SUNRISE GATEWAY CORRIDOR
REFINEMENT PLAN

APRIL 16, 2025

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Funding for the Visioning Work: In 2021, the Oregon Legislature recognized the importance of the Sunrise Corridor and the need for planning and public engagement in the area. To support this initiative, they allocated $4 million to Clackamas County for the creation of a vision plan. The Sunrise Corridor is a vital hub, housing one of the state's busiest industrial distribution centers, and is also a community where many people live, work, and attend school. Given its longstanding significance to Clackamas County, the vision plan would prioritize community and business needs, including transportation infrastructure, land use, and economic development.

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01 INTRODUCTION

SE 135th Avenue/Highway 212 looking east

The Sunrise Gateway Corridor (Sunrise) is one of Oregon's essential transportation routes and a critical link between the Portland Metropolitan Area and Central Oregon. This corridor provides freight access on Highway 212 between I-205 and US 26 and is home to the Clackamas Industrial Area, one of the state's busiest freight distribution centers. It also serves Happy Valley, one of Oregon's most rapidly-growing cities.

The Sunrise serves over 7,500 residents, 800 businesses, and 14,000 employees and carries approximately 40,000 daily vehicle trips, including 2,500 freight trucks. It is also the gateway to the Rock Creek Employment Center, which is expected to be the site of thousands of new jobs in coming years. The corridor experiences high morning and evening peak hour congestion, documented multimodal safety issues, and a lack of pedestrian and bicycle connectivity. Future population and employment growth will only increase the need for access to timely, safe, and convenient transportation options.

Preparing for the Future

This Refinement Plan provides a roadmap to an equitable, safe, and multimodal Sunrise Corridor that will support future population and economic growth. It was developed in partnership between Clackamas County, Oregon Department of Transportation (ODOT), Metro, the City of Happy Valley, and the community.

THE SUNRISE GATEWAY CORRIDOR NEEDS & CHANGE

An essential local and regional connection

The Sunrise Corridor is a vital route connecting Portland and Central Oregon. Currently, the area is unsafe and congested due to a lack of a complete network. Freight drivers, existing and future residents, the Clackamas Industrial Area, the Rock Creek Employment Center, transit operators, and people traveling to the beautiful Clackamas River and Mt. Hood National Forest all rely on a corridor unequipped to handle future growth.

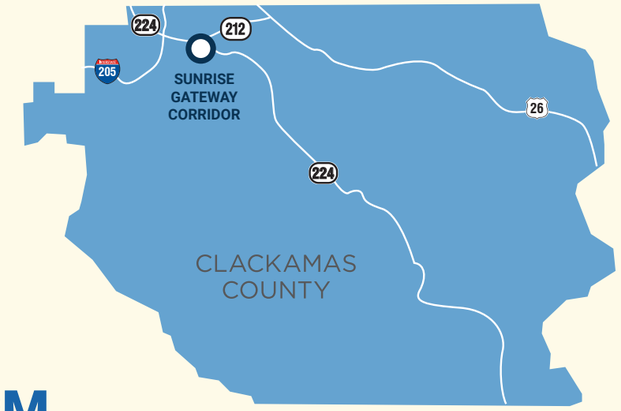
If we fail to act, five key intersections will be over capacity, in the next 2-3 years, constraining economic development within the corridor and further compromising safety.

6 FATALITIES **24** SERIOUS INJURIES
BETWEEN 2018 AND 2022

32%
OF THE CORRIDOR IS AN EQUITY FOCUS AREA

$50M
WORTH OF FREIGHT MOVES THROUGH THE CORRIDOR YEARLY

7-8 AM & 5-6 PM
PEAK TRAFFIC HOURS



Who relies on the Sunrise Gateway Corridor today?

7,500	800	14,000	40,000	2,500
RESIDENTS	BUSINESSES	EMPLOYEES	VEHICLES DAILY	DAILY FREIGHT TRIPS

How Was This Plan Developed?

The Refinement Plan was developed through two planning efforts:

1. The **Sunrise Gateway Corridor Concept** work conducted in 2019 and 2020 to support the Metro Get Moving Bond Measure (see Reference 1 on page 8)
2. The **Sunrise Corridor Community Visioning** work conducted between 2021 and 2025 (see Reference 2 on page 8).

Following consensus by the agency partners, the Clackamas County Board of County Commissioners and Happy Valley City Council will formally support the Sunrise Gateway Corridor Refinement Plan a adopting a resolution of support. This action will allow the agency partners to seek funding and move forward with NEPA Reevaluation of the Federal Highway Administration's Record of Decision based on the 2010 Sunrise Project I-205 to Rock Creek Junction Final Environmental Impact Statement (Sunrise FEIS) for Sunrise Phase 2 (SE 122nd Avenue to SE 172nd Avenue)..

Where and When Will Sunrise Changes Be Happening?

The Refinement Plan focuses on the Phase 2 segment of the Sunrise between SE 122nd Avenue and SE 172nd Avenue and does not propose any refinements to the Sunrise FEIS planned improvements west of the SE 122nd Avenue interchange. However, it should be noted that further future improvements west of SE 122nd Avenue near I-205 and SE 82nd Avenue (i.e., a third lane in each direction on Highway 224) are called for in the Sunrise FEIS. The Implementation Plan includes information on the next steps to implement recommended alternatives, including resolutions of support and funding.

SE 172nd Avenue/Highway 212 looking west

Background

The Sunrise Corridor is primarily Highway 212 (connecting west to I-205 and east to Boring) and includes a portion of Highway 224 (connecting Milwaukie to Estacada). Local roads, such as SE 135th, SE 142nd, and SE 152nd connect to the neighborhoods in the north and SE 122nd Avenue and SE 135th Avenue connect to the Clackamas Industrial Area. These highways and roadways serve trips moving through the area to reach the Cascades and Central Oregon as well as trips originating from local homes, schools, and businesses. The combination of local trips to the Clackamas Industrial Area, the Rock Creek Employment Center, and longer-distance through travel creates congestion and safety issues.

Through Trips and Local Trips Are Expected to Increase

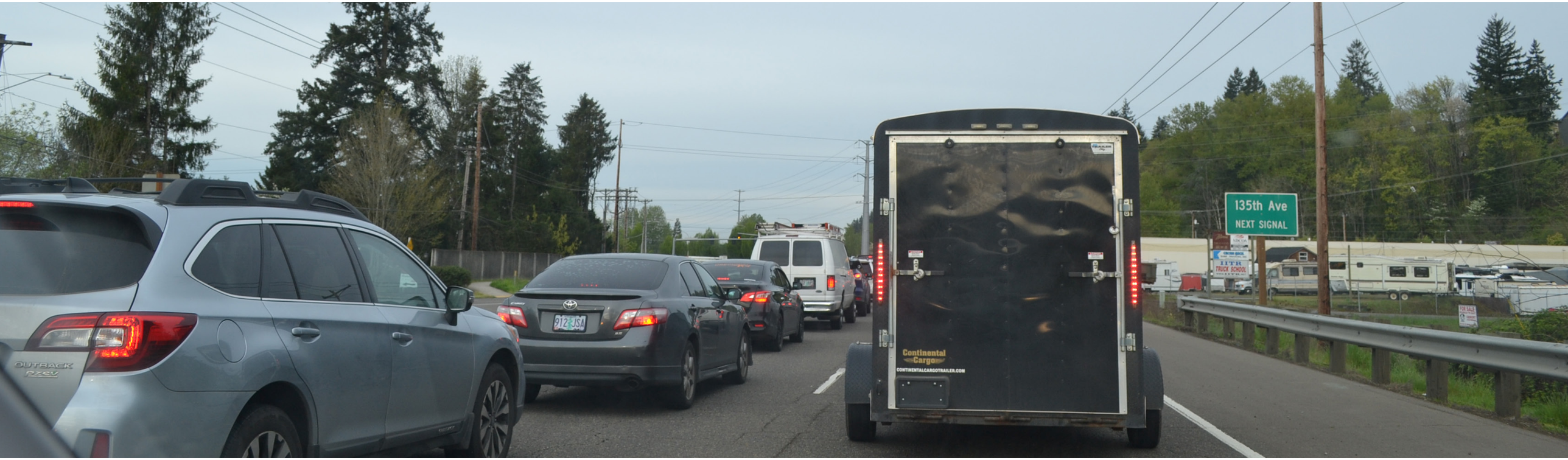
Year 2045 traffic volume forecasts show that increased development in the corridor and in surrounding areas of Clackamas County and Happy Valley will intensify the existing mobility and safety problems. Over the past 20 years, Happy Valley has been among the fastest-growing small cities in the country, increasing in size by almost 350 percent. With growth has come urbanization in the Rock Creek Employment area and along SE 172nd Avenue. Previous studies have shown Highways 212 and 224 are not able to handle the current demand and have documented multimodal safety issues. Future housing and employment growth will add to traffic congestion and safety deficiencies. In addition to vehicular capacity needs, there is also a lack of sidewalks along Highway 212/224 and Highway 212 to SE 172nd Avenue.

Environmental Considerations

Minimizing environmental impacts is essential to this corridor's acceptance and ultimate development success. Because a portion of proposed funding is expected to come from federal sources, refinements to the proposed design for the Sunrise Corridor will require environmental review under National Environmental Policy Act (NEPA) by the Federal Highway Administration (FHWA).

With careful planning and development, ODOT, in partnership with Metro, Clackamas County, and the City of Happy Valley, can meet the original Purpose and Need of the 2010 Sunrise FEIS and develop a context-sensitive facility design that minimizes environmental impacts, prioritizes safety, reduces congestion, improves connectivity and emergency response times, and protects the area's natural and recreational resources. At the same time, the Refinement Plan can respond to changes in developed property and changing travel patterns within the corridor and region.

Sunrise is anticipated to serve **76,000 vehicles** and **4,500 freight trucks** daily in 2045—almost double the number served today.



SE 135th Avenue/Highway 212 westbound weekday morning back-ups

History

Clackamas County, ODOT, Metro, and the City of Happy Valley have long recognized that a limited-access roadway is needed in this corridor to efficiently move people and goods through the area. This would allow the existing highway to handle local access to employment centers and housing and serve the area's cyclists and pedestrians. With existing facilities inadequate to serve the community, a new limited-access roadway is needed to more efficiently move people and goods through the corridor.

In studies dating back as far as the 1980s, the four agencies have developed plans for the Sunrise Corridor, culminating in December 2010 with the completion of the Sunrise FEIS and a Record of Decision (ROD) issued in February 2011.

Sunrise Phase 1, including the I-205 interchange area and the extension to SE 122nd Avenue, was completed in 2016. Phase 2, extending from SE 122nd to SE 172nd Avenue, is the focus of this Refinement Planning effort.

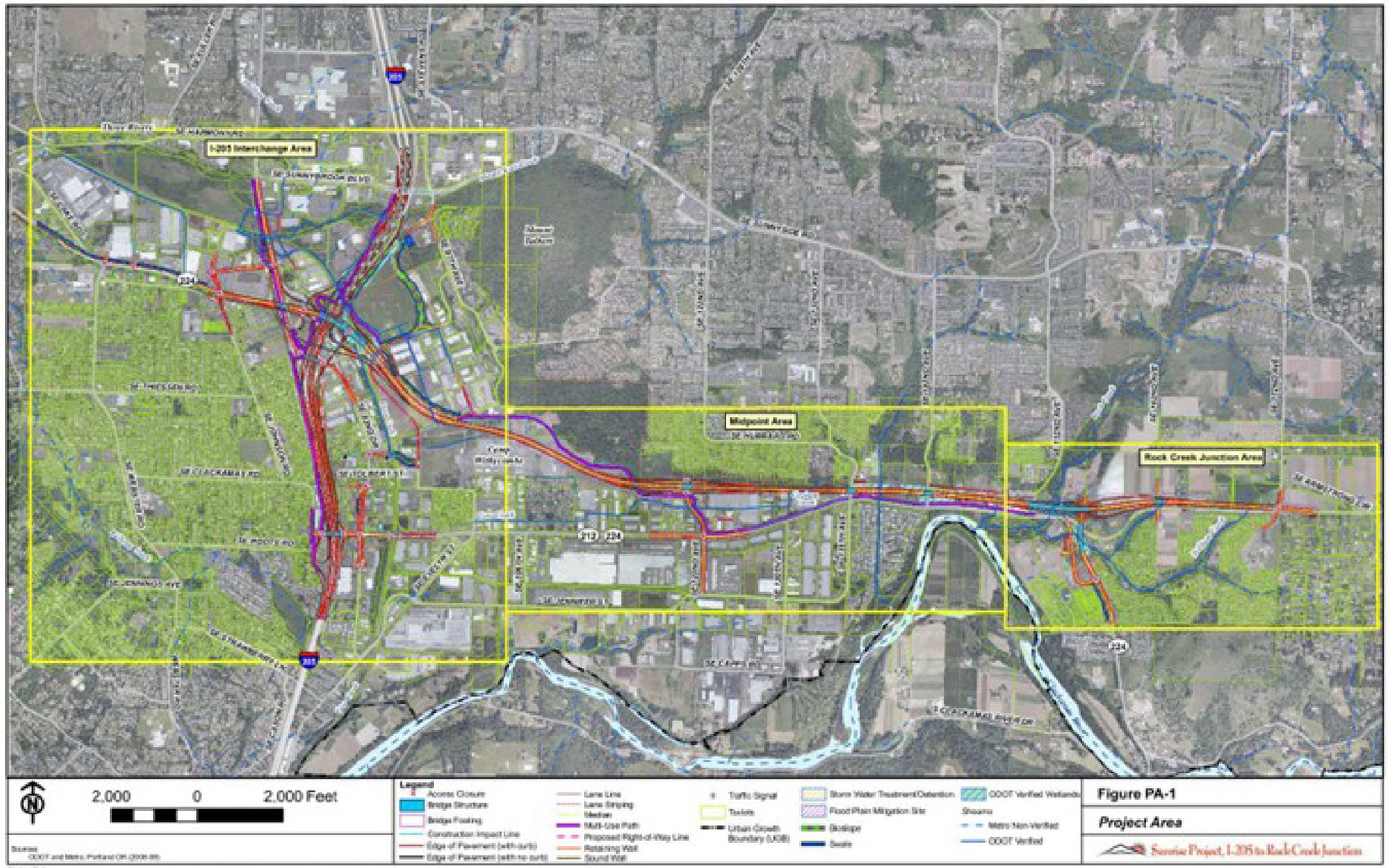
2010

The Sunrise FEIS (2010)

The original Sunrise FEIS Record of Decision (ROD) Selected Alternative provided local access at the SE 122nd Avenue and Rock Creek Junction (the intersection of Highway 212 and Highway 224) interchanges, and at the signalized SE 172nd Avenue intersection. The Sunrise was to be elevated above SE 135th Avenue, SE 142nd Avenue, SE 152nd Avenue, and SE 162nd Avenue where they currently intersect with Highway 212. These roads would pass underneath the Sunrise extension and were not planned to connect to it. The proposed Rock Creek Junction interchange included design features that were constrained by subsequent development along Highway 224 south of the junction. As a result, implementing the original plans would cost more than previously estimated and have more impacts.

