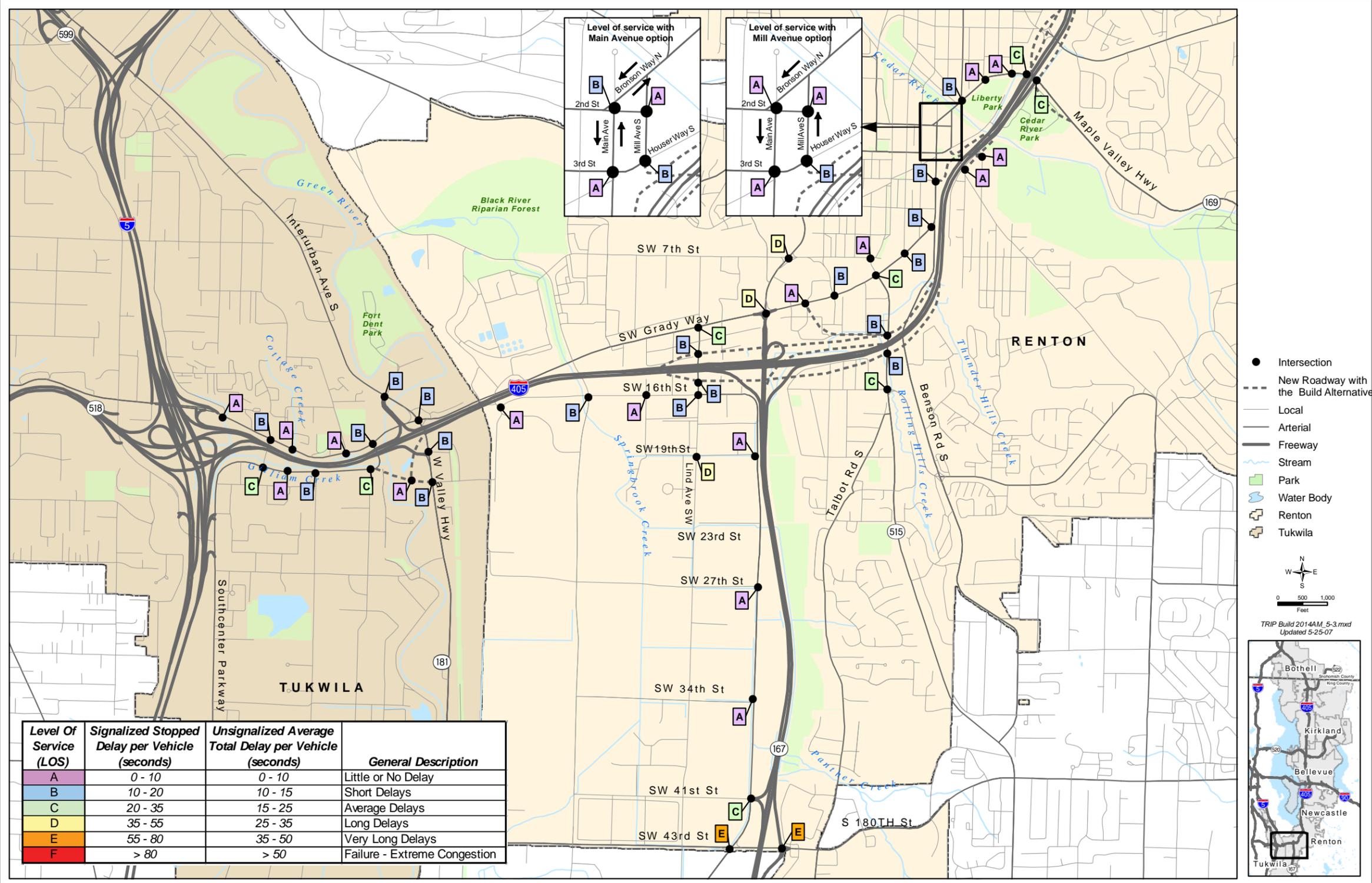


Exhibit 5-5: 2014 Build Alternative Afternoon Peak-Hour Intersection Level of Service



In the 2014 afternoon peak hour, the Build Alternative will improve intersection LOS compared to the No Build Alternative. The No Build Alternative would have five intersections performing at LOS F, three intersections performing at LOS E, and the remaining study intersections would perform at LOS D or better. The Build Alternative will have no intersections performing at LOS F. However, two intersections will perform at LOS E, and the remaining study intersections will perform at LOS D or better.

