
SUMMARY

This Executive Summary presents the key transportation-related issues and findings associated with the Sunrise Expressway. It is presented in a question-and-answer format and captures the project team's sense of what is most important to understand about the Sunrise Expressway's effect on area transportation in support of project decision-making.

What decisions will this report help decision-makers reach?

The *Transportation Technical Report* is intended to support readers in understanding the transportation-related issues involved in reaching the following decisions:

- Should the Sunrise Expressway be built?
- Should it include a midpoint interchange?
- Which design options (e.g., Lawnfield access) should be selected?
- What bicycle, pedestrian, and transit system improvements should be implemented as part of the Sunrise Expressway?

The remainder of this summary poses and answers questions to help readers understand these decisions.

What are the primary transportation issues surrounding the Sunrise Expressway?

The foremost transportation issues detailed in the project's Purpose and Need statement, are the following:

- The existing Highway 212/224 corridor transportation system is currently experiencing unacceptable levels of congestion and delay during peak travel periods, which adversely affects system reliability, efficiency, safety, and performance.
- In response to forecast increases in population and employment by 2030, the existing transportation system would undergo far greater congestion and delay over longer periods of the day, thus exacerbating issues of system reliability, efficiency, safety, and performance.
- Truck-hauled freight is experiencing the same system effects as commuters, which adversely affect the viability of the Clackamas Industrial Area to fulfill its economic goals.

How is the Sunrise Expressway study area transportation system performing today?

Today, key study area roadways such as the Milwaukie Expressway, Clackamas Highway (Highway 212/224), and 82nd Dr. are experiencing multiple hours of congestion and delay each weekday, which adversely affects system reliability, efficiency and safety. A closer look at each of these characteristics reveals the following:

- **Current system reliability:** Anecdotally, business representatives and commuters participating in the Sunrise Expressway public outreach efforts have expressed frustration with how unpredictable travel within the Clackamas Highway corridor can be. From the driver's perspective, travel times vary widely, causing interruption of freight movement and dispatch times. Key factors contributing to reduced travel reliability along Clackamas Highway include

the high volume of traffic, the high degree of access points (intersections and driveways) along the corridor, the high percentage of large trucks, the presence of upgrades near I-205 and Rock Creek Junction that slow large trucks, an imbalance in the use of available travel lanes based on specific origins and destinations of drivers, and the presence of signalized intersections.

- Current system efficiency:** The quality of travel on major roadways follows a predictable weekday cycle of building toward, enduring, and recovering from system failure. In the morning, generally free flow travel at 6:00 a.m. transitions under increased traffic volumes to isolated system breakdown by 6:30 a.m. This triggers a rapid system response in the form of congestion and delay from 7:00 to 9:00 a.m. Recovery begins between 8:30 and 9:00 a.m., offering fairly reliable mid-day travel until the afternoon/evening peak congestion cycle occurs. A similar cycle occurs in the afternoon between 3:30 and 5:30 p.m.
- Current system safety:** Along Clackamas Highway from I-205 to Rock Creek Junction alone, nearly 560 crashes were reported from 1998 to 2002. Over 40 percent of these crashes involved injuries, of which two were fatal. Beyond the obvious human health impact, each crash involves an interruption in transportation system reliability to respond to and clear the crash scene and return the system to order. Over 80 percent of crashes involved a turning or rear-end maneuver consistent with high volume, multi-lane, signalized roadways. Only the intersection of SE 82nd Drive at Clackamas Highway exhibits an unduly high crash rate.

The presence and riding condition of bicycle facilities in the study area are generally rated from “fair” to “good.” Notable exceptions occur along McKinley Avenue, Mather Road, Jennifer Street, and SE 82nd Drive due to difficult intersection navigation, incomplete or narrow bike lanes, or some combination of the two. The presence and walking condition of pedestrian facilities in the study area are generally rated from “fair” to “good.” Notable exceptions occur along Hubbard Road, SE 135th Avenue, Jennifer Street, Mather Road, and Webster Road due to difficult intersection navigation, incomplete sidewalk segments, presence of sidewalks on alternating sides of the street, or some combination of these conditions.

What is driving the need to expand the transportation system in proximity of the Clackamas Industrial Area?

Metro is forecasting significant growth for the Portland metropolitan region. **Figure S-1** relates regional and Sunrise study area forecast growth in households and jobs from 2005 to 2030. The region as a whole is expected to accommodate 367,000 new households and nearly 923,000 new jobs. The Sunrise study area is expected to almost double in households and employment in the same time period, adding 16,000 new households and 41,250 new jobs.