The limitations of these previous efforts and the passage of time warranted further analysis. The design needed to be revised to meet the original Purpose and Need and the changing land use patterns and transportation demand within and near the corridor.

Exhibit 1. 2010 Sunrise FEIS Selected Alternative



2019 - 2020

The Sunrise Gateway Corridor Concept Study (2019 - 2020)

In 2019, Clackamas County coordinated with the City of Happy Valley, Metro, and ODOT to review, analyze, and enhance the plans for Sunrise Phase 2 (SE 122nd Avenue to SE 172nd Avenue). The new concept was known as the Sunrise Gateway Corridor Concept.

As the Sunrise Gateway Corridor Concept was being developed, agencies and organizations throughout the Portland metropolitan area identified the need for greater regional transportation investments. In July 2020, the Metro Council referred the $4.2 billion Get Moving 2020 transportation measure with projects and programs spanning the region to voters for the November 2020 ballot. The Sunrise Gateway Corridor Concept was the foundation for the Phase 2, Stage 1 project (SE 135th to SE 152nd Avenue) included in the measure.

In addition to addressing safety and mobility, Get Moving 2020 reflected community goals and emphasized safety, transit, and traffic improvements across all modes. The Sunrise Gateway Corridor Concept took a safe systems-based approach, providing better walking and biking connections throughout and promoting local connections via the backage road that comprises Phase 2, Stage 1.

2021 - 2025

Sunrise Corridor Community Visioning (2021 - 2025)

Although Get Moving 2020 was not approved by voters, the Sunrise Gateway Corridor remains a priority for Clackamas County and the region to support economic growth and prosperity. In 2021, Clackamas County, in partnership with ODOT, Metro, City of Happy Valley, and community partners sought funding from the state legislature to look holistically at the Sunrise Corridor area and work with the community to define a new vision for the corridor. These conversations advanced and refined the Sunrise Gateway Corridor Concept through meaningful partnerships with the people living, working in, and traveling through the area, and the business community. This shared vision recommends actions for land use, housing, community and environmental health, local transportation, and other infrastructure investments necessary to support a thriving future for residents, businesses and travelers. The Sunrise Gateway Corridor Refinement Plan is a key outcome of this process.

02

SUNRISE PURPOSE AND NEED & REFINEMENT PLANNING GOALS

Rock Creek Junction (Highways 212 and 224) looking east

This section connects the original Sunrise FEIS Purpose and Need with the Sunrise Gateway Corridor Concept Study and Sunrise Corridor Community Visioning goals, objectives, and evaluation criteria.

Sunrise FEIS (2010) Purpose and Need

The defined Purpose and Need of the original 2010 Sunrise FEIS are copied verbatim below in italics.

Project Purpose

The purpose of the proposed Sunrise Project is to effectively address the existing congestion and safety problems in the Highway 212 and 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.

Project Need

The project purpose is demonstrated with the following statements of need:

- *Highway 212 between I-205 and Rock Creek Junction is currently experiencing unacceptable levels of congestion and delay during the peak travel periods. In 2030, the projected traffic volume will far exceed the volume that the existing four-lane arterial can be expected to handle at an acceptable level of service.*[1]
- *By 2030, the numbers of households and jobs in the area served by this section of Highway 212 are expected to increase by 136 percent and 85 percent, respectively.*[2]
- *Both the northbound and southbound weave sections of I-205 between SE 82nd Avenue and Highway 212 are approaching capacity, resulting in frequent stop-and-go movements, difficulty in changing lanes, and long queues forming because of minor incidents. By the year 2015, this section of I-205 will exceed its design capacity, and the length of these stop-and-go movements will continue to grow if no action is taken. Traffic traveling on the Milwaukie Expressway (Highway 212) heading east, as well as the reverse direction, must either use the above section of I-205 or the currently congested SE 82nd Drive.*
- *Highway 212 near I-205 is ranked in the top 10 percent of state routes for vehicle crash rate. Over 500 vehicle collisions [between I-205 and Rock Creek Junction] were reported for this area during the five-year period of 1998 through 2002. The high crash rate is attributed to severe congestion and roadway deficiencies. Inadequate bicycle and pedestrian facilities reduce the safety and connectivity for these modes of travel in the project area.*
- *A safety analysis was conducted in September 2010 to reflect more recent crash data provided by the ODOT Crash Analysis and Reporting Unit for years 2005 through 2009. Highway 212 near I-205 continues to be ranked in the top 10 percent of the State's safety ranking index within the ODOT's safety ranking index (Safety Priority Index System or "SPIS") for 2010.*
- *Highway 212 is designated as a statewide and regional freight route, with 12 percent of the traffic on the project section of this highway being trucks. Highway 212 serves the Clackamas Industrial Area, which is a major freight distribution center for the Northwest. This area is expected to nearly double its employment by the year 2015. Long delays are currently reported for trucks accessing I-205 from the distribution center.* [3]

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1 Based on field observations in 2004/5, segments of Highway 212/224 within the Sunrise Project area experienced approximately four hours of daily congestion. In 2030, based on regionally adopted land use and employment projections and Metro's regional travel demand projections, without the proposed Sunrise Project, the same roadway is expected to experience about nine hours of congestion. See Chapter 6 of Sunrise Project Transportation Technical Report.

2 Based on growth projections from Metro 2004 data for development of the Purpose and Need. Technical analysis for the Transportation Technical Report used Metro's updated 2005 model to develop projections for 2030. This resulted in predicted jobs growth of 87 percent and household growth of 97 percent.

3 Based on field observations in 2004/5 and analysis of forecast future year travel demand associated with the range of alternatives studied. See Sections 5.6.3 and 6.7.3 of Sunrise Project Transportation Technical Report.

Sunrise Gateway Corridor Concept Study (2019 - 2020) Goals, Objectives, and Evaluation Criteria

The development of the Sunrise Gateway Corridor Concept was guided by the following goals and objectives as well as the Purpose and Need statement from the 2010 Sunrise FEIS and the Metro Council's goals and objectives for Get Moving 2020 bond measure corridors.

Goals

1. Provide east-west transportation improvements from I-205 at the Milwaukie Expressway to the Rock Creek Junction to meet existing and future safety, connectivity, continuity, access, and mobility needs for statewide, regional, and multimodal travel within the Highway 212/Highway 224 corridor.
2. Provide transportation improvements that support the viability of the Clackamas area for industrial uses and allow development of the Rock Creek Employment Area.
3. Support community livability and protect the quality and integrity of residential uses within and adjacent to the corridor.
4. Provide a facility that minimizes and effectively mitigates adverse impacts to natural and cultural resources within the project corridor.

Objectives

- Identify overall cost and construction efficiencies from the original 2010 FEIS project.
- Ensure improvements are forward compatible (limit throw away elements) as future phases of improvement are implemented.
- Maximize return on investment.
- Provide features compatible with Get Moving 2020 criteria.
- Preserve the Sunrise Gateway Corridor right-of-way.
- Develop a phasing strategy that can be used to achieve a four-lane corridor when traffic exceeds 70% of the volume that can be served by the two-lane initial phase.

Sunrise Corridor Community Visioning (2021 - 2025) Goals

The Visioning effort established six goals and objectives; the most relevant and aligned of these six to the FEIS Purpose and Need is Goal #1. This goal is shown below with its objectives. Other goals were related to environmental, economic, health, innovation, placemaking, and coordination opportunities.

Goal #1

- Create a safe and resilient transportation network for everyone that improves travel opportunities for pedestrians, bicyclists, transit riders, and drivers.
- Create an interconnected bicycle network that is safe and gets people where they want to go.
- Create an interconnected pedestrian network that includes continuous sidewalks, Safe Routes to School, access for people with disabilities, and lighting.
- Support an affordable, safe, and connected transit system that helps people get to jobs, services, and homes, and integrates with first- and last-mile solutions.
- Enhance regional and statewide mobility for residents, employees, and businesses by reviewing the Sunrise Corridor Final Environmental Impact Statement to identify investments needed to achieve the highway purpose and need.
- Provide roadways that facilitate the movement of emergency vehicles, goods, and services.

The remaining five goals and objectives support but are not directly related to the Sunrise's Purpose and Need and the Refinement Planning effort, but can be found in the Sunrise Corridor Community Vision document.

Highway 212/I-205 Interchange looking south

03

PUBLIC ENGAGEMENT

Equitably engaging with the community to understand their lived experience was an important first step in this process. The team intentionally used an equitable engagement approach to remove barriers to participation so everyone could have a voice in this process.

Outreach occurred during the Metro Get Moving Bond Measure process and at three key points throughout the Sunrise Visioning process to collect information on existing needs and feedback on future refinements. The project team also incorporated feedback collected from other recent planning efforts in the area, including the Damascus Mobility Plan, Happy Valley Transportation System Plan Update, and the Clackamas-to-Columbia (C2C) Corridor Plan.

Sunrise Gateway Corridor Concept Outreach during the Metro Get Moving Bond Measure

The following summary of Metro's Get Moving 2020 outreach, *shown in italics*, is copied verbatim from the Metro website. Due to the onset of the COVID-19 pandemic in early 2020, outreach shifted from in-person and online engagements to exclusively online opportunities.

Between January 2019 and July 2020, thousands of community members shared their views to inform the Get Moving 2020 plan. They attended dozens of workshops and events around the region, submitted written testimony and took online surveys. People contributed input in 11 different languages.

This built off engagement to inform the 2018 Regional Transportation Plan that included over 19,000 individual comments.

In summer 2019, community teams in Clackamas, Multnomah, and Washington counties toured major travel routes and provided feedback on potential projects. Community-based organizations led discussions with people of color to help shape investments that make our transportation system safer, give people more choices in how they get around, and make TriMet free for high school students.

Metro also worked with the Transportation Funding Task Force and met regularly with government partners, business leaders, transportation advocates, and other stakeholders to shape the plan.

Community Partnerships

In 2019, Metro awarded $200,000 in grants to four local organizations. The grants funded civic engagement activities to help ensure that the needs of people of color would be represented in the Get Moving 2020 plan. The four community partners – Asian Pacific American Network of Oregon (APANO), Portland African American Leadership Forum (PAALF), Unite Oregon, and Verde – led discussions where historically marginalized communities could voice their priorities. Community leaders reported input directly to the Metro Council.

Local Investment Teams

Over the summer of 2019, Metro convened volunteer teams in Clackamas, Multnomah, and Washington counties to tour areas targeted for investment and discuss whether the improvements proposed by transportation planners would meet the needs of their communities. The teams' findings helped shape the investment recommendations the Transportation Funding Task Force made to the Metro Council.

Task Force Meetings

In January 2019, Metro Council President Lynn Peterson appointed a 35-member Transportation Funding Task Force comprised of local leaders representing a diverse range of stakeholders and communities across greater Portland. Over the course of 22 meetings, the task force helped the Metro Council identify and prioritize the investments that make up the Get Moving 2020.

These efforts confirmed the need for refining the Sunrise FEIS and moving forward with a Refinement Plan and NEPA reevaluation effort focused on the recommended Sunrise Gateway Corridor Concept alternative.

Sunrise Visioning Outreach

The Sunrise Visioning outreach further informed the community about the original Sunrise FEIS, changes since Phase 1 (I-205 to SE 122nd Avenue construction), the Sunrise Gateway Corridor Concept, and further alternatives to consider in preparing a Refinement Plan that meets both the original Purpose and Need and the current and future needs within the corridor. Following is an overview of the engagement.

Engagement Round #1

From November 2023 through February 2024, the project team engaged the community to gain a basic understanding of existing conditions, community values, and how the community preferred to be engaged throughout the visioning effort. Early conversations included stakeholder interviews and briefings with interested parties, meetings with representatives of area businesses and the larger business community, equitable engagement workshops, and pop-up events. The input from this outreach, along with data on existing conditions, yielded important information used in drafting six goals and accompanying objectives for the project. About 575 people gave feedback in this engagement round.

Engagement Round #2

This round of engagement, from March through September 2024, gathered public feedback on proposed goals and objectives, opportunities and challenges, future conditions, and ideas for future improvements in the greater corridor area extending south to the Clackamas River. The project team used a variety of methods to engage the community, including an in-person open house, meetings with representatives of area businesses and the larger business community, mailed postcards to more than 5,000 people, an online survey available in four languages, language focus groups, pop-up events, and meetings with the committees described later in this section.

Engagement Round #3

The third round of engagement lasted from January to February 2025. The project team engaged the community to gather feedback on the recommended strategies, including the draft Sunrise Gateway Corridor Refinement Plan and draft Visioning Plan. This round of engagement included an in-person open house, postcards mailed to more than 5,000 people, an online survey available in four languages, language focus groups, pop-up events, and meetings with the project committees described later in this section.

Committees and Cohorts

Multiple committees were convened to ensure that project partners, technical experts, and community members were involved in project development and the decision-making structure throughout the Sunrise Corridor Community Visioning process.

Steering Committee

The Steering Committee (SC) was composed of community members, organization representatives, and elected officials who worked with staff to provide feedback and guidance to the project team and partners at key planning milestones, collaboratively developed an implementable action plan, and made recommendations for a community vision.