The Build Alternative will change local travel patterns at four locations in the study area:

- I-405/SR 181 interchange area;
- I-405/SR 167 interchange area, and on Lind Avenue SW and Talbot Road S (SR 515);
- Renton Hill crossings of I-405; and
- Mill Avenue S and Main Avenue S options, and Houser Way S closure south of Bronson Way N.

### **I-405/SR 181 Interchange Improvements**

The Build Alternative will extend Tukwila Parkway to cross the Green River and connect to SR 181 (West Valley Highway) at Longacres Way. This new crossing will divert traffic from Southcenter Boulevard. The I-405 northbound on-ramp from Tukwila Parkway will be closed. We anticipate that vehicles using this ramp will shift to the I-405 northbound on-ramp from SR 181, which will be relocated to the new section of Tukwila Parkway west of SR 181. The interchange improvements will lower traffic volumes and improve operations at the two intersections of Southcenter Boulevard and SR 181 (Interurban Avenue S), and the northbound I-405 off-ramp and SR 181. See Exhibits 2-2 and 2-3 for illustrations of the interchange improvements.

### **New Lind Avenue SW/Talbot Road S (SR 515) Interchange**

The Build Alternative will rebuild the majority of the I-405/SR 167 interchange. Access to and from I-405 will be shifted from Rainier Avenue S to Lind Avenue SW and Talbot Road S (SR 515) through a split-diamond interchange. The interchange will have frontage roads connecting Lind Avenue

SW and Talbot Road S (SR 515). See Exhibits 2-7 and 2-10 for illustrations of the split-diamond interchange.

The new interchange will reduce traffic on S Grady Way and Rainier Avenue S. Today, these roads feed all traffic to and from I-405 and SR 167 through the I-405/SR 167 (Rainier Avenue S) interchange. The Build Alternative will improve operations of the Rainier Avenue S and S Grady Way intersection from LOS F to LOS D during the 2014 afternoon peak hour. Additionally, all local traffic entering or exiting I-405 will use Lind Avenue SW or Talbot Road S instead, which will result in increased traffic volumes on these roads; however, other improvements at these locations will accommodate the increase. Local traffic traveling to or from SR 167 will continue to use Rainier Avenue S.

The Build Alternative will reconstruct the west leg of the intersection of S Renton Village Place and Talbot Road S to be westbound-only for several hundred feet. Currently, both westbound and eastbound traffic use this leg of the intersection. With the Build Alternative, eastbound traffic will use either the northern driveway accesses on Talbot Road S, S Grady Way, or the new city street that will be built between S Renton Village Place and the intersection of S Grady Way and Lake Avenue S.

### **Realigned Renton Hill crossings of I-405**

The Renton Hill access points across I-405 will change with the Build Alternative. We will retain two crossings of I-405 to Renton Hill.

Currently, Renton Avenue S, the northern access road to Renton Hill, crosses over I-405 and connects to the intersection of Houser Way S and Mill Avenue S. With the project, Renton Avenue S will cross over I-405 and be relocated to connect at the intersection of S 4th Street and Main Avenue S.

The southern Renton Hill connection currently crosses I-405 at Cedar Avenue S and connects to the intersection of S 4th Street and Main Avenue S. With the project, the connection on Renton Hill will be relocated to the rebuilt intersection of S 4th Street and Mill Avenue S, and the crossing will be modified to travel under I-405 to the intersection of Houser Way S and Mill Avenue S. With this revised access under I-405, the Cedar Avenue S bridge will be removed. See Exhibits 2-12 and 2-15 for illustrations of these access points to Renton Hill. All of

the intersection LOS associated with Renton Hill will either improve or remain the same when compared to the No Build Alternative.