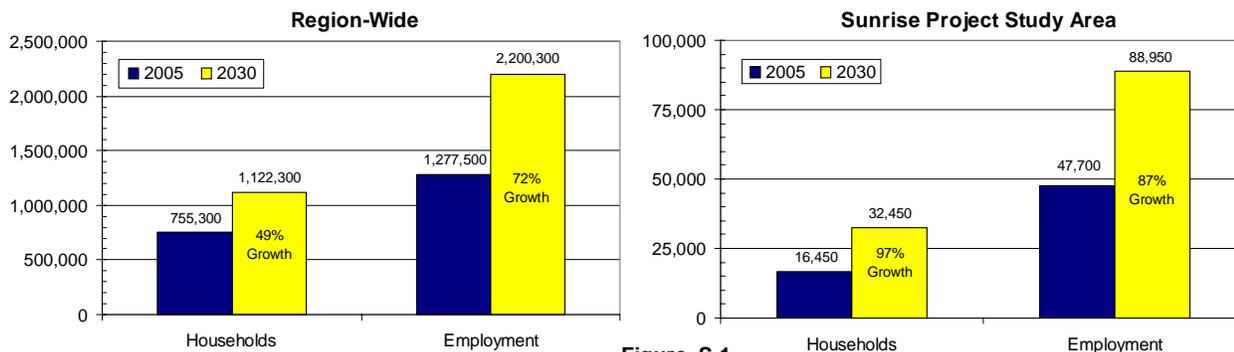
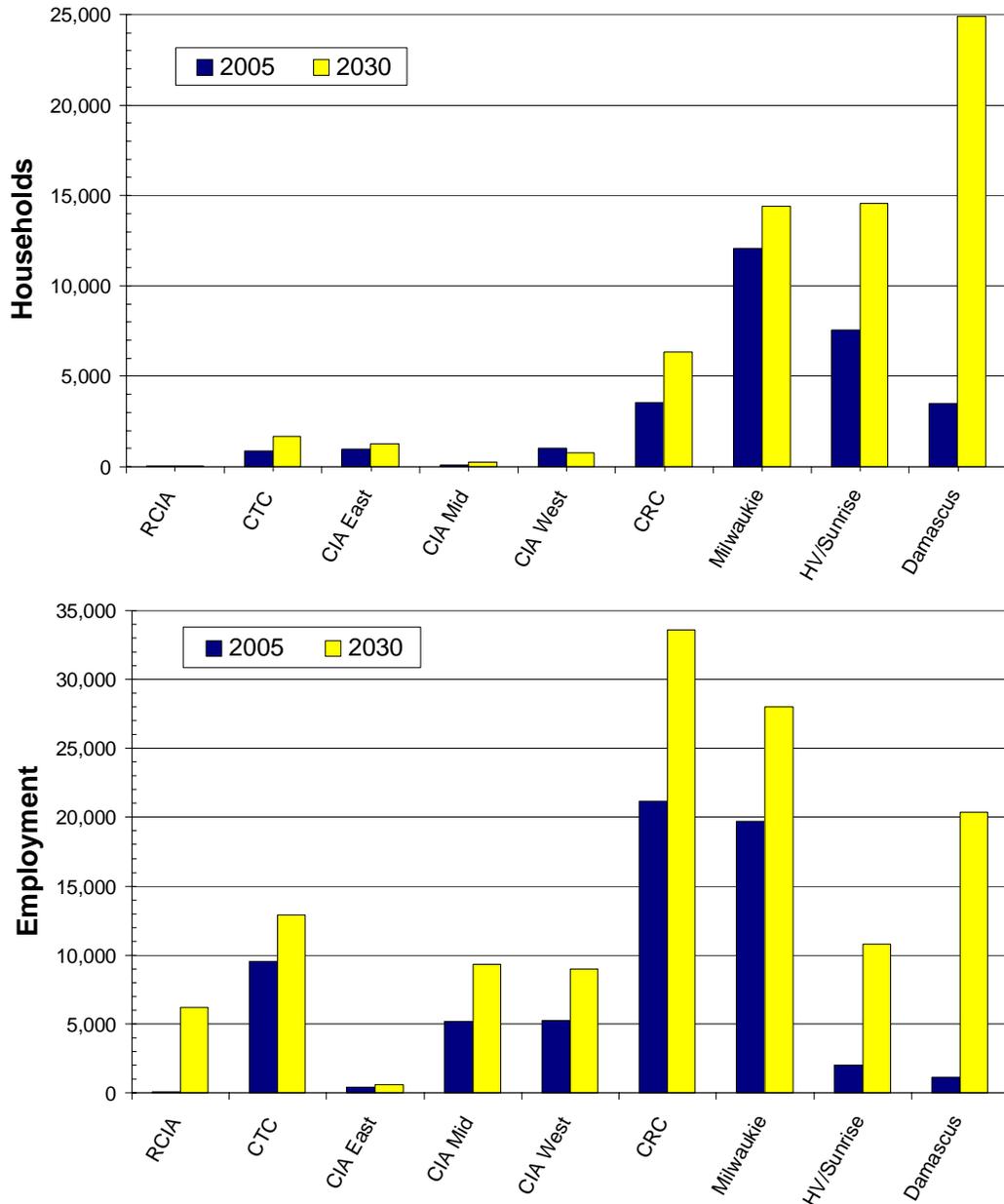


Figure S-1
Households and Employment Growth

The growth near the Sunrise corridor is even larger if one considers the outlying areas of Milwaukie, Happy Valley and Damascus. **Figure S-2** presents a closer look at the area where the household and employment growth is forecast to occur close to the Sunrise study area. Damascus is forecast to receive the largest growth of any of the districts that make up the Sunrise study area, over 600 percent increase in households and 1,700 percent increase in employment. Providence Health Services has recently acquired a large parcel of land in the Rock Creek Industrial Area to site a new hospital with the potential to create 6,000 new jobs by 2030.