Leadership Cohort

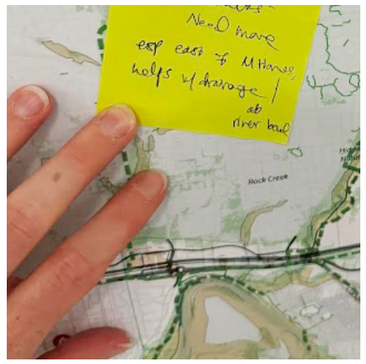
The Leadership Cohort (LC) was composed of community members who provided feedback on key project elements, helped ensure the voices of the community were heard and represented in the final vision and in the implementation phases, and developed plans for coalition and implementation efforts.

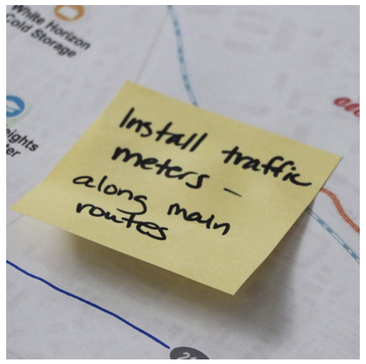
Technical Advisory Committee

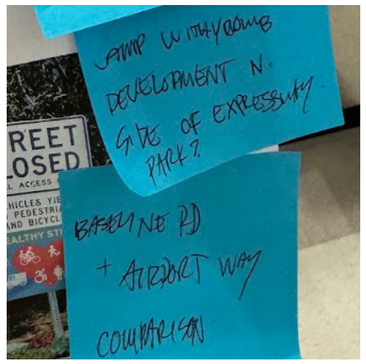
The Technical Advisory Committee (TAC) was composed of subject area experts from organizations and partner agencies, who provided skilled support and technical analysis to the Steering Committee to help develop an equitable and community-supported vision for the future of the Sunrise Gateway Corridor.

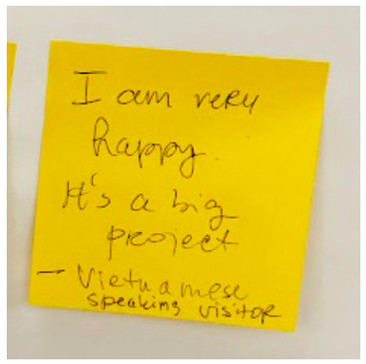
Title VI Compliance

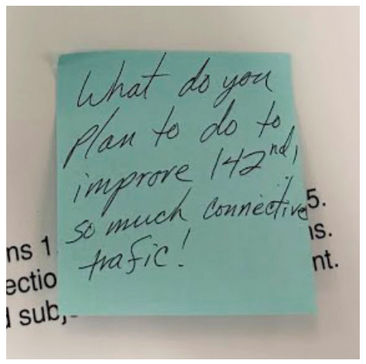
All public, community, and stakeholder engagement efforts were developed in accordance with Title VI of the Civil Rights Act. The public involvement plan included information and resources on how to request Title VI accommodations and translation or interpretation services.

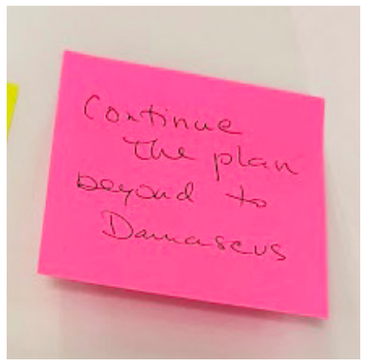












What the Community Said

Key themes from the outreach efforts related to the Sunrise Corridor

Address congestion and safety issues.

Increase access to roadways and transit.

Improve multimodal travel options including sidewalks and bike lanes.

Improve walking access to schools.

Create access to parks and other green spaces.

Enhance health and wellbeing for people and wildlife.

04

EXISTING AND FUTURE CONDITIONS

Highway 212 west of SE 122nd Avenue, looking west

The Sunrise Corridor serves as an east-west connection between I-205 and US 26. The Refinement Plan focuses on the segments of Highway 212 and Highway 224 between SE 122nd Avenue and SE 172nd Avenue (Sunrise Phase 2), which are experiencing morning and evening peak hour congestion and documented multimodal safety challenges.

Walking and biking facilities are largely absent throughout the study area, except for the I-205 multi-use path and the Sunrise Corridor multi-use path, and there are few crossings along the highway. Accessing area schools and parks by bike and on foot can be challenging.

Transit service is limited within the corridor and includes TriMet lines (with four existing routes and two planned routes) and the ClackCo Connects Shuttles (Clackamas Industrial Area Shuttle and Clackamas Community College [CCC] Xpress).

The lack of continuous multimodal connections limits safe access for pedestrians, cyclists, and transit users. This section describes conditions in the study area today and looks ahead to what can be expected in the future.

Existing Operations

The Sunrise Corridor study area plays a crucial role in the movement of people and goods within the region and throughout the state. Important roadways in this area include Highway 212, a key east-west arterial route providing local connections to Happy Valley and the Damascus area and Highway 224, which connects Highway 212 to communities to the south, including Estacada and Eagle Creek. Other significant roads include SE Sunnyside Road and SE 172nd Avenue, both designated as major arterials in Happy Valley. SE Jennifer Street, SE Evelyn Street, SE 82nd Drive, SE 122nd Avenue, SE 135th Avenue, and SE 142nd Avenue are classified as minor arterial roadways.

Several intersections in the study area are experiencing congestion that exceeds adopted mobility performance thresholds, including the following:

- SE 152nd Avenue/Highway 212 during both weekday AM and PM peak hours.
- Highway 213 northbound access/I-205 southbound off-ramp/Highway 224 during weekday PM peak hours.

Additionally, at least one approach at each of the following major highway intersections exceeds vehicle storage capacity during peak hours:

- Highway 213 southbound off-ramp/I-205 southbound on-ramp/Highway 224: The southbound right-turn queue extends beyond the designated lane striping during both weekday AM and PM peak hours.
- Highway 213 northbound access/I-205 southbound off-ramp/Highway 224: The westbound through movement regularly blocks SE Ambler Road during both the weekday AM and PM peak hours. The eastbound left-turn queue extends beyond the striped storage during the PM peak hour and into the through lane. In addition, the northbound right-turn queue regularly blocks the left-turn lane and nearly backs up to I-205.
- SE 135th Avenue/Highway 212: The southbound right-turn queue regularly extends beyond the striped storage available during both peak hours, blocking the left-turn lane. In the PM peak, the westbound through queue also blocks driveways on both sides of Highway 212.
- Highway 224/Highway 212 (Rock Creek Junction): The northbound left-turn lane regularly queues beyond the available storage during both peak hours, blocking access to the right-turn lane. In the PM peak, the eastbound right-turn lane also extends beyond the available storage and beyond SE 152nd Avenue.

Highway 212 east of 122nd Ave (2023)

40,000
AVERAGE ANNUAL DAILY TRAFFIC (AADT)

2,500
TRUCK AADT

Source: ODOT TransGIS

Community Feedback

Many community members reported difficulty with turning left onto Highway 212 at unsignalized locations. At a community pop-up with the Shadowbrook community, **one resident shared they felt they took their life into their hands turning left across a constant stream of eastbound traffic.**

For a complete summary of existing transportation conditions, see *Technical Memorandum: Existing Transportation Conditions*, linked at the end of this report.

Existing Safety

There were 738 crashes in the study area in the five-year period between January 1, 2018 and December 31, 2022, including six fatal crashes and 24 serious injury crashes.[4] One fatal crash occurred on the Sunrise Expressway, with the remaining five occurring on Highway 212. Seven of the crashes involved pedestrians, including one fatal crash and two serious injury crashes. There were two crashes involving bicyclists, both of which resulted in non-serious injuries.

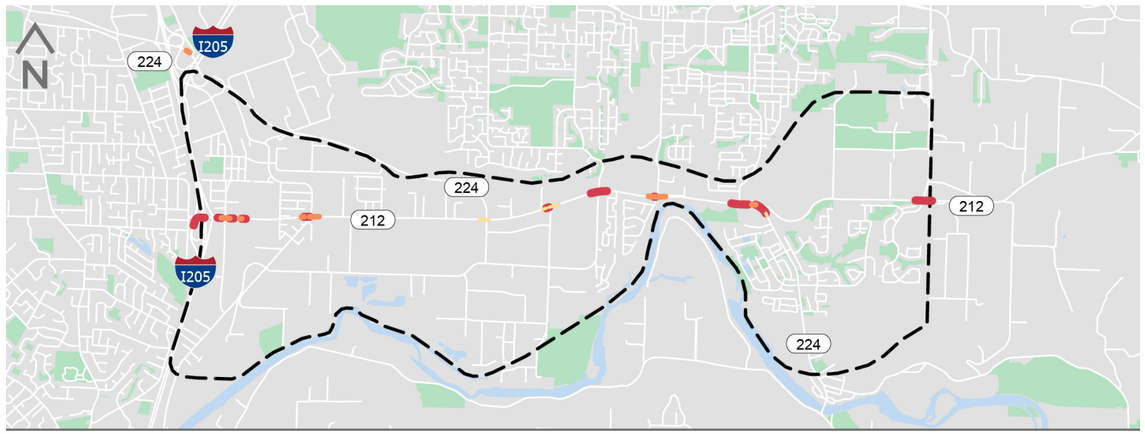
Rear-end crashes were by far the most frequent crash type (55 percent), followed by turning movement crashes (23 percent). Two fatal and seven serious injury crashes were rear-end. There were seven serious injury turning movement crashes. Together, these two crash types totaled 67 percent of all fatal or serious injury crashes within the study area. Sideswipe (overtaking) and fixed-object crashes, the next most common, were a combined 15 percent of crashes.

Some 70 crashes occurred at the I-205/OR 224 interchange. More than 500 crashes occurred on Highway 212 from the I-205 interchange to Rock Creek Junction, including multiple fatal crashes. On the stretch of Highway 212 from Rock Creek Junction to SE 172nd Avenue (the eastern study extents), there were 93 crashes, including a fatal fixed-object crash. At the lone study intersection not on the highway system, SE Jennifer Street/SE 122nd Avenue, there were six reported crashes—five angle crashes and one turning movement crash.

High Severity, High Frequency Locations

ODOT uses the Safety Priority Index (SPIS) list to help the region prioritize locations for further safety review, The SPIS locations are identified based on crash frequency, crash rate, and crash severity. Locations that are identified in the top 5

Exhibit 2. Safety Priority Index



LEGEND

95th to 100th Percentile | 90th to 95th Percentile | 85th to 90th Percentile | Project Boundary

738 Total Crashes
6 Fatal | **24** Serious Injury

2 Bike Crashes
0 Fatal | **0** Serious Injury

7 Pedestrian Crashes
1 Fatal | **2** Serious Injury

55% Rear-end crashes
70 crashes at I-205/OR224

4 ODOT crash data, 2018-2022

percent of the regional sites are reviewed by the region to identify any potential safety fixes. Within the project area, nine roadway segments were identified in the top 5 percent of SPIS scores for 2018-2022 (see **Exhibit 2**).

Future 2045 No-Build Conditions

Between 2020 and 2045, the Portland Metropolitan Area expects a 37 percent increase in the number of households and a 23 percent increase in jobs. Traffic volumes are anticipated to grow correspondingly. This section presents the future year "2045 No-Build" conditions, reflecting what the area will experience without Phase 2 of the Sunrise in-place.

Operations

Under year 2045 No-Build conditions where no changes are made to increase the vehicle capacity on the road system within the study area, congestion, travel time, and emergency response times are projected to worsen. In addition to worsening congestion and queuing beyond issues identified in existing conditions, the following intersections will fail to meet adopted performance thresholds:

- Highway 213 southbound off-ramp/I-205 southbound on-ramp/Highway 224 intersection and Highway 213 northbound access/I-205 southbound off-ramp/Highway 224 intersection during during both the weekday AM and PM peak periods.
- Highway 212 intersections at SE 135th Avenue (AM and PM), SE 142nd Avenue (AM and PM), and SE 152nd Avenue (AM and PM)
- Highway 212/224 at Rock Creek Junction: A sensitivity analysis indicates that Rock Creek Junction can maintain acceptable Oregon Highway Plan thresholds through 2040, but exceeds Highway Design Manual (HDM) thresholds by 2028 under the No-Build scenario.

Additionally, queuing and congestion are expected at several intersections, which contribute to potential safety concerns:

- Highway 213 southbound off-ramp/I-205 southbound on-ramp/Highway 224
- Highway 213 northbound access/I-205 southbound off-ramp/Highway 224
- SE 135th Avenue/Highway 212
- Highway 224/Highway 212 (Rock Creek Junction)

The local road network identified in TSPs plays an important role in this corridor, such as the northward extension of 162nd across Rock Creek and the circulation streets for the Rock Creek Employment Center. These connections help to provide the necessary network for local trips and preserves the capacity of the regional facilities for regional trips and mobility.

Highway 212 east of SE 122nd Avenue (2045) Demand

76,000
AVERAGE ANNUAL DAILY TRAFFIC (AADT)

4,500
TRUCK AADT

Source: Post-processed Metro RTP travel demand model volumes

For a complete summary of the future 2045 No-Build transportation conditions, see *Technical Memorandum - Future Transportation Conditions*, linked at the end of this report.

Pedestrians and Bicycles

The Walk Bike Clackamas Plan outlines projects impacting the Sunrise Corridor, including:

- Five Clackamas County projects aimed at closing gaps in the walking and biking network on Jennifer Street and SE 142nd Avenue.
- Three ODOT projects that extend the Sunrise multi-use path to Rock Creek Junction and add shoulders and/or bikeways on Highways 212 and 224.

Additionally, the Happy Valley Transportation System Plan (TSP) includes several walking and biking projects in and around the Sunrise Corridor study area. Pedestrian projects include:

- Sidewalk infill on SE 142nd Avenue, SE 152nd Avenue, Highway 212, Highway 224, and SE 162nd Avenue and SE Rock Creek Boulevard
- Adding bike lanes on the SE 162nd Avenue extension between SE 157th Avenue and Highway 212
- Constructing the Clackamas River Trail
- Adding bike lanes on Highway 212 to the east from Rock Creek Junction
- Extending the Sunrise multi-use path to the east
- Constructing a shared-use path from Rock Creek Junction to the north following Rock Creek

Without these changes, significant gaps in the active transportation system will remain under the No-Build scenario. Notably, pedestrian and bicycle access across Highway 212 between Rock Creek Junction and SE 172nd Avenue is unaddressed, posing challenges for students and residents south of Highway 212 who need to access schools and parks.