### **Mill Avenue and Main Avenue Options, and Houser Way S closure south of Bronson Way N**

The Build Alternative will improve operations of the I-405/SR 169 (Bronson Way N) interchange by removing the nearby signalized intersection of Bronson Way N and Houser Way S. The Build Alternative will cul-de-sac Houser Way S just south of the Cedar River; Houser Way S will no longer connect to Bronson Way N. Northbound traffic will shift onto either Mill Avenue S or Main Avenue S. This traffic will arrive at the same location (I-405/SR 169 interchange), but via Mill Avenue S or Main Avenue S, and Bronson Way N instead of Houser Way S. Two options are being considered to route northbound traffic between S 3rd Street and Bronson Way N. One option is to shift northbound traffic to Mill Avenue S. This option will include adding a traffic signal to the intersection of Mill Avenue S and S 2nd Street. The second option will be to route northbound traffic to Main Avenue S. This option will necessitate additional right-of-way along Main Avenue S to accommodate the widening to make the street accommodate two-way traffic between S 3rd Street and Bronson Way N. We anticipate no change in travel demand with either option, and travel patterns will only change within the two-block area. Exhibits 2-13 and 2-14 illustrate the Mill Avenue S and Main Avenue S options.

Intersection LOS in the area will either improve or remain the same with this change compared to the No Build Alternative. The intersection LOS for both options is shown in callout boxes on Exhibits 5-4 and 5-5.

### ***How will the project affect bicycle and pedestrian travel?***

The project will construct a new trail connecting the Renton Hill neighborhood with the Cedar River Trail. The new Tukwila Parkway extension will have sidewalks providing a new pedestrian crossing of the Green River. Currently, the Interurban Trail crosses underneath I-405 at SR 181. To provide a more direct connection, the Interurban Trail will be relocated to the east to travel underneath I-405 at the same

location as the Union Pacific and Burlington Northern Santa Fe Railway tracks.

The Duwamish-Green River Trail, Interurban Trail, Springbrook Trail, and Cedar River Trail are regional pedestrian trails that travel through the study area. The project will rebuild I-405 where the Duwamish-Green River Trail, Interurban Trail, and Cedar River Trail travel underneath I-405. When there is overhead construction on I-405, these three trails will be closed for public safety reasons. The project will also replace the Cedar River Trail pedestrian bridge across the Cedar River. A signed detour will be provided during these closures and notices will be posted and provided to bicycle clubs to keep the public informed about construction. See the *Social, Public Services, and Utilities Technical Memorandum* and the *Section 4(f) Evaluation* for more details on these trails.

### ***How will transportation be affected during construction?***

The majority of the project construction will involve widening I-405 and northbound SR 167 in the study area, and rebuilding the I-405 interchanges at SR 181, SR 167 and SR 169.



*Construction crews adding lanes to I-405.*

### **Effect of construction traffic on the transportation network**

Construction vehicles carrying dirt to and from excavation sites will affect Tukwila and Renton city streets. The primary excavation sites will be:

- Talbot Hill for realigned northbound I-405 mainline and new northbound I-405 frontage road;
- Renton Hill and Steeplechase Hill for the new I-405 ramps at Talbot Road S;
- Renton Hill for the reconstructed accesses; and
- stormwater pond sites.

The primary fill sites will be:

- Tukwila Parkway extension;
- new I-405 northbound on-ramp from Tukwila Parkway extension;
- I-405/SR 167 interchange flyover ramps;

- new I-405 ramps at Lind Avenue SW; and
- northbound I-405 frontage road and northbound I-405 mainline west of SR 167.

The construction vehicles will increase traffic delay in the cities of Renton and Tukwila during the construction period. The truck routes will not be known until a construction contract is signed. WSDOT will try to minimize the construction effects as outlined in Section 6 of this report.

### **Effect of construction activities on freeway traffic**

During the widening of I-405 and northbound SR 167, WSDOT will shift and/or realign the mainline lanes through the construction area. We anticipate no weekday, daytime lane closures for project construction. Temporary night and weekend lane closures may be required for mainline widening. Full freeway closures will be required at limited times to shift traffic between phases of construction or during the replacement of the overhead bridges on I-405 at 66th Avenue S, Lind Avenue SW, and Renton Avenue S. SR 167 will be closed temporarily for the replacement of the I-405 bridge and the northbound I-405 frontage road. Full closures of I-405 and SR 167 will also be required during the construction of the flyover ramps between I-405 and SR 167. The traffic effects of these closures are anticipated to be temporary and localized in the immediate Tukwila/south Renton area and not likely to affect neighboring jurisdictions such as Seattle, SeaTac, Kent, Auburn, or Bellevue.