**Figure S-2
Growth Trends by District**

RCIA = Rock Creek Industrial Area	CIA Mid = Clackamas Industrial Area - Middle	Milwaukie = Milwaukie
CTC = Clackamas Town Center	CIA West = Clackamas Industrial Area - West	HV/Sunrise = Happy Valley/Sunrise
CIA East = Clackamas Industrial Area - East	CRC = Clackamas Regional Center	Damascus = Damascus

Happy Valley, Milwaukie, and the Clackamas Regional Center represent the other high growth areas near the study area. The Clackamas Industrial Area is also expected to add a substantial number of new jobs. This growth drives a strong demand for east-west travel and connection to the surrounding regional transportation system- principally including I-205, SE 82nd Avenue, Milwaukie Expressway, and Highways 212 and 224. Within the study area, Clackamas Highway (Hwy. 212/224) and parallel roadways such as Sunnyside Road, Sunnybrook Road, and Jennifer Street cannot accommodate the increased need for travel in this part of the region during peak periods.

How would the Clackamas Industrial Area transportation system perform in the future without the Sunrise Expressway?

Compared with existing conditions, by year 2030 some localized planned transportation system improvements called for in Metro’s Regional Transportation Plan and ODOT and Clackamas County capital improvement programs would be implemented. Despite these efforts, system reliability and efficiency would diminish substantially given the expected levels of population and employment growth and the resulting increased demand for travel.

Relative to today, the average travel speed among trips made within the study area would drop by 7 to 8 mph during the morning and afternoon/evening peak periods. The aggregate vehicle hours of delay experienced by drivers within the study area would increase by nearly 130 percent and 70 percent, during the morning and afternoon/evening peak periods, respectively.

The extent of morning peak period congestion would increase substantially. Westbound queues stemming from the I-205 interchange area that reach SE 106th Avenue today would grow and extend beyond Tong Road and along Highway 224 near the Carver bridge. Most side streets that access Clackamas Highway would experience congestion and delays. Westbound traffic along the Milwaukie Expressway would queue from Webster Road back along SE 82nd Drive to Clackamas Highway. All major roadways in the Sunrise study area would experience some level of congestion and delay. The extent of afternoon/evening peak period congestion would appear similar to the morning peak period, with the same roadways affected in generally the same manner.

The overall duration of congestion within the study area during a typical weekday would grow. Today, the morning and afternoon/evening peak periods each generally affect westbound travel toward I-205 and experience approximately 2 hours of congestion or a combined 4 hours of daily congestion. By 2030, several additional directions of travel within the study area would become congested for at least 9 and possibly more hours of daily congestion. Access to and across I-205 would become increasingly difficult. Today’s midday peak period, which is generally free-flowing and reliably available to accommodate truck-hauled freight movements to/from the Clackamas Industrial Area, would become unreliable and squeezed by morning and afternoon congestion. In essence, by 2030, today’s discernible peak periods and lower volume midday period would give way to an all-day peak period beginning in the morning and lasting through the early evening.

In 2030, northbound access to the Clackamas Industrial Area via I-205 would be relatively unchanged, with congestion on northbound I-205 during the AM peak period with or without the Sunrise Expressway. Southbound I-205 access to the industrial area would be congested during the PM peak period with or without the Sunrise.

The bicycle and pedestrian system under the No-Build Alternative would maintain the existing roadway system except for committed improvements scheduled in ODOT’s 4-year Statewide

Transportation Improvement Program (STIP) and Metro's Financially Constrained Projects listed in the RTP. These listed projects include the following:

- Widen SE 82nd Drive (Lawnfield Road to Highway 212/224)
- Extend climbing lane on Highway 212 (Rock Creek Junction to SE 172nd Avenue)
- Widen SE 172nd Avenue (Foster Road to Highway 212)

While these projects are not directly related to bicyclists and pedestrians, it is assumed that the roadway widening projects of SE 82nd Drive and SE 172nd would incorporate bicycle and pedestrian improvements as part of the overall roadway projects. This would help improve non-motorized transportation conditions within the study area.

What are the clearest positive transportation benefits of the Sunrise Expressway?