Transit

TriMet's 2023 *Service Concept Final Report* (Forward Together) recommends enhancements to transit services in the Sunrise Corridor, including:

- The addition of Line 145—Jennings from Oregon City and Gladstone to Clackamas Town Center
- Increased frequency of Line 79 on SE 82nd Drive
- The introduction of a new hourly Line 150 from Milwaukie to Gresham
- Reduced service on SE 122nd Avenue/Mather and SE 152nd Avenue

The Clackamas County Transit Development Plan identifies both medium- and long-term transit needs, recommending service expansions along Highway 212 and the establishment of a transit hub near Highway 212 and SE 82nd Drive. However, in the No-Build scenario, existing and new bus services along Highway 212 will encounter significant delays due to the anticipated queuing issues. The absence of high-capacity transit options and protected spaces will hinder reliable bus service, making it difficult for TriMet and the Clackamas County Industrial Shuttle to effectively increase service.

Source: ODOT

Existing and Future Deficiencies

Exhibit 3 summarizes the existing and future deficiencies along the Sunrise Phase 2 area, including congestion, safety, freight movement, and transit access needs. Additionally, Table 1 shows the existing and future no-build volume-to-capacity (v/c) ratios at the study intersections. As shown, two intersections are already over capacity today (over 1.0), and many more are expected to near or exceed capacity if no improvements are made in the future.

Table 1. Existing and Future No-Build Intersection Operations

Study Intersection	Scenario			
	2023 No-Build		2045 No-Build	
	AM	PM	AM	PM
1	0.83	0.78	0.85	0.89
2	0.83	1.09	0.90	1.15
3	0.68	0.62	0.52	0.60
4	0.69	0.64	0.87	0.69
5	0.92	0.98	1.13	1.09
6	0.86	0.89	1.05	0.95
7	>2.0	>2.0	>2.0	>2.0
8	0.73	0.66	0.82	0.76
9	0.59	0.76	0.62	0.89
10	0.18	0.36	0.31	0.69

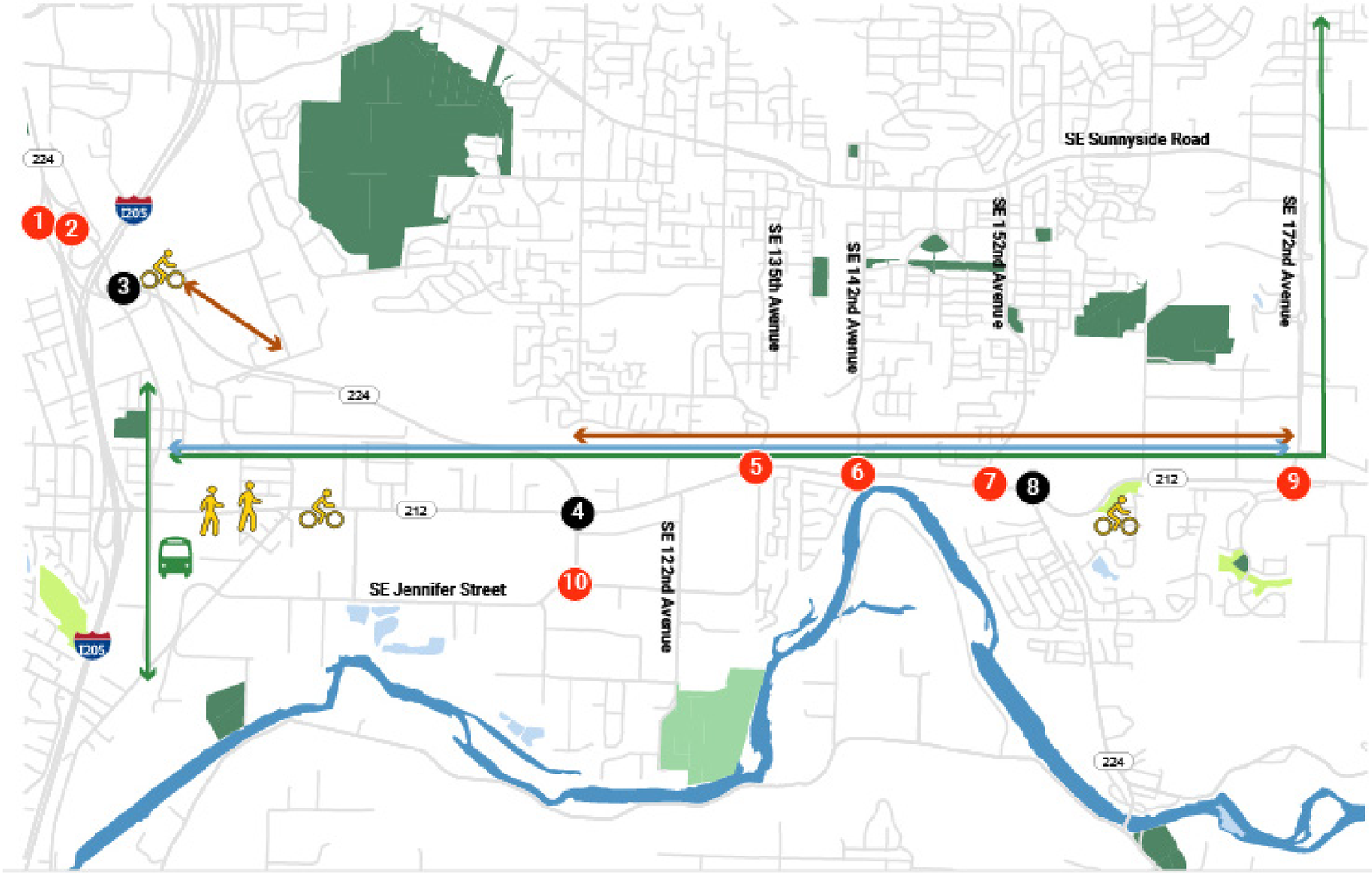
LEGEND

- Meets mobility target
- Nearing capacity and mobility target
- Over capacity and mobility target
- Significantly over capacity and mobility target

Why Do Intersection Operations Improve in the Future at Some Intersections?

Several intersections are currently at or projected to be over capacity, which limits future traffic volume growth. Recognizing these constraints, some traffic in the 2045 travel demand model routes to different corridors that have planned improvements, lowering traffic at some key intersections. This can be seen by the minimal impact or slight improvement in some time periods to intersections near I-205 (1 and 3).

Exhibit 3. Existing and Future Deficiencies - Safety, Operations, Freight, and Transit



LEGEND

- Gaps in regional walking and biking networks
- Heavy freight traffic needing access to industrial areas and regional facilities
- Failing intersections limiting mobility and access, locally and regionally
- New and enhanced transit services needing better bus stops
- High crash rates along the corridor, including crashes with vulnerable road users shown in icons where they occurred

05

ALTERNATIVES DEVELOPMENT AND EVALUATION

A graphic rendering of SE 142nd Avenue/Sunrise Alternative looking northwest

After assessing current and projected future conditions along the corridor, the project team developed and evaluated revised solutions to address the identified deficiencies. After hearing the community and business feedback and considering their lived experience, several of these revisions were selected, refined, and packaged to create the recommended alternative discussed in the next chapter. If this plan is adopted, the project partners will work together to secure funding to construct the recommended alternative.

Based on feedback from the community, the project team started with the Sunrise Gateway Corridor Concept, developed revisions and alternatives, and compared the new alternatives to the 2010 Sunrise FEIS. These revisions and alternatives include:

- One refinement at SE 122nd Avenue to incorporate a full interchange.
- One refinement at 135/142/152 Avenues to incorporate a two-way left-turn lane on the backage road.
- One refinement at Rock Creek Junction to enhance the signal.
- Several refinements and construction stages to allow improvements to be phased.

Corridor-wide alternatives and enhancements were also analyzed to improve traffic operations and safety based on the recommended Sunrise Gateway Corridor Concept alternative, changes since 2020, and community and business feedback through the Sunrise Visioning process.

To ensure consistency with the FEIS, the Highway 224 intersections at nodes 1, 2, and 3 were assumed to have three eastbound lanes and three westbound lanes. All the alternatives and refinements were evaluated based on their potential environmental impacts and technical merit (operations and safety enhancements and constructibility) and economic feasibility to meet the 2010 Sunrise FEIS Purpose and Need and Goal #1 of the Sunrise Visioning Plan. Further detailed environmental review will occur as part of the reevaluation effort following adoption of the Refinement Plan.

How the Alternatives Were Developed

2010

1. Initial Selected Alternative (2010 Sunrise FEIS Process)

Alternatives development began in 2010 with defining the project Purpose and Need and the goals and objectives. The alternatives were developed in a collaborative, step-by-step process involving the affected communities, regulatory agencies, jurisdictional stakeholders, and the public.

As part of the Sunrise FEIS, screening criteria were applied to the many alternatives and ideas received at the public workshops. The criteria were used as discussion points for eliminating, advancing, or combining alternatives. This process resulted in the Selected Alternative.

2020

2. Sunrise Gateway Corridor Concept Process

During the 2020 Sunrise Gateway Corridor Concept development process, two day-long workshops were conducted to develop corridor design alternatives and ultimately select an alternative for the Metro Get Moving 2020 ballot initiative. Participants included staff from the City of Happy Valley, Clackamas County, ODOT, and Metro, along with consultant support for the City and County. Based on feedback from the Get Moving 2020 participants, the team considered several priorities when developing the initial corridor concept including:

- Providing east-west transportation improvements from I-205 at the Milwaukie Expressway to Rock Creek Junction to meet existing and future safety, connectivity, continuity, access, and mobility needs for statewide, regional, and multimodal travel within the Highway 212 corridor.
- Providing transportation improvements to further support the Clackamas Industrial Area's viability.
- Supporting community livability and protecting the quality and integrity of residential uses within and adjacent to the corridor.
- Providing a facility that minimizes and effectively mitigates adverse impacts to natural and cultural resources within the project corridor.

The recommended Sunrise Gateway Corridor Concept alternative was further vetted through the Get Moving 2020 engagement process. The alternatives development, evaluation, and selection process is documented in the 2020 Sunrise Gateway Corridor Concept.

2021-2025

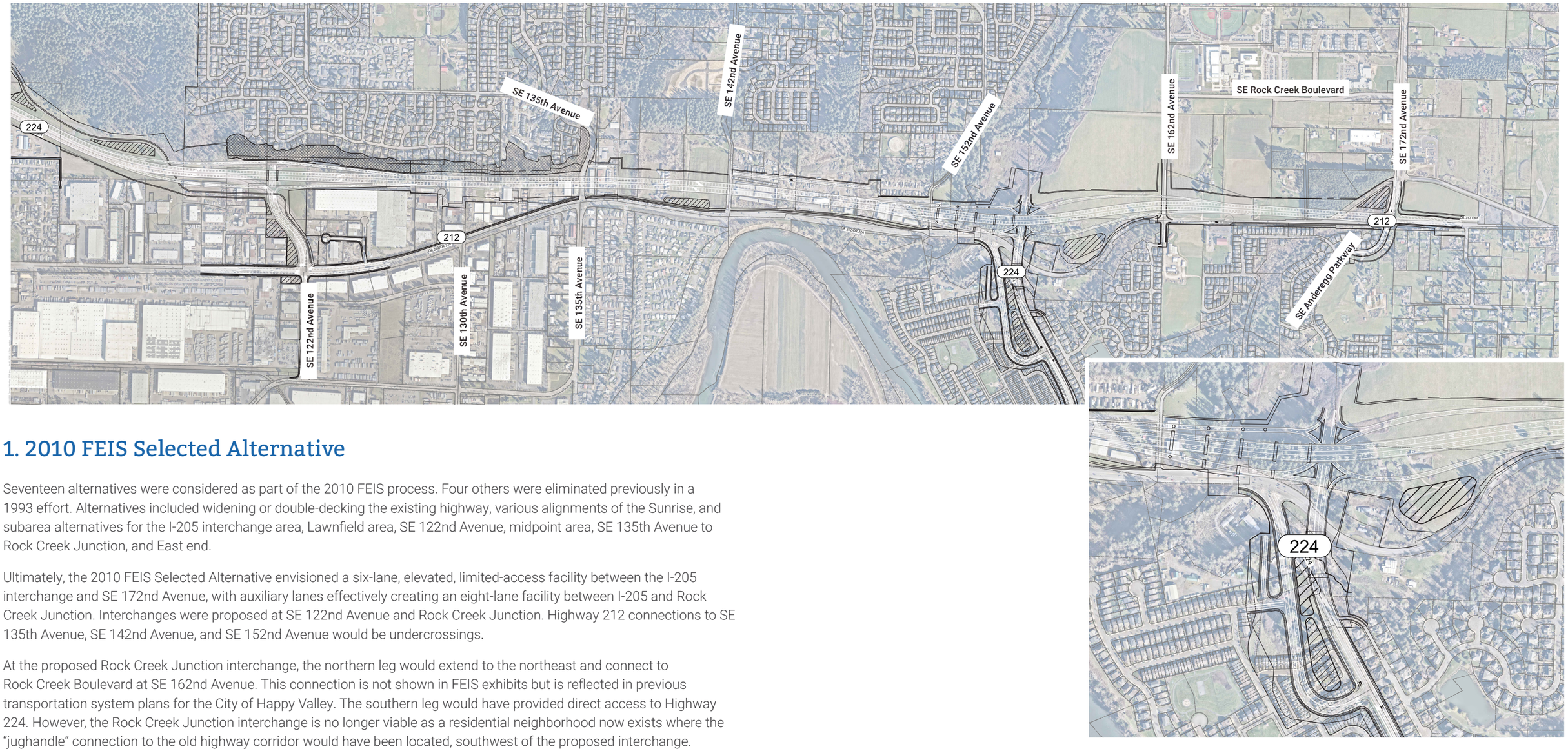
3. Sunrise Visioning Process

The Sunrise Visioning Process brought the recommended 2020 Sunrise Gateway Corridor Concept alternative back to the project partners, project committees, and the community for further analysis, refinement and feedback. The Project Management Team, TAC, Steering Committee, Leadership Cohort, and the community at large provided feedback at various meetings, briefings, and public open houses.