### **Effect of construction activities on local arterial travel**

The project will construct local street improvements within the vicinity of the reconstructed interchanges at SR 181, Lind Avenue SW, Talbot Road S, SR 169, and the Tukwila Parkway extension across the Green River to SR 181. The following streets are anticipated to be closed at some time during construction:

- Andover Park E/66th Avenue S;
- Southcenter Boulevard;
- Tukwila Parkway;
- Lind Avenue SW;

- SW 12th Street;
- SW 16th Street;
- Mill Avenue S (on Renton Hill); and
- Renton Avenue S.

The following arterials will experience short-term, night closures while the overhead I-405 mainline and ramps are replaced:

- Southcenter Boulevard;
- SR 181 (West Valley Highway);
- Longacres Drive SW;
- Talbot Road S (SR 515);
- Main Avenue S; and
- SR 169 (Maple Valley Highway.)

The project will also reconstruct the two accesses to Renton Hill, but at least one access will be maintained during the construction period.

***Does the project have other effects that may be delayed or distant from the project?***

It is not anticipated that the Tukwila to Renton Project by itself will have any effects that are delayed or distant from the project area. The Tukwila to Renton Project is a phase of the I-405 Corridor Program Master Plan that will add capacity to the whole I-405 corridor. Adding capacity to the whole I-405 corridor will divert traffic from I-5 as documented in the I-405 Corridor Program EIS.

**What are cumulative effects?**

The effect on the environment that results from the incremental effect of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions. Cumulative effects can result from individually minor but collectively noticeable actions taking place over a period of time.

***Were potential cumulative effects to transportation considered?***

The Tukwila to Renton Project will be constructed as a phase of the I-405 Corridor Program Master Plan. The Tukwila to Renton Project will improve the transportation system and contribute to the cumulative benefits realized under the Corridor Program.

The I-405 Corridor Program Final Environmental Impact Statement (EIS) describes and evaluates the long-term plan (Master Plan) for the I-405 corridor and provides the appropriate background to address the transportation

cumulative effects of the Tukwila to Renton Project. The Federal Highway Administration (FHWA) does not require a cumulative effects report for every National Environmental Policy Act (NEPA) discipline studied. Rather, the disciplines subject to a cumulative effects analysis are determined on a case-by-case basis early in the NEPA process. The Transportation Discipline Report for this project was selected to include a cumulative effects review because of this project's close association with other corridor projects.

Specific improvements to the study area that will be realized by the Tukwila to Renton Project and the I-405 Corridor Program Master Plan are shown below.

The Tukwila to Renton Project Build Alternative provides the following benefits:

- Improves travel speeds on I-405 and SR 167 by an average speed of 10 to 15 miles per hour.
- Increases the vehicle throughput on I-405 and SR 167 in the study area.
- Adds HOV lane direct-connector ramps at the I-405/SR 167 interchange.
- Reduces congestion-related accidents compared to the No Build Alternative.
- Improves local traffic operations by adding capacity to several locations in the study area.

**What is throughput?**

Throughput is the number of vehicles being carried on a facility. This is usually measured at a specific point on the roadway for a predetermined period of time.

In addition, the Tukwila to Renton Project will result in other transportation benefits when the I-405 Corridor Program Master Plan is complete. Combined, these projects will:

- Reduce peak traffic congestion periods.
- Substantially improve travel speeds on I-405 and SR 167.
- Substantially increase the vehicle throughput on I-405 and SR 167.
- Reduce congestion-related accidents compared to the No Build Alternative.

These benefits will be realized through the year 2030. Other projects in the area will also contribute to overall improved transportation. See Appendix C for information on other area projects.

Assuming neither this project nor the Master Plan are constructed, the cumulative effects will remain the same as the current conditions. Traffic demand on I-405 would increase, and travel speeds and the number of vehicles using I-405 would be reduced. Additionally, the peak periods of traffic congestion would become longer than they are today. The specific 2014 morning and afternoon peak hour freeway performance of the No Build Alternative is reported in Exhibits 4-7 and 4-8. The No Build Alternative would not result in any cumulative transportation effects.