In the broadest sense, relative to Alternative 1 (No-Build), the Sunrise Expressway would allow more people to access and travel faster to, from, and through the Clackamas Industrial Area corridor, connecting them to the surrounding regional transportation system. Of the many transportation-related Sunrise benefits, the five most noteworthy are as follows:

- The Sunrise would attract a notable number of trips away from major parallel roadways as far north as Johnson Creek Boulevard and as far south as Clackamas River Drive. Metro's regional travel demand model estimates that some 3,300 trips during the 2-hour evening peak traffic period would be attracted away from parallel roadways to the Sunrise. This shift in trips provides relief to parallel roadways to better serve the local and regional trips that they are designed to serve.
- Of the trips attracted to the proposed Sunrise expressway, many would be longer-distance through trips best suited to such a limited-access facility. Under Alternative 1, Metro estimates the Clackamas Highway would carry approximately 13 percent through trips (those beginning and ending outside the Sunrise transportation study area). Under Alternative 2 (Build with Midpoint Interchange), Clackamas (Highway 212/224) Highway would carry just 4 percent through trips, with Sunrise carrying nearly 20 percent. With Sunrise accommodating most of the corridor's through trips, Clackamas Highway could better accommodate regional and local trips, specifically truck-hauled freight trips that support economic activity in the Clackamas Industrial Area.
- With so many trips shifting to the Sunrise, remaining trips using parallel roadways would benefit from a small improvement in travel speed. Motorists shifting to the Sunrise would experience a larger increase in travel speed since the Sunrise would be posted at 55 mph. The aggregate Sunrise effect would increase travel speeds by 3 mph for all roadways within the Sunrise study area. This seemingly small increase is actually a substantial one, given the size of the study area compared to Alternative 1.
- Under Alternative 1, the Clackamas Highway is expected to accommodate 4,380 vehicles along the Clackamas Industrial Area corridor during the PM peak hour. The addition of Sunrise, under Alternative 2, would increase vehicular throughput in the corridor to approximately 12,400 vehicles in the PM peak hour slightly more than the 11,600 vehicles in the PM peak hour served under Alternative 3 (Build with No Midpoint Interchange)

- In addition to moving more people faster to, from, and through the Clackamas Industrial Area, the Sunrise Expressway would serve to contain extension of the congested peak periods on the Clackamas Highway. Where the Clackamas Highway experiences approximately 4 hours of daily roadway congestion, the peaks are estimated to spread to 9 or more hours by 2030 under Alternative 1 (No-Build). Relative to No-Build, the Sunrise Expressway would reduce Clackamas Highway congestion to approximately 4 and 5.5 hours, respectively, under Alternatives 2 and 3. Maintaining today's congestion levels along Clackamas Highway, under Alternative 2, would be viewed as a significantly positive outcome given the substantially higher levels of population, employment, and travel growth projected within this area of the region by 2030.

Would the Sunrise Expressway create any transportation issues?

The Sunrise Expressway would create two transportation-related effects that may not be viewed as benefits by some users of the transportation system. First, it would result in changes in access to the transportation system. For example, today, patrons of the Lawnfield industrial area are able to gain direct access to northbound Interstate 205 (I-205) at Lawnfield Road. Proximity to the Sunrise would necessitate closure of this on-ramp. While representatives of Lawnfield were instrumental in identifying promising alternative access (being studied as a design option) the identified change in access may not be viewed favorably by some. In all instances where Sunrise would necessitate removal of access, Oregon Department of Transportation (ODOT) identified the most feasible alternate access.

Second, while it is expected that the Sunrise would attract many trips from parallel roadways, the rerouting of such trips would likely create localized congestion at portals to the facility - principally the end points near Johnson Road and Rock Creek Junction.

What transit provisions are included in the Sunrise Expressway?

Transit improvements included under Alternative 1 (No-Build) are limited to those identified in Metro's Regional Transportation Plan (RTP) and includes primarily modest increases in service hours. The two build alternatives would add new local service from Happy Valley to the Springwater area, more frequent service between Damascus and Gresham, more frequent service between Airport Way and Damascus, and new express bus service along the Sunrise between the Clackamas Transit Center and Damascus Town Center. Current regional plans identify Sunnyside Road as the east-west transit route within the Sunrise corridor.

What bicycle and pedestrian system improvements are proposed with the Sunrise Expressway?

Alternatives 2 and 3 have the same impact on bicyclists and pedestrians, improving walking and bicycling conditions over the existing and No-Build conditions. Alternatives 2 and 3 provide better bicycle and pedestrian accommodation by:

- Filling in the missing gap of the I-205 multi-use path between SE 82nd Drive and SE Roots Road.
- Providing a new multi-use path that parallels the proposed Sunrise Corridor until it leaves the corridor and connecting to the existing on-street facilities at SE 122nd Avenue.
- Providing potential connections to the neighborhood directly to the west of I-205.

Additional improvements to further enhance bicycle and pedestrian circulation and connectivity are identified within the report for possible inclusion during design refinement conducted during the Final Environmental Impact Statement (FEIS) process.

How does the Sunrise Expressway affect the study area transportation system access and performance?

Major access changes include the following:

- Under Alternative 2 only, the circuitous routing of eastbound Milwaukie Expressway traffic destined to the Clackamas Industrial Area along southbound I-205 and the Clackamas Highway interchange is replaced by the Sunrise and its new connection via a midpoint interchange near SE 122nd Avenue. This addresses a stated "need" for this project by eliminating the high volume/speed weave maneuver along I-205 needed today and reduces the travel time from Johnson Road to SE 122nd Avenue by three minutes,
- Under alternative 3, because no midpoint interchange is provided, Milwaukie Expressway and southbound I-205 traffic circulate in much the same way as they do today to access the Clackamas Industrial Area although the weaving maneuvers present today are eliminated through the provision of braided ramps that separate certain traffic routes,
- For longer distance through trips, such as those starting in Damascus and ending in Milwaukie, the Sunrise provides a limited-access, high-speed travel experience that bypasses the lower speed signalized Clackamas Highway corridor,

How does the Sunrise Expressway balance with the surrounding transportation system?