Graphic rendering of SE 172nd Avenue/Sunrise Interchange Terminal Alternative looking north

The Range of Alternatives

Exhibit 4. Sunrise FEIS Selected Alternative (SE 122nd Avenue to SE 172nd Avenue)



1. 2010 FEIS Selected Alternative

Seventeen alternatives were considered as part of the 2010 FEIS process. Four others were eliminated previously in a 1993 effort. Alternatives included widening or double-decking the existing highway, various alignments of the Sunrise, and subarea alternatives for the I-205 interchange area, Lawnfield area, SE 122nd Avenue, midpoint area, SE 135th Avenue to Rock Creek Junction, and East end.

Ultimately, the 2010 FEIS Selected Alternative envisioned a six-lane, elevated, limited-access facility between the I-205 interchange and SE 172nd Avenue, with auxiliary lanes effectively creating an eight-lane facility between I-205 and Rock Creek Junction. Interchanges were proposed at SE 122nd Avenue and Rock Creek Junction. Highway 212 connections to SE 135th Avenue, SE 142nd Avenue, and SE 152nd Avenue would be undercrossings.

At the proposed Rock Creek Junction interchange, the northern leg would extend to the northeast and connect to Rock Creek Boulevard at SE 162nd Avenue. This connection is not shown in FEIS exhibits but is reflected in previous transportation system plans for the City of Happy Valley. The southern leg would have provided direct access to Highway 224. However, the Rock Creek Junction interchange is no longer viable as a residential neighborhood now exists where the "jughandle" connection to the old highway corridor would have been located, southwest of the proposed interchange.

Exhibit 4 illustrates the Selected Sunrise FEIS alternative between SE 122 Avenue and SE 172nd Avenue.

Sunrise FEIS Rock Creek Junction Interchange

2. 2020 Sunrise Gateway Corridor Concept Alternatives

Alternatives considered in 2020 included a two-lane and four-lane phased Sunrise mainline, and five tie-in alternatives to Highway 212 at SE 122nd Avenue, seven at SE 135th Avenue/SE 142nd Avenue/SE 152nd Avenue; three at Rock Creek Junction; and 13 at Rock Creek Junction/SE 162nd Avenue/SE 172nd Avenue. During the design workshops and evaluation process, environmental and development constraints and cost implications emerged that eliminated several alternatives. Considering constraints and costs, the team took a system-needs approach and considered operational assessments, multimodal benefits, and accessibility to ensure all community members can travel safely by different modes. This narrowed alternatives down to the recommended tie-ins.

- **SE 122nd Tie-In** - Introduced a one-way couplet with two-phase signal operation at the long-term interchange ramp locations. A multi-use path connected to Highway 212 on the east side of SE 122nd Avenue.
- **SE 135th/SE 142nd/SE 152nd Tie-in and Segment** - Maintained Sunrise at grade from SE 122nd Avenue through SE 152nd Avenue, adding an interchange on Highway 212 at SE 142nd Avenue that bridged over the Sunrise. Disconnected vehicle connections to Highway 212 at SE 135th Avenue and rerouted them to SE 142nd Avenue. Maintained bike and pedestrian connections at SE 135th Avenue (via a pedestrian/bicycle bridge), SE 142nd Avenue (via the proposed SE 142nd Avenue bridge), and SE 152nd Avenue (via the Rock Creek trail connection to the Rock Creek Junction intersection. The SE 152nd Avenue/Highway 212 intersection was converted to right-in/right-out with all remaining movements rerouted to the new interchange at SE 142nd Avenue and Highway 212.
- **Rock Creek Junction** - No interchange configuration was deemed technically and economically feasible at Rock Creek Junction. Instead, vehicles on Highway 224 would access the Sunrise Gateway Corridor via SE 122nd Avenue or SE 172nd Avenue. In addition, based on the redistribution to Sunrise and reduction of traffic on Highway 212, a multi-lane roundabout was recommended for the intersection of Highway 212 and Highway 224 following construction of the Sunrise.
- **Rock Creek Junction/SE 162nd Avenue to SE 172nd Avenue Tie-in and Segment** – With the Rock Creek Junction interchange no longer feasible, a reconfiguration of the nearby collector roads accommodated a Highway 212 connection to the Sunrise Gateway Corridor at SE 172nd Avenue. The following improvements were recommended:
  - Realign SE 162nd Avenue and SE Rock Creek Boulevard as a continuous roadway.
  - Construct a four-lane bridge across Rock Creek between SE 152nd Avenue and SE 162nd Avenue.
  - Shift the alignment of the Sunrise Corridor south between SE 162nd Avenue and SE 172nd Avenue to use the existing Highway 212 alignment, reducing costs and right-of-way impacts.

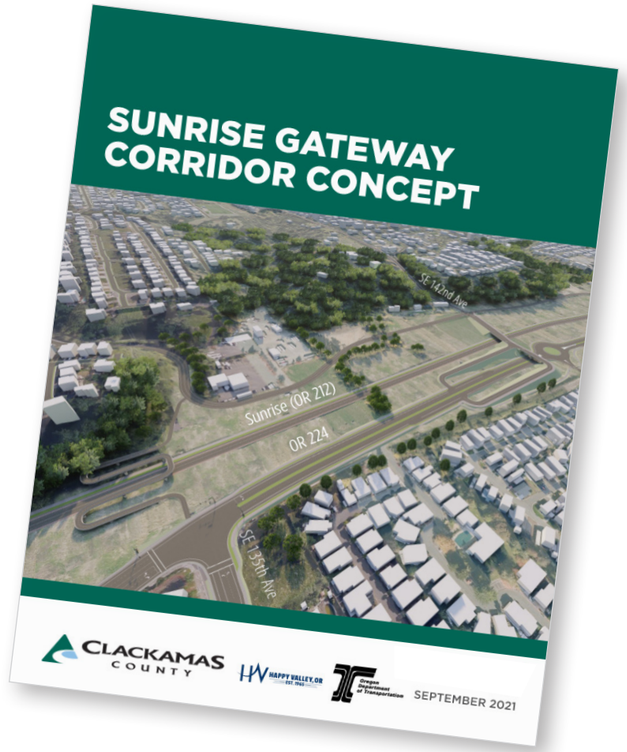
Based on community priorities, the Metro Council directed that the Get Moving 2020 plan should prioritize investments that:

- Improve safety for everyone
- Prevent displacement and benefit communities of color
- Make it easier to get around
- Support resiliency from disasters and emergencies
- Support clean air, clean water, and healthy ecosystems
- Support economic growth
- Increase opportunity for low-income Oregonians
- Leverage regional and local investments

To improve safety and local access east of SE 172nd Avenue, the following system improvements were recommended:

- Incorporate Happy Valley TSP connections, such as realigning SE Tong Road to intersect Highway 212 near 187th Avenue.
- Extend SE Rock Creek Boulevard from SE 172nd Avenue to intersect Highway 212 at a signalized intersection at the approximate location of the Tong Road intersection.
- Implement access control on Highway 212 east of SE 172nd Avenue to the new SE Rock Creek Boulevard intersection.
- Add a new road south of existing development from Anderegg Parkway to Tong Road, providing access to existing properties.

With these recommendations, the Sunrise Corridor was found to provide the regional mobility and connectivity while Highway 212 provided safe and comfortable local connections for all modes. **Exhibit 5** shows the overall 2020 Sunrise Gateway Corridor Concept recommendation.



The Sunrise Gateway Corridor Concept, linked at the end of this report, provides a complete summary of the alternatives analysis for the work completed in 2019 and 2020 for the Metro Get Moving Bond Measure.

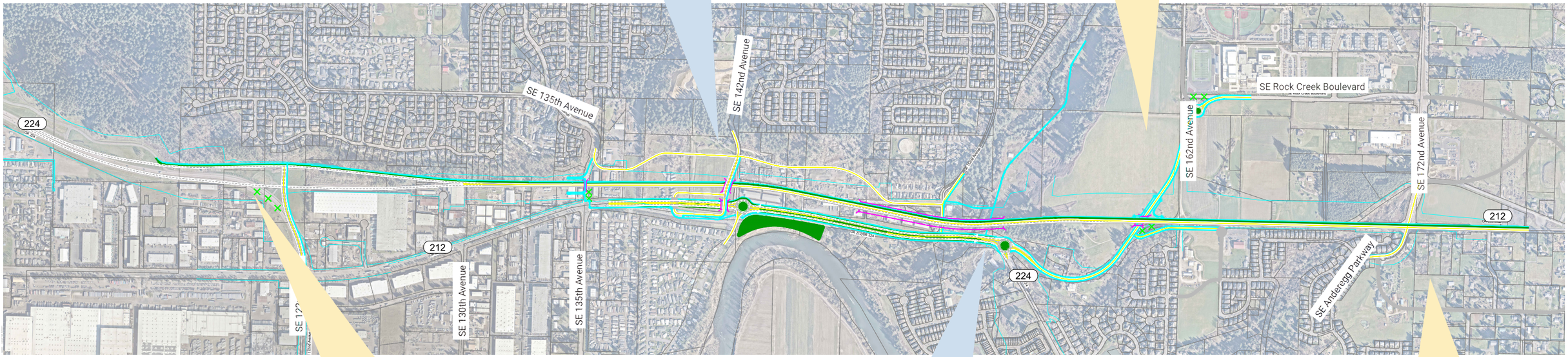
Exhibit 5. Sunrise Gateway Corridor Concept

Maintains Sunrise at grade from SE 122nd Avenue through SE 152nd Avenue, adding an interchange on Highway 212 at SE 142nd Avenue that bridges over the Sunrise. Vehicle connections to Highway 212 would be disconnected at SE 135th Avenue and rerouted to SE 142nd Avenue. Bike and pedestrian connections would be maintained at SE 135th Avenue (via a pedestrian/bicycle bridge), SE 142nd Avenue (via the proposed SE 142nd Avenue bridge), and SE 152nd Avenue (via the Rock Creek trail connection to the Rock Creek Junction intersection). The SE 152nd Avenue/Highway 212 intersection is converted to right-in/right-out with all remaining movements rerouted to the new interchange at SE 142nd Avenue at Highway 212. This shifts Highway 212 to the south and converts it to a complete street boulevard with a raised landscape median and multi-use paths to fully integrate pedestrian, bicycle, and transit users into the system

With the Rock Creek Junction interchange no longer feasible, a reconfiguration of the nearby collector roads accommodates a Highway 212 connection to the Sunrise Gateway Corridor at 172nd Avenue. The following improvements were recommended:

- Realigning SE 162nd Avenue and SE Rock Creek Boulevard as a continuous roadway.
- Constructing a four-lane bridge across Rock Creek between SE 152nd Avenue and SE 162nd Avenue.

The Sunrise Corridor alignment was shifted south between SE 162nd Avenue and SE 172nd Avenue to use the existing Highway 212 alignment, reducing costs and right-of-way impacts.



Along the existing Highway 212, local roadways, new connections, and enhanced walking and biking infrastructure will support safe modal options for all. These improvements are especially useful for children traveling between schools and residential neighborhoods, and other community members accessing the corridor via transit.

Introduced a one-way couplet with two-phase signal operation at the long-term ramp locations. A multi-use path connects to Highway 212 on the east side of SE 122nd Avenue.

No interchange configuration was deemed technically and economically feasible at Rock Creek Junction. Instead, vehicles on Highway 224 would access the Sunrise Corridor via SE 122nd Avenue or SE 172nd Avenue. A multi-lane roundabout was recommended for the intersection of Highway 212 and Highway 224 following construction of the Sunrise.

To improve safety and local access east of SE 172nd Avenue, implement the Happy Valley TSP local connections; implement access control on Highway 212 east of SE 172nd Avenue to the new SE Rock Creek Boulevard intersection; and add a new road south of existing development from Anderegg Parkway to Tong Road providing access to existing properties.

3. 2021 – 2025 Sunrise Visioning and 2024 Refinement Plan Alternatives

As part of the Sunrise Visioning Project, the recommended 2020 Sunrise Gateway Corridor Concept alternative was reintroduced to the public and analyzed using post-pandemic traffic volumes and updated 2045 projections. The following sections discuss changes to the alternative based on community, business, and project partner feedback.

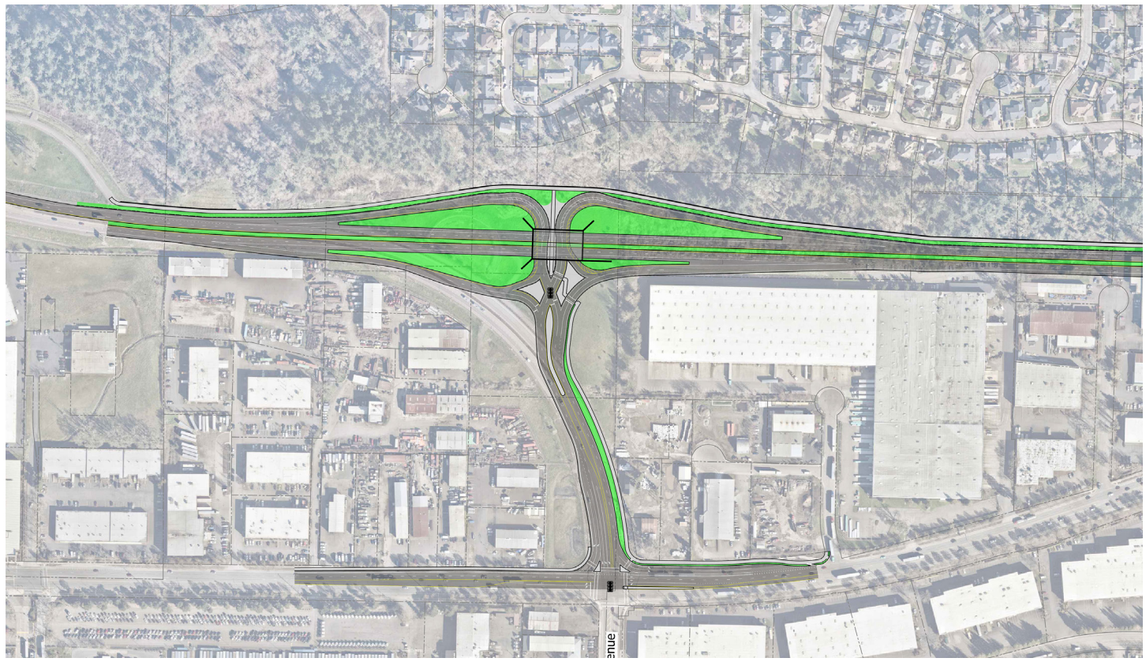
2020 Gateway Corridor Concept Operational Assessment

Updated travel patterns showed that several study intersections were no longer meeting their performance standards compared to the 2020 Sunrise Gateway Concept Plan findings. To address these deficiencies, the following refinements were made to the previously recommended alternative:

- Add second eastbound left-turn, westbound right-turn, and southbound right-turn lanes at the SE 122nd Avenue/ Highway 212 intersection.
- Develop dual northbound right-turn lanes at the SE 135th Avenue/Highway 212 intersection.
- Channelize the northbound right turn and southbound right turn lanes at the reconfigured SE 142nd Avenue/Highway 212 eastbound and westbound interchange terminals as free movements with receiving lanes on Highway 212. Alternatively simple two-phase signals could be introduced and synchronized with the SE 135th Avenue signal.
- Channelize the southbound right-turn at the reconfigured SE 152nd Avenue/Highway 212 westbound terminal as a free movement with a receiving lane on Highway 212.
- Add a second eastbound right-turn lane to the existing signalized Rock Creek Junction intersection. Changes in demand and traffic distribution indicated that the original envisioned roundabout would no longer meet needs.