The ultimate Sunrise facility evaluated in this SDEIS calls for six through lanes between Johnson Road and the Rock Creek Junction and, for Alternative 2 only, the inclusion of auxiliary lanes to accommodate traffic entering and exiting the Sunrise at the I-205, midpoint, and Rock Creek interchanges. The facility was conceptually designed to serve the traffic patterns and traffic levels forecast by year 2030, representing the primary exchange of traffic between the Sunrise area and regional areas to the north and west accessed via Milwaukie Expressway, SE 82nd Avenue, and I-205.

The design seeks to provide a reasonable degree of traffic performance through year 2030 at a level of service (LOS) associated with LOS D/E, meaning that traffic would be notably dense but should move at near posted speeds of 55 mph beyond the influence of transition points near I-205 and Rock Creek influenced by signalized intersections. While the Sunrise Expressway is designed to maintain independent utility, it is also designed to: blend with a Sunrise Parkway planned to the east of SE 172nd Avenue, maintain the flexibility to achieve enhanced performance should the Milwaukie Expressway ever become grade-separated and to accommodate a high capacity transit extension to the south along I-205.

Due to funding availability, it is likely that the Sunrise Expressway would need to be built in phases. The SDEIS, however, is required to consider the ultimate design needed to meet conditions estimated to be present during the horizon year of 2030. By 2030, during the PM peak period, the dominant traffic pattern in this part of the region would represent trips originating from the Portland and Milwaukie areas north and west of the Clackamas Industrial Area with destinations within the Clackamas Industrial Area or east and south of the Clackamas Industrial Area toward Damascus and Estacada. The Milwaukie Expressway, and the free-flowing interchange ramps from SE 82nd Avenue and southbound I-205 are forecast to, and operationally could, deliver traffic levels that warrant three eastbound through lanes along with auxiliary lanes. Similarly, westbound traffic from the Sunrise Parkway and Highway 224 could deliver traffic levels warranting three westbound through lanes and potentially auxiliary lanes.

What benefits are provided by a midpoint interchange and does the type of interchange matter?

Alternative 2 is distinguished by the inclusion of a midpoint interchange in the vicinity of SE 122nd Avenue, which would connect the expressway to the existing Highway 212/224. In contrast to Alternative 2, Alternative 3 would not have a midpoint interchange, resulting in no access to the expressway between I-205 and Rock Creek Junction.

Relative to Alternative 3, Alternative 2 provides the following noteworthy transportation benefits:

- Relative to accessing the Clackamas Industrial Area at the corridor endpoints via the I-205 and Rock Creek Junction interchanges only, a midpoint interchange provides an important third portal and thereby enhances access to/from the Clackamas Industrial Area.
- With a midpoint interchange, some 1,600 trips per hour during peak times are able to remain on the faster moving Sunrise and access the Clackamas Industrial Area at the midpoint interchange compared with having to use the I-205 and Rock Creek Junction interchanges and lower speed Clackamas Highway to reach their destinations.

- With the Sunrise expressway, the average vehicular travel time between Milwaukie and the vicinity of SE 122nd Avenue at Clackamas Highway 224, utilizing all routes, decreases by nearly 2 minutes.
- Comparison of PM peak hour travel times along specific routes reveals a more pronounced benefit. For example, eastbound trips along Milwaukie Expressway at Johnson Road destined to SE 122nd Avenue at Clackamas Highway 224 take 7 minutes using the Sunrise with midpoint interchange under Alternative 2. Comparatively, these same trips under Alternative 3 must turn left at Johnson Road, turn right onto SE 82nd Drive, travel through several signals before turning left onto Clackamas Highway, and then proceed to SE 122nd Avenue in about 10 minutes.
- Another example involves PM peak hour trips along southbound I-205 at Sunnyside Road destined to SE 122nd Avenue at Clackamas Highway. Under Alternative 2, these trips exit I-205 onto a flyover ramp directly onto Sunrise and exit at the midpoint interchange in 6 minutes. Under Alternative 3, these trips follow the circuitous routing present today along I-205 to the Clackamas Highway off-ramp, travel the I-205 and SE 82nd Drive signalized intersections, and then proceed to SE 122nd Avenue in 9 minutes;
- A final example involves AM peak hour trips in the eastern part of the project area traveling from SE 172nd Avenue to SE 122nd Avenue via Clackamas Highway. Under Alternative 2, these trips travel along the Sunrise and exit at the midpoint interchange in 6 minutes. Under Alternative 3, these trips exit at the Rock Creek interchange, travel south to Goosehollow Drive, turn left onto a frontage road and double back to Clackamas Highway, turn left onto Clackamas Highway, and proceed to SE 122nd Avenue in 40 minutes.
- The midpoint interchange could have a single-diamond configuration at SE 122nd Avenue or a split-diamond configuration with traffic dispersed via frontage roads between SE 122nd Avenue and SE 130th Avenue intersections to Clackamas Highway. Both design options for the midpoint interchange provide comparable operations with operational strengths and weaknesses. It is recommended the selection of the midpoint design option be based on factors other than traffic operations, such as right-of-way impact and construction cost.

Which type of connection at Rock Creek Junction is best?

The Sunrise interchange at Rock Creek Junction could take one of two forms: either a single point urban interchange (SPUI) or a folded diamond configuration. Regardless of the interchange design, traffic demand would be the same, but traffic movements (e.g., left turns versus right turns) would differ. Overall, the design options do not result in notably negative or positive impact on intersection operations. While the SPUI would require less right-of-way to be purchased than a folded diamond, it would also cost more to construct. It is recommended the selection of the Rock Creek interchange design option be based on factors other than traffic operations, such as right-of-way impact and construction cost.

How would access to the Lawnfield business area change with the Sunrise Expressway?

The alignment of the Sunrise Expressway under either of the two build alternatives would alter local access and circulation for the Lawnfield business area in two important ways: (1) it would sever the connection of Lawnfield Road to SE 82nd drive, and (2) eliminate the existing northbound on-ramp to I-205 at Lawnfield Road. To address these effects, Alternatives 2 and 3 would create a

new northerly connector road between the Lawnfield business area and the Sunnybrook interchange area near SE 97th Avenue. This route, which would be designed to accommodate long-load trucks, would help redirect Lawnfield traffic away from the congested SE 82nd Drive corridor to the underutilized Sunnybrook interchange area. Additionally, Design Option A-2 analyzes the potential of extending Tolbert Road across SE 82nd Drive to connect to the Lawnfield area to enhance local access and circulation.

Does the Sunrise Expressway achieve its stated purpose and satisfy known needs?

The Sunrise Expressway purpose is, "...to effectively address the existing congestion and safety problems in the Clackamas Highway (Hwy. 212/224) corridor between its interchange with I-205 and Rock Creek Junction, and to serve the growing demand for regional travel and access to the state highway system."

From a transportation standpoint, the proposed Sunrise Expressway achieves its stated purpose and addresses stated needs in many ways, of which the following are key examples:

- In addition to moving more people faster to, from, and through the Clackamas Industrial Area, the Sunrise Expressway would reduce the duration of congestion along the Clackamas Highway from 9 or more hours under Alternative 1 to approximately 4 and 5.5 hours, under Alternatives 2 and 3, respectively. Maintaining today's congestion levels along Clackamas Highway, under Alternative 2, should be viewed as a significantly positive outcome given the substantially higher levels of population, employment, and travel growth projected within this area of the region by 2030.
- The Sunrise Expressway serves growing regional travel demand by increasing vehicular throughput in the Clackamas Industrial Area corridor nearly three-fold and increasing trip speeds across all trips in the study area by 3 mph.
- The Sunrise Expressway provides reduced travel times for automobiles and truck-hauled freight moving through the Clackamas Industrial Area. For example, a PM peak hour trip from SE Johnson Road to SE Anderreg Parkway using Clackamas Highway (Hwy. 212/224) is expected to take approximately 30 less minutes under the build alternatives compared with the No-Build Alternative due in part to substantial shifts in traffic from Clackamas Highway (Hwy. 212/224) to Sunrise.
- With Alternative 2, the Sunrise Expressway significantly redesigns the I-205/Clackamas Highway interchange area - both eliminating the circuitous routing of traffic through the interchange that occurs today and replacing weaving sections along I-205 with higher capacity and safer braided ramps. Alternative 3 achieves the same results except that it retains, and in fact worsens, the circuitous routing of trips between Milwaukie and the Clackamas Industrial Area.

How do the Sunrise Expressway alternatives compare with transportation-related evaluation criteria?

Table S-1 summarizes some key transportation results and findings to help compare the transportation effect of each alternative.