Based on these modifications and feedback from the Sunrise Visioning Project standing committees, briefings, and community outreach, the following refinement options to the updated 2020 Sunrise Gateway Corridor Concept alternative were evaluated:

Exhibit 6. SE 122nd Avenue/Sunrise Alternative Refinement Option



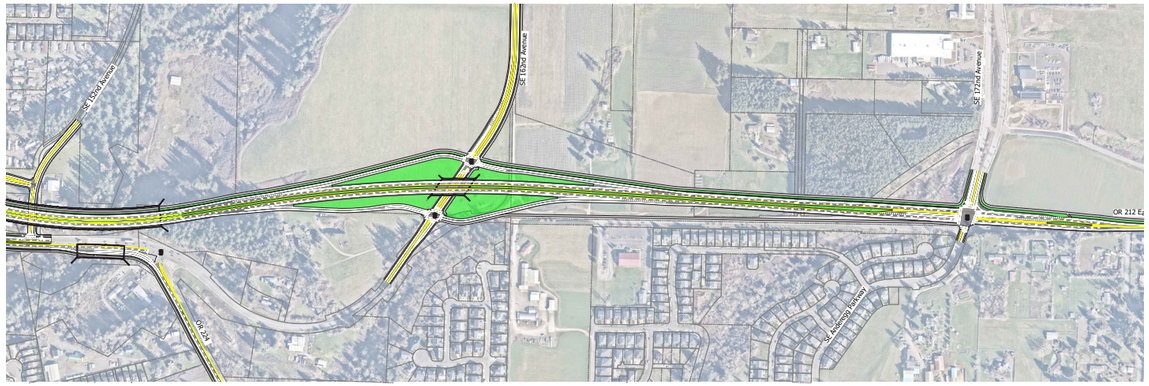
SE 122nd Avenue/Sunrise Option

The Sunrise Gateway Corridor Concept envisioned developing a couplet via the future interchange ramps and signalizing the terminals with SE 122nd Avenue. This option provided adequate traffic capacity under projected year 2045 conditions; however, it would introduce additional stops along the Sunrise mainline. Based on further project partner feedback, the desire to facilitate freight movement without the need to stop, and the incremental cost difference of installing the mainline bridge over SE 122nd Avenue, a full interchange was recommended at this location. The concept was further refined as a partial Diverging Diamond Interchange (DDI), shortening crossing distances for people walking and biking and removing a signal that would cause vehicle delay. (See **Exhibit 6**).

Interim SE 162nd Avenue Diamond Interchange Option

This alternative refinement option extends SE 162nd Avenue under the Sunrise and south to Highway 224 at Rock Creek Junction. To accommodate regional north-south traffic and Rock Creek Employment Center access to the Sunrise, this alternative developed an interim full diamond interchange at SE 162nd Avenue and maintained the SE 172nd Avenue/ Sunrise signalized intersection as identified in the 2010 Sunrise FEIS. The interim interchange was configured in a manner which allowed it to be converted to a split-diamond interchange in the future serving SE 162nd Avenue and SE 172nd Avenue. **Exhibit 7** illustrates the SE 162nd Avenue Diamond Interchange option.

Exhibit 7. Interim SE 162nd Avenue Diamond Alternative Refinement Option



This alternative refinement option has several benefits over the original Sunrise FEIS and the Sunrise Gateway Corridor Concept and provides flexibility for future potential corridor extensions east of SE 172nd Avenue.

Nearer-term Benefits

- **Sunrise Access Control** – Maintains a single access point to the Sunrise between SE 122nd Avenue and SE 172nd Avenue by shifting the Rock Creek Junction interchange to SE 162nd Avenue, and allows for the potential further reduction in access points in the long-term via a SE 162nd Avenue/SE 172nd Avenue split diamond interchange beyond the 2045 horizon year.
- **Rock Creek Boulevard Cut-through Traffic** – Provides two routes to access Rock Creek Junction from the SE 172nd Avenue Corridor and direct Rock Creek Employment Area access to the Sunrise via SE 162nd Avenue, which would reduce potential conflicts with cut-through traffic near the schools on Rock Creek Boulevard.
- **Pedestrian/Bicycle Access** – Allows a grade-separated multi-use path crossing under the Sunrise to connect the southerly neighborhoods and the schools along Rock Creek Boulevard.

Longer-term Benefits

This alternative refinement option provides the ability to address several key needs beyond the year 2045 , including the following:

- **Sunrise/C2C Corridor Junction** – The SE 172nd Avenue/Highway 212 intersection is the eastern end of the Sunrise FEIS corridor and the primary junction for residents and employees to access 172nd Avenue which is the only major parallel north-south corridor east of I-205. While a future interchange is envisioned at this location, no such improvement has been conceptually designed or adopted into planning documents. This option recognizes this dilemma and the inability to develop an interchange at Rock Creek Junction. The interim SE 162nd Avenue/Sunrise interchange and signalized SE 172nd Avenue/ Sunrise intersection could be converted to a split-diamond interchange with west ramps remaining at SE 162nd Avenue and frontage roads being developed to an east ramp terminal at SE 172nd Avenue.
- **North-South Circulation** – Due to the limited north-south connectivity south of Highway 212 and north of the Clackamas River, this option leverages the Rock Creek Junction and SE Tong Road corridors while minimizing cut-through traffic within the existing neighborhoods and Rock Creek Employment Center.
- **SE 172nd Avenue to Tong Road Considerations** – A one-way couplet could form the easterly transition into the full access-controlled Sunrise facility and provide a connection to the planned Tong Road corridor and alternative north-south route to Highway 224. This right-of-way is already preserved with existing roads.

SE 162nd Avenue/SE 172nd Avenue Split-Diamond Option

The SE 162nd Avenue/SE 172nd Avenue split-diamond alternative refinement option, shown in **Exhibit 8,** provides the following benefits when compared to the interim SE 162nd Avenue diamond interchange option:

- **East-west connectivity:** Frontage roads provide east-west connectivity in the Rock Creek area, drawing traffic away from Rock Creek Boulevard and the schools along it.
- **Enhanced traffic operations and future compatibility:** This concept allows construction staging and improves traffic operations, particularly at Highway 212/SE 172nd Avenue, where additional turn lanes would be needed under an interim SE 162nd Avenue Diamond Interchange Option and would ultimately be removed with the split diamond option. The split-diamond interchange also addresses the short- and long-term needs for the C2C while neither eliminating nor specifying future alternatives to extend the Sunrise from SE 172nd Avenue to US 26.
- **Compatible with potential short-term improvements:** The City of Happy Valley, Clackamas County and ODOT are exploring forward compatible near-term improvements to extend SE 162 Avenue and provide access to/from Highway 212. These efforts will continue to help facilitate near-term development within the Rock Creek Employment Center.
- **Conforms with the 2010 Sunrise FEIS:** The proposed split diamond interchange replaces the previously planned Rock Creek Junction interchange, maintains the eastern terminus of SE 172nd Avenue, and meets the original purpose and need.

Additionally, project partners will need to continue to collaborate to refine this option to address local access consolidation and management needs between SE 162nd Avenue and SE Tong Road.

The project team recommends the City of Happy Valley, Clackamas County and ODOT explore forward compatible near-term improvements to extend SE 162 Avenue and provide access to/from Highway 212. These efforts will continue to help facilitate near-term development within the Rock Creek Employment Center.

Exhibit 8. SE 162nd Avenue/SE 172nd Avenue Split-Diamond Interchange Option

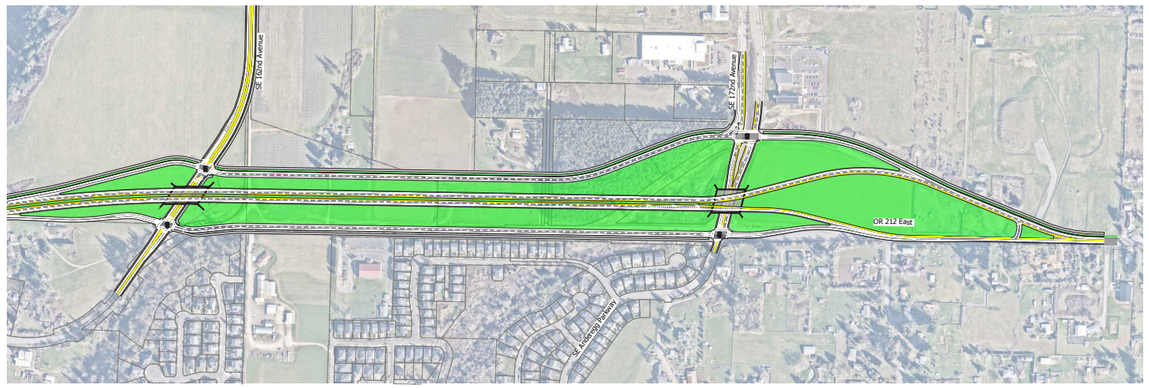


Exhibit 9. Refined Sunrise Gateway Corridor with 162nd/172nd Split Diamond Interchange

LEGEND

Study intersection
(See Table 2 for operations comparison)

Operational Screening of Alternatives

The intersection performance for each alternative (with selected refinements) was screened and compared to the 2010 Sunrise FEIS. **Table 2** shows the volume-to-capacity results for the 2045 scenarios. As shown, the four-lane Sunrise Gateway with the SE 162nd Avenue/SE 172nd Avenue split diamond recommended alternative operates similar to or better than the FEIS with (as shown) or without the future planned improvements (i.e., a third lane in each direction on Highway 224) in the vicinity of SE 82nd Avenue and I-205.

Many people have concerns about student safety in the area. The new concept reduces traffic in front of the schools.

> Safety of students walking and biking to the high school should be a top priority.

> Safe pedestrian and bike access is imperative for any future access along with trees and physical barriers to buffer the sidewalks and bike lanes.

> There should be crosswalks and sidewalks on both sides of the road on streets with a school. We currently have several schools that do not have safe and appropriate ways to walk.

Table 2. Operations Comparison

See Exhibit 9 for study intersection locations.

		Existing Intersections										Future Intersections												
		1	2	3	4	5	6	7	8	9	10	A	B	C	D	E	F	G	H	I	J	K	L	M
2045 Scenario		Hwy 213 SB off-ramp/I-205 SB on-ramp/Hwy 224	Hwy 213 NB access/I-205 SB off-ramp/Hwy 224	I-205 NB on-ramp/Hwy 224	SE 122nd Ave/Hwy 224/212	SE 135th Ave/Hwy 212	SE 142nd Ave/Hwy 212	SE 152nd Ave/Hwy 212	Hwy 224/212 (Rock Creek Junction)	SE 172nd Ave/Hwy 212	SE 122nd Ave/SE Jennifer St	SE 122nd Ave/Sunrise WB	SE 122nd Ave/Sunrise EB	SE 142nd Ave/Backage Road	SE 142nd Ave/Hwy 212 Access	Riverbend Access/Hwy 212	SE 122nd Ave/Sunrise WB (FEIS intersection)	SE 122nd Ave/Sunrise EB (FEIS intersection)	Hwy 224/Sunrise	Hwy 224/212	SE 162nd Ave/WB couplet	SE 162nd Ave/EB couplet	SE 172nd Ave/WB couplet	SE 172nd Ave/EB couplet
No-Build	AM	0.85	0.90	0.52	0.87	1.13	1.05	>2.0	0.82	0.62	0.31													
	PM	0.89	1.15	0.60	0.69	1.09	0.95	>2.0	0.76	0.89	0.68													
Two-lane Sunrise Gateway	AM	0.77	1.04	0.59	0.87	0.74	N/A	N/A	0.76	0.84	0.17	0.88	0.77	0.24	0.62	0.68								
	PM	0.73	1.00	0.64	0.74	0.66	N/A	N/A	0.58	0.83	0.17	0.62	0.79	0.98	0.74	0.88								
Four-lane Sunrise Gateway	AM	0.84	1.08	0.68	0.69	0.56	N/A	N/A	0.69	0.64	0.08	0.98	0.74	0.42	0.58	0.64								
	PM	0.77	1.02	0.67	0.82	0.83	N/A	N/A	0.50	0.83	0.01	0.64	0.81	0.42	0.70	0.63								
Four-lane Sunrise Gateway with Interim SE 162nd Ave Diamond Interchange	AM	0.73	0.99	0.65	0.96	0.72	N/A	N/A	0.82	0.67	0.07	0.86	0.73	0.75	0.61	0.63					0.52	0.92		
	PM	0.76	1.01	0.67	0.76	0.85	N/A	N/A	0.65	0.85	0.12	0.64	0.75	0.84	0.70	0.72					0.79	1.01		
Four-lane Sunrise Gateway with SE 162nd Ave/ SE 172nd Ave Split Diamond Interchange	AM	0.73	0.99	0.65	0.96	0.72	N/A	N/A	0.82	N/A	0.07			0.75	0.61	0.63		0.87			0.78	0.79	0.76	0.62
	PM	0.76	1.01	0.67	0.76	0.85	N/A	N/A	0.65	N/A	0.12			0.84	0.70	0.72		0.87			0.83	0.82	0.46	0.87
2010 FEIS Selected Alternative	AM	0.77	1.00	0.68	0.88	0.83	0.56	1.15	0.57	0.86	0.27						0.95	0.81	0.73	0.57			0.77	1.00
	PM	0.81	0.96	0.65	0.68	0.87	0.57	1.46	0.39	0.87	0.13						0.80	0.92	0.83	0.64			0.81	0.96

Notes: (1) Intersections A and B operate as at-grade intersections under the original two-lane and four-lane Gateway scenarios. In the FEIS and recommended alternative, intersections F and G are ramp terminals, hence the better performance during some time periods. (2) Lane configurations and improvements to intersections 1, 2, and 3 are assumed to include the planned third Highway 224 lane in each direction to be consistent across all build scenarios.