Table S-1 Summary of Transportation Performance Across Alternatives

Transportation Objective	Alternative 1 (No-Build)	Alternative 2 (Build with Midpoint Interchange Interchange)	Alternative 3 (Build with No Midpoint Interchange)	Design Option A-2	Design Option B-2	Design Option D-3
<p>Objective 1 – Relieve congestion and provide for efficient traffic flow.</p> <p>- Report Sections 6.4 & 6.10</p>	<ul style="list-style-type: none"> - Provides the least east-west travel capacity - Vehicle Hours of Delay for the study area: AM = 1,065 PM = 1,443 - Ratio of Vehicle Miles of Travel to Vehicles Hours of Travel in study area: AM = 21 mph PM = 20 mph 	<ul style="list-style-type: none"> - Provides the most east-west travel capacity - Vehicle Hours of Delay for the study area: AM = 1,043 PM = 940 - Ratio of Vehicle Miles of Travel over Vehicles Hours of Travel: AM = 23 mph PM = 23 mph 	<ul style="list-style-type: none"> - Provides slightly less east-west travel capacity than Alternative 2 - Vehicle Hours of Delay for the study area: AM = 1,055 PM = 966 - Ratio of Vehicle Miles of Travel over Vehicles Hours of Travel: AM = 23 mph PM = 23 mph 	<ul style="list-style-type: none"> - Re-establishes local access and circulation for Lawnfield Area without creating a notable positive or negative transportation effect. - Adds some trips to congested SE 82nd Drive/Clackamas Highway intersection. Redirects some trips to underutilized Sunnybrook interchange. 	<ul style="list-style-type: none"> - No transportation effect 	<ul style="list-style-type: none"> - No transportation effect
<p>Objective 3 – Reduce congestion and improve safety on I-205 between the Milwaukie Expressway Interchange and the Highway 212 Interchange.</p> <p>- Report Section 6.5 & 6.7</p>	<ul style="list-style-type: none"> - Average LOS and Travel Speed along I-205 (peak time/direction): LOS=F Speed=16 MPH - No proposed safety improvements along I-205 	<ul style="list-style-type: none"> - Average LOS and Travel Speed along I-205 (peak time/direction): LOS=F Speed=27 MPH - Braided ramps are incorporated into the design along I-205 between the Clackamas Highway interchange and the Sunnybrook/Sunnybrook interchange to eliminate weaving sections that result in increased conflict points for auto users. 	<ul style="list-style-type: none"> - Average LOS and Travel Speed along I-205 (peak direction): LOS=F Speed=24 MPH - Braided ramps are incorporated into the design along I-205 between the Clackamas Highway interchange and the Sunnybrook/Sunnybrook interchange to eliminate weaving sections that result in increased conflict points for auto users. 	<ul style="list-style-type: none"> - Design Options are not expected to influence traffic operations along I-205. 		
<p>Objective 4 – Improve safety and connectivity for motorists, pedestrians, and bicyclists within the project corridor.</p> <p>- Report Section 6.13</p>	<ul style="list-style-type: none"> - Does nothing to address the safety concerns that stem from increased durations or congestion along Clackamas Highway. Today's hours of daily congestion grows to nine or more hours by 2030. 	<ul style="list-style-type: none"> - Creates a new high speed/capacity east-west corridor. - Shifts substantial portion of regional through trips to Sunrise. - Reduces traffic levels on parallel roadways. - Reconfigures I-205/Clackamas Highway interchange with braided ramps to eliminate weaving maneuvers. - Contains peak period duration of congestion to nearly existing levels 	<ul style="list-style-type: none"> - Design Options have no effect on the connectivity for pedestrians and bicyclists. 			
<p>Objective 5 – Support access and operational needs for improved transit service in the project corridor.</p> <p>- Report Section 6.14</p>	<ul style="list-style-type: none"> - This alternative provides no additional transit service than is incorporated into the Financially Constrained RTP. 	<ul style="list-style-type: none"> - The Build Alternatives both incorporate new local service, extending the Sunnyside Road transit route to Gresham with better headways, and an express bus service on the Sunrise Highway. 	<ul style="list-style-type: none"> - Design Options do not affect transit service. 			
<p>Objective 7 – Serve freight travel in a safe and efficient manner.</p> <p>- Report Section 6.9</p>	<ul style="list-style-type: none"> - Does nothing to address the deficiencies predicted in the movement of freight. 	<ul style="list-style-type: none"> - Allows for the most efficient freight travel of the three alternatives because of the addition of the midpoint interchange. 	<ul style="list-style-type: none"> - Allows for additional movement of freight when compared to Alternative 1, but diminishes access to the Clackamas Industrial Area than under Alternative 2. 	<ul style="list-style-type: none"> - Allows freight from the Lawnfield industrial area to access SE 82nd Drive more easily. Creates secondary freight access route via Sunnybrook interchange. 	<ul style="list-style-type: none"> - No effect 	<ul style="list-style-type: none"> - No effect
<p>Objective 9 – Provide safe and efficient evacuation route for the metropolitan area that supports regional emergency management plans.</p>	<ul style="list-style-type: none"> - This alternative has the most queuing and the least capacity, resulting in the longest travel times. In the event of an evacuation, this alternative would provide the least support for regional emergency management plans. 	<ul style="list-style-type: none"> - This alternative has the least queuing and the most capacity out of the three alternatives. In the event of an evacuation, this alternative would provide the most support for regional emergency management plans. 	<ul style="list-style-type: none"> - This alternative has slightly more queuing and slightly less capacity than Alternative 2. In the event of an evacuation, this alternative would provide the slightly less support for regional emergency management plans than Alternative 2. 	<ul style="list-style-type: none"> - This design option adds to the predicted congestion levels along Clackamas Highway, resulting in less support of the regional emergency management plans than the Alternative itself. 	<ul style="list-style-type: none"> - This Design Option is not expected to influence the operations or safety along evacuation routes. 	<ul style="list-style-type: none"> - This Design Option is not expected to influence the operations or safety along evacuation routes.

Table S-1 Summary of Transportation Performance Across Alternatives

Transportation Objective	Alternative 1 (No-Build)	Alternative 2 (Build with Midpoint Interchange Interchange)	Alternative 3 (Build with No Midpoint Interchange)	Design Option A-2	Design Option B-2	Design Option D-3
<p>- Report Sections 5.4, 5.9 & 5.10</p> <p>Goal 2</p> <p>Objective 1 – Provide local circulation and access that supports the transportation needs of area industrial uses.</p> <p>- Report Section 6.9</p> <p>Objective 1 – Provide adequate access to the state highway system. (I-205 & Hwy. 212/224).</p> <p>- Report Section 6.10</p> <p>Goal 3</p> <p>Objective 2 – Maintain local roadway connectivity.</p> <p>- Report Sections 5.7 & 5.9</p>	<p>- This alternative does nothing to improve or limit local circulation and access that supports the transportation needs of the area industrial uses.</p> <p>- This alternative provides a continuous six-lane limited access expressway from Rock Creek Junction (on the east) to I-205 (on the west), with a midpoint interchange near SE 122nd Avenue linking Sunrise and Clackamas Highway. Signalized intersections that access the State Highway system incur more delay under this alternative than any other.</p> <p>- This alternative does not provide any additional access to the state highway system than currently exists. Signalized intersections that access the State Highway system incur more delay under this alternative than any other.</p> <p>- This alternative maintains all local roadway connectivity.</p>	<p>- This alternative removes local Lawnfield area access directly onto I-205 northbound. There is increased access to the Clackamas Industrial Area via the midpoint interchange.</p> <p>- This alternative provides a continuous six-lane limited access expressway from Rock Creek Junction (on the east) to I-205 (on the west), with no midpoint interchange. Signalized intersections that access the State Highway system incur more delay under this alternative than under Alternative 1.</p> <p>- This alternative suffers the least amount of congestion out of all of the alternatives and provides for the most local connectivity (the best travel times).</p>	<p>- This alternative removes local Lawnfield area access directly onto I-205 northbound.</p> <p>- This alternative provides a continuous six-lane limited access expressway from Rock Creek Junction (on the east) to I-205 (on the west), with no midpoint interchange. Signalized intersections that access the State Highway system incur more delay under this alternative than under Alternative 1.</p> <p>- This alternative suffers from slightly more congestion than Alternative 2, but much less than Alternative 1.</p>	<p>- This design option is intended to alleviate expected congestion within the Lawnfield Industrial area by providing an alternative access/egress point.</p> <p>- This design option provides an additional access/egress point from the Lawnfield area to the state highway system.</p> <p>- While this design option provides an additional access point for the Lawnfield Industrial area, it also induces additional congestion at the intersection of Clackamas Highway at SE 82nd Drive.</p>	<p>- This design option does not add access to the State Highway system, but does disperse traffic heading to/from the Sunrise facility to two north-south arterials in the midpoint area.</p> <p>- This design option allows all turning movements at the intersection of Clackamas Highway at SE 122nd Avenue and 130th Avenue, providing for improved connectivity.</p>	<p>- This design option is intended to occupy the least amount of regionally significant land as possible in the Rock Creek Junction area.</p> <p>- This design option does not provide any additional access to the state highway system than the alternative itself.</p> <p>- This design option, while meeting all applicable standards, adds slightly to the congestion at the Rock Creek Interchange and resulting in increased travel times.</p>

Note:

Only design options that affect traffic operations are presented in Table S-1

How would the Sunrise Expressway improve truck freight movement?

For Alternative 3, transportation benefits are most clearly seen through the following:

- Trucks traveling through the corridor would enjoy faster travel times via the Sunrise Expressway relative to the Clackamas Highway.
- Both automobiles and trucks using I-205 benefit in terms of improved travel speeds and safety related to braided ramps that replace difficult weaving maneuvers.
- Clackamas Highway improvements near I-205 improve capacity.
- The Sunrise Expressway helps to contain the duration of congestion to nearly existing day levels, thereby preserving the midday period often targeted for truck-hauled freight movement.

In addition to the transportation benefits cited for Alternative 3, Alternative 2 provides the additional following benefits:

- Travel times between specific freight-oriented activity centers are improved with the Sunrise Expressway, with the most improvement coming when a midpoint interchange is provided.
- Many truck freight trips are shifted from the more congested I-205/Clackamas Highway interchange area to the midpoint interchange for faster travel along the Sunrise.

What mitigation needs are known?

Even with the Sunrise Expressway, the demand for increased travel in the Sunrise corridor is expected to exceed the capacity of certain roadways in the study area by 2030. To avoid or minimize the issuance of design exceptions or to avoid acceptance of lower mobility standards, additional exploration of potential travel demand management and/or mitigation is needed to address traffic conditions at several locations. Most notable locations include:

- Clackamas Highway between I-205 and SE 122nd Avenue
- Northbound I-205 exit to Clackamas Highway
- Milwaukie Expressway between Webster Road and I-205

The extent of possible mitigation at these locations has not yet been explored and would be shaped by public comments, decisions to accept design exceptions, and alternative mobility standards. The final EIS (FEIS) provides the appropriate environment to address potential mitigation strategies.

This page intentionally left blank