LEGEND

- Meets mobility target
- Nearing capacity and mobility target
- Over capacity and/or mobility target
- Significantly over capacity and mobility target

WHAT SUNRISE FEIS IMPROVEMENTS ARE STILL PLANNED NEAR I-205?

The Sunrise FEIS Preferred Alternative calls for the existing Highway 224 four-lane cross-section near I-205 to be expanded to a six-lane cross-section.

SE 142nd Avenue Grade Separated Crossing of Sunrise looking northwest

Safety Performance Screening of Alternatives

Each alternative (with selected refinement options) was screened using safety performance criteria and compared to the 2010 Sunrise FEIS Selected Alternative, with safety-related analysis documented in the Supporting Documents. The alternatives were developed by creating roadway designs that reduce the likelihood of human error, account for physical injury thresholds, and foster safer behaviors. These designs aim to enhance the safety of all users, including pedestrians, cyclists, and other vulnerable travelers.

Exhibit 10 shows proposed safety improvement locations throughout the corridor under the proposed alternative and associated refinements. **Table 3** shows potential crash reduction for safety strategies targeting crash risk and severity reductions where specific crash modification factor (CMF) data is available (i.e., by what percentage the proposed improvement would reduce crashes at the specified location).

In addition to these CMFs, the improved walking, biking, and easier transit access promote mode shift to lower-speed modes that have less frequent and less severe crashes.

Table 3. Safety Benefits associated with the Sunrise Gateway Corridor Concept Alternative with Refinement Options compared to 2010 FEIS Selected Alternative

Safety Improvement Strategies / Treatments	Details	Location on Corridor	CMF (Crash Modification Factor)*	Target Crash Types
Intersection geometry	Removes left-turn conflicts with raised median	Highway 212/SE 135th Avenue Highway 212/SE 142nd Avenue Highway 212/SE 152nd Avenue Highway 212/Other driveways	0.26 -0.65 (reduction: 35-74%)	Angle, left-turn
Intersection geometry	Conversion of signalized intersection into single- or multi-lane roundabout	Highway 212/Riverbend (formerly accessed at Highway 212/SE 142nd Avenue)	0.54 - 0.80 (reduction: 20-46%)	Intersection crashes, particularly left-turn, angle, head-on, rear-end, pedestrian, and severe crashes
Bike/pedestrian improvement	Install shared path	North of the Sunrise Corridor and along Highway 212 and along 162nd/Rock Creek	0.75 (reduction: 25%)	Pedestrian and bicycle crashes
Interchange design	Convert at-grade intersection into grade-separated interchange	Highway 212/SE 172nd Avenue	0.43 - 0.84 (reduction: 16-57%)	All intersection crashes, particularly severe crashes
Roadway	Convert a two-way left turn lane to a raised median	Highway 212 between SE 135th Avenue and Rock Creek Junction	0.27 – 0.67 (reduction: 33-73%)	Head-on, angle, and left-turn crashes
Local Circulation and Access Management Plan	Develop frontage roadways and local street connections south of Highway 212 to consolidate access points, minimize conflict points, and enhance access safety and efficiency.	Highway 212 between SE 162nd Avenue and SE Tong Road	Not Applicable	Access-related crashes, rear-end, angle and sideswipe crashes

*A crash modification factor is a measure of the safety effectiveness of a particular treatment or design element.

Exhibit 10. Safety improvements along the corridor

Provides separated pedestrian and bicycle facilities, including shared-use paths and an exclusive non-vehicular bridge at SE 135th Avenue over the Sunrise

Introduces a median on Highway 212 between SE 135th Avenue and Rock Creek Junction

Improves bicyclist and pedestrian safety

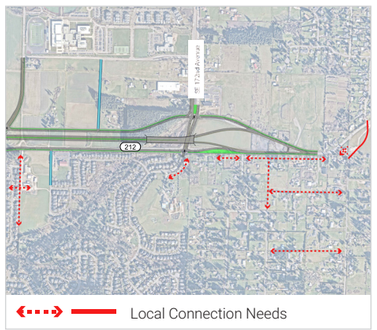
Simplifies the SE 135th Avenue intersection by removing two left-turn and two through movements

Removes SE 142nd Avenue signal

Introduces a roundabout to improve access to the Riverbend community

Reduces cut-through traffic and improves walking and biking safety along Rock Creek Boulevard

Provides a grade-separated crossing at SE 172nd Avenue



Identifies the need to develop a local circulation and access management plan to serve properties located south of Highway 212 between SE 162nd Avenue and SE Tong Road

*Source: ODOT ARTS; Crash Modification Factors Clearinghouse. Most improvements align with ODOT's approved CRF list (such as H37-H39 for raised medians, H64 for converting two-way left-turn lanes to raised medians, H18-H19 for roundabouts, and BP29 for shared paths). All CMF values are derived from the FHWA's national Crash Modification Factors Clearinghouse to ensure consistency and applicability across all improvement types.

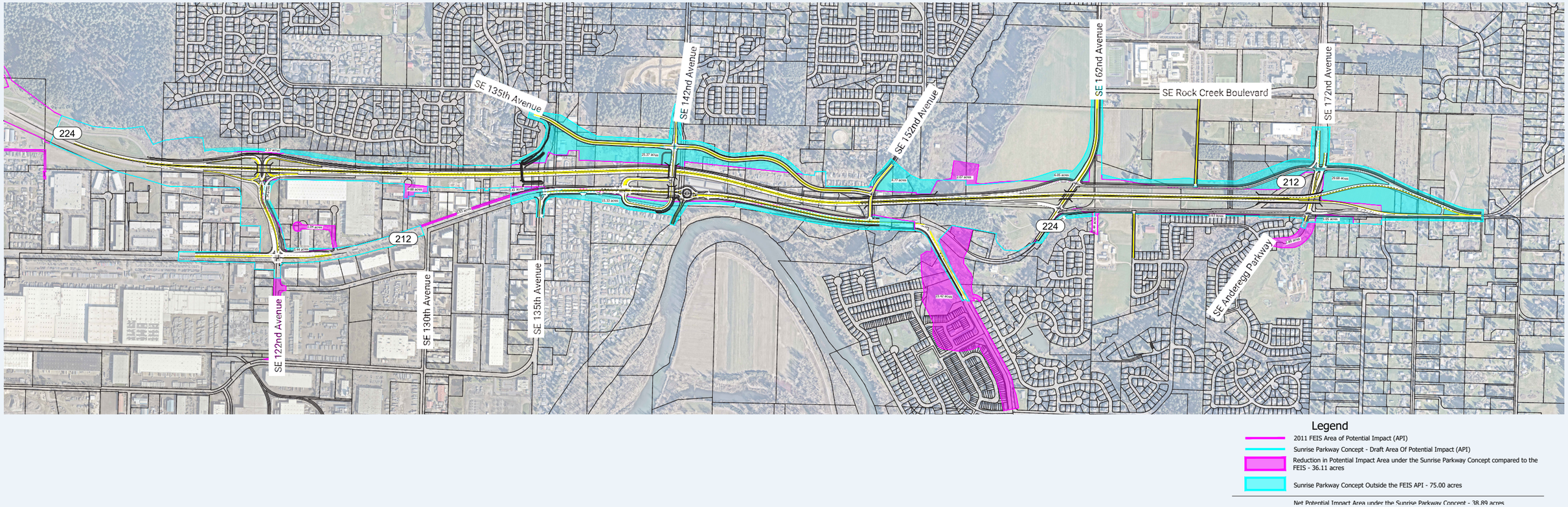
NEPA Reevaluation Considerations

Table 4 summarizes key differences between the 2010 Sunrise FEIS and the recommended Sunrise Gateway Corridor Refinement Plan alternative comparted to existing conditions.

Table 4. Comparison of 2010 Sunrise FEIS Selected Alternative and Sunrise Gateway Corridor Refinement Plan Alternatives to Existing Conditions

Element	2010 Sunrise FEIS Selected Alternative	Sunrise Gateway Corridor Refinement Plan
Sunrise Mainline (Extension of limited access portion of Highway 224 from SE 122nd Avenue to Rock Creek Junction)	Elevated six-lane expressway with auxiliary lanes crossing above SE 135th Avenue, SE 142nd Avenue, and SE 152nd Avenue.	At-grade, four-lane parkway compatible with Sunrise Phase 1 that travels under SE 142nd Avenue and over SE 152nd Avenue.
Highway 212 east of SE 122nd	Minimal changes.	Introduces enhanced pedestrian and bicycle facilities between SE 122nd Avenue and SE 135th Avenue. Introduces separated multi-use paths between SE 135th Avenue and Highway 212/SE 162nd Avenue roundabout.
Sunrise west of SE 122nd Avenue	Highway 224 widened to a six-lane section between SE 82nd Avenue and I-205 ramp terminals.	Highway 224 widened to a six-lane section between SE 82nd Avenue and I-205 ramp terminals.
SE 122nd Avenue/Sunrise	Diamond Interchange providing access to industrial area.	No changes.
Rock Creek Junction	Replaces Rock Creek Junction with a full interchange with access to Highway 224 (south) and Rock Creek Boulevard (north) and an easterly junction between the eastern legs of Highway 212 and Highway 224.	Compared to existing conditions, this concept removes the need for the current Rock Creek Junction interchange and adds an eastbound right-turn lane at the existing signal. It also introduces a SE 162nd Avenue/ SE 172nd Avenue split diamond interchange, with potential for phased implementation in the nearer term.
SE 122nd Avenue	Adds second eastbound left-turn, second westbound right-turn, and southbound right-turn lanes.	Same needs in 2045.
SE 135th Avenue	Travels underneath Sunrise and maintains a signalized SE 135th Avenue/Highway 212-224 intersection.	Removes north leg and simplifies the phasing at the signalized SE 135th Avenue/Highway 212-224 intersection. Introduces dual northbound right-turn lanes.
SE 142nd Avenue	Travels underneath Sunrise and maintains a signalized SE 142nd Avenue/Highway 212-224 intersection.	Introduces an overpass crossing above the Sunrise and realigned Highway 212/224 corridor and provides full access to Highway 212-224 via ramps.
SE 152nd Avenue	Travels underneath Sunrise and maintains an unsignalized SE 152nd Avenue/Highway 212-224 intersection.	Travels underneath Sunrise and maintains an unsignalized SE 152nd Avenue/Highway 212-224 right-in/ right-out only intersection.
SE 162nd Avenue	Access provided via the Rock Creek Junction interchange utilizing Rock Creek Boulevard or the old Highway 212 alignment.	Introduces a SE 162nd Avenue/ SE 172nd Avenue split diamond interchange Provides access to Rock Creek Boulevard with potential nearer term phasing.
SE 172nd Avenue	Terminates the initial Sunrise at a signalized intersection at SE 172nd Avenue. Adds another eastbound left-turn, southbound right-turn, and westbound through lane.	
Area of Potential Impact (API)	**See Exhibit 11.**	**See Exhibit 11.** Increases the overall API and introduces approximately 24.59 net acres of expanded API between SE 135th Avenue and SE 152nd Avenue for a new backage roadway and realigned Highway 212-224.

Exhibit 11. 2010 Sunrise FEIS and Sunrise Refinement Plan Alternatives API Comparison Map



Area of Potential Impact Changes

Exhibit 11 shows the changes to the Area of Potential Impact (API) between the FEIS and Sunrise Gateway Corridor Refinement Plan alternatives. As shown, the primary changes include:

- **Expanded API to accommodate the Refinement Plan alternative's SE 135th/SE 142nd/SE 152nd backage road**, which provide local connectivity. The API here is primarily along vacant, unforested land.
- **Expanded API to accommodate the Refinement Plan alternative's realignment and multimodal aspects of the existing highway**, which include active transportation facilities and align the highway away from the Clackamas River. The API here is primarily the existing ODOT highway right-of-way.
- **Reduced API due to the Refinement Plan alternative's removal of the Rock Creek Junction interchange.** The API here is primarily residential neighborhoods that would have been impacted under the FEIS Selected Alternative. Further, the FEIS API did not include extension of a roadway from the north of the interchange to Rock Creek Boulevard, which would be about half a mile in length. Assuming a 100-foot roadway cross-section impact along six additional acres.
- **Expanded API to accommodate Refinement Plan alternative's extension of SE 162nd Avenue** where the existing highway realignment occurs, improving SE 162nd Avenue to allow connection to the Rock Creek Employment Center. The API here is primarily along the planned local roadway alignment
- **Expanded API to accommodate Refinement Plan alternative's footprint around the SE 172nd Avenue terminus** where the frontage roads are developed along the existing Highway 212 and SE Armstrong Court. The API here is primarily along existing roadway and undevelopable areas due to underground gas pipelines.

The Sunrise Gateway Corridor Refinement Plan Alternative shown in **Exhibit 12** is the recommended alternative for

06 RECOMMENDED ALTERNATIVE

Recommended SE 122nd Avenue/Sunrise Diamond Interchange looking east

implementation by 2045. This is the alternative with a Sunrise four-lane cross-section and a split-diamond interchange at SE 162nd Avenue and SE 172nd Avenue.

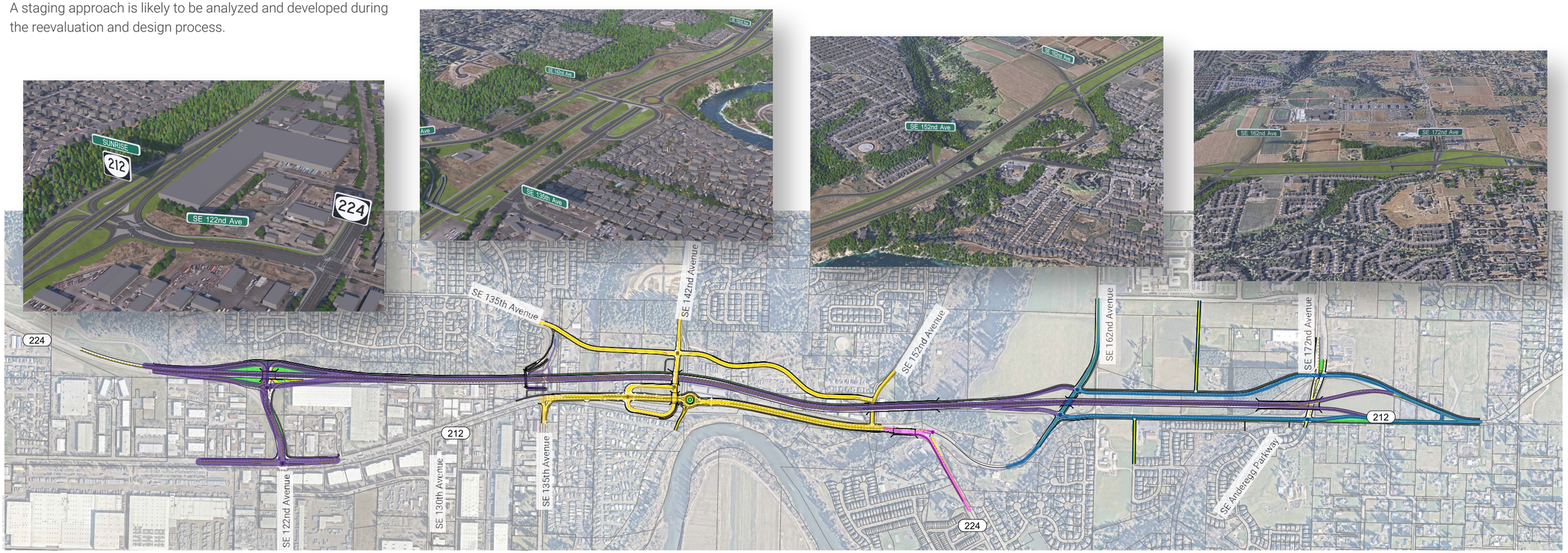
This alternative maintains an access-controlled facility from I-205 to SE 172nd Avenue with reduced cost and impacts compared to the 2010 Sunrise FEIS Selected Alternative, while still meeting the original FEIS Purpose and responding to the community and project partner feedback received.

It provides operational and safety benefits for all modes along the existing Highway 212 and multi-use path network connectivity throughout and beyond the study area. The vision could be phased into separate construction stages, as illustrated in Exhibit 12, which could allow it to respond to near-term development pressures and funding uncertainty.

Key Features

Exhibit 12. Recommended Sunrise Gateway Corridor Refinement Plan Alternative and Conceptual Construction Potential Staging Plan

A staging approach is likely to be analyzed and developed during the reevaluation and design process.



Phase 2 - Stage 1 - 135th to 152nd Avenue

- Realign Highway 212-224 to the north with a raised center median and construct multi-use paths along both sides
- Remove the north leg of SE 135th Avenue and develop northbound dual right-turn lanes
- Construct new backage roadway connecting SE 135th Avenue to SE 152nd Avenue and a new signal at SE 142nd Avenue
- Provide sidewalks, bike lanes, shared-use paths, bus stops, and potential micromobility hubs along new and existing facilities
- Remove SE 142nd Avenue signal and construct grade-separated access to Highway 212-224
- Construct multi-lane roundabout and access to Riverbend Mobile Home Park

Phase 2 - Stage 2 - Rock Creek Junction Upgrade

- Construct dual eastbound right-turn lanes
- Construct second southbound receiving lane on Highway 224
- Upgrade traffic signal
- Construct a shared-use path and improved crossings for people walking and biking

Stages 1, 2, and 3 could each have independent value and do not depend on the construction of one stage prior to the others.

Stage 4 requires stages 1 and 3 to be constructed in advance.

Phase 2 - Stage 3 - 162nd to 172nd Frontage Road

- Construct new westbound, one-way frontage road between SE 162nd Avenue and SE 172nd Avenue
- Convert Highway 212 to one-way eastbound between SE 162nd Avenue and Armstrong Circle
- Convert Armstrong Circle to one-way westbound
- Signalize the SE 172nd Avenue/Armstrong Circle intersection
- Implement a shared-use path along both frontage roads and SE 162nd Avenue to allow safe passage for children to and from schools
- Consider up to one public roadway connection to each of the one-way frontage roads
- Consolidate and manage accesses between SE 162nd Avenue and SE Tong Road via local circulation enhancements and/or frontage roads

Phase 2 - Stage 4 - Sunrise 122nd to 172nd

- Construct four-lane Sunrise and multi-use path from SE 122nd Avenue to SE 172nd Avenue
- Construct new SE 122nd Avenue/Sunrise partial diverging diamond interchange
- Modify SE 122nd Avenue/Highway 212 intersection to include dual eastbound left-turn lanes and dual southbound right-turn lanes
- Construct SE 162nd Avenue/SE 172nd Avenue split-diamond interchange ramps
- Construct SE 135 Avenue exclusive pedestrian-bicycle bridge across Sunrise

For illustrative purposes only

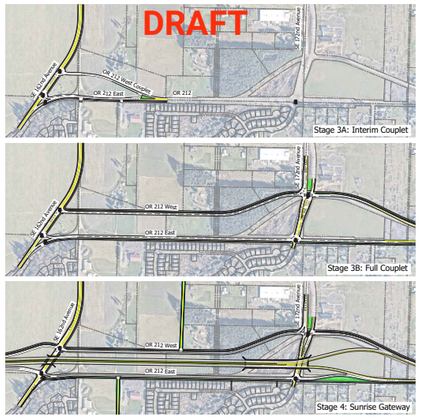
Potential Staging and Cost Estimates

The recommended alternative can be implemented in stages to provide interim improvements and create "bite-size" packages that can be funded over time. **Exhibit 12** illustrates the following four unique stages and provides a detailed description.

- Phase 2, Stage 1 - 135th to 152nd Avenue
- Phase 2, Stage 2 - Rock Creek Junction Upgrade
- Phase 2, Stage 3 - 162nd to 172nd Frontage Road
- Phase 2, Stage 4 - Sunrise 122nd to 172nd Avenue

The exhibit below shows a potential interim Stage 3 improvement to allow SE 162nd Avenue to connect with Highway 212 in the near-term. This interim improvement contains a minimal throwaway element (i.e., the westbound Highway 212 transition to the future westbound SE 162nd Avenue terminal locations) and allows for the future full Stages 3 and 4 to be developed without additional modifications.

The project team recommends Clackamas County, City of Happy Valley, and ODOT continue to coordinate through local land use actions and capital improvements to identify near-term improvements and funding strategies that preserve the recommended Sunrise Gateway Corridor Refinement Plan alternative.



Potential staging approach between SE 162nd Avenue and SE 172nd Avenue

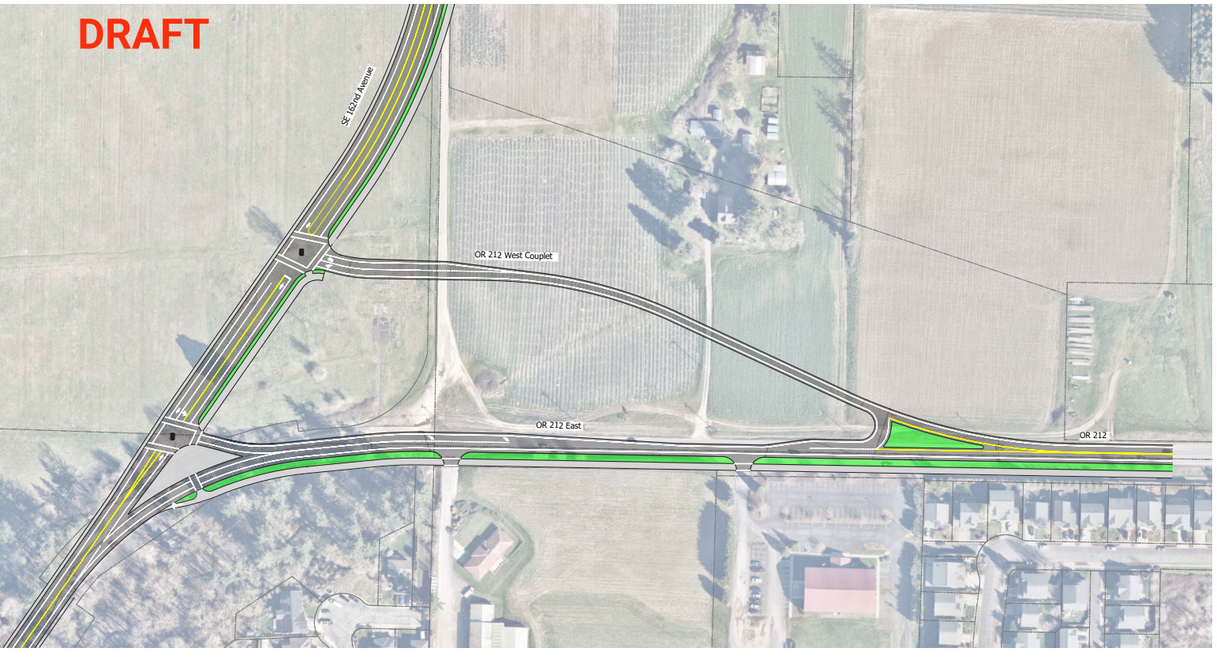


Table 5 shows the 2025 cost estimate range based on a 30% and 40% contingency for each stage of the refined and recommended Phase 2 Sunrise alternative. With further design, partner agencies will seek opportunities to reduce costs, right-of-way, and maintenance impacts. The consultant cost estimates are shown in Table 5 and the NEPA process and scoping will be needed to determine costs for the overall project and any stages proposed.

Table 5. Sunrise Gateway Corridor (SE 122nd to SE 172nd Avenue) Design, Construction, and Right-of-Way Planning-Level Cost Estimate

DRAFT

	PROJECTS				
WORK TASK	**Stage 1**	**Stage 2**	**Stage 3**	**Stage 4**	**Task Subtotals**
Construction Costs	$66,500,000	$12,000,000	$55,000,000	$274,100,000	$407,500,000
Right-of-Way Costs	$34,400,000	$500,000	$38,000,000	$18,000,000	$90,900,000
Engineering Support	$13,900,000	$2,500,000	$13,700,000	$55,300,000	$85,300,000
Construction Management	$11,300,000	$2,000,000	$9,300,000	$46,600,000	$69,300,000
2025 Project Subtotals	$126,100,000	$16,900,000	$116,000,000	$394,000,000	
30% Construction and Bid Item Contingency	$37,800,000	$5,100,000	$34,800,000	$118,200,000	$195,900,000
2025 Project Subtotals	$163,900,000	$22,000,000	$150,800,000	$512,200,000	
2025 Total Estimated Project Cost (Low)					**$848,900,000**
40% Construction and Bid Item Contingency	$50,400,000	$6,800,000	$46,400,000	$157,600,000	$261,200,000
2025 Project Subtotals	$176,500,000	$23,700,000	$162,400,000	$551,600,000	
2025 Total Estimated Project Cost (High)					**$914,200,000**

The planning level cost estimates shown above are based on the supporting memorandum cited on page 73. These estimates are based on the supporting information from the 2010 Sunrise FEIS and the planning and engineering efforts associated with the Sunrise Gateway Corridor Concept (2019-2020) and Sunrise Visioning (2021-2025) projects. The estimates will be further refined through the NEPA reevaluation effort which will further inform the environmental mitigation and permitting needs of the project.

Graphic rendering of the recommended SE 162nd Avenue/Sunrise interchange terminals looking northeast

Comparison to 2010 FEIS Purpose and Need

Table 6 shows the 2010 FEIS Purpose and Need statements and identifies relevance and potential modifications based on the recommended alternative. As shown, the statements are still applicable or partially addressed as part of the Sunrise Phase 1 project completed in 2016. The recommended Sunrise Gateway Corridor Refinement Plan alternative is projected to address all the safety and operational issues identified in the 2010 FEIS Purpose and Need statements. In addition, it further enhances multimodal safety and connectivity throughout the entire corridor.

Table 6. 2010 FEIS Purpose and Need Comparison

2010 FEIS Purpose and Need Statements	Recommended Modifications
Project Purpose: The purpose of the proposed Sunrise Project is to effectively address the existing congestion and safety problems in the Highway 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.	The 2010 FEIS Purpose Statement is still applicable and no modifications are needed.
Project Need first bulleted statement: Highway 212/224 between I-205 and Rock Creek Junction is currently experiencing unacceptable levels of congestion and delay during the peak travel periods. In 2030, the projected traffic volume will far exceed the volume that the existing four-lane arterial can be expected to handle at an acceptable level of service.	To confirm that the needs are still valid or if they have substantively changed, this Project Need statement and corresponding footnotes that refer to the 2010 FEIS *Sunrise Project Transportation Technical Report* will need to be updated as part of a future reevaluation effort to reflect current, build, and forecast year (2045) analysis. The Future Conditions Memorandum #4.4 prepared as part of the Sunrise Corridor Community Visioning project and to support the Sunrise Gateway Corridor Concept Refinement Plan confirmed the following: **First Bullet Need – Still Applicable:** Highway 212/Highway 224 is projected to exceed mobility targets in the 2045 forecast year at SE 122nd Avenue, SE 135th Avenue, SE 142nd Avenue, SE 152nd Avenue, Rock Creek Junction, and SE 172nd Avenue (all over capacity vs. the mobility targets of 0.99 at signalized intersections).
Project Need second bulleted statement: By 2030, the numbers of households and jobs in the area served by this section of Highway 212/224 are expected to increase by 136 % and 85 %, respectively.	**Second Bullet Need – Still Applicable:** The 2045 model forecasts an increase of 37% in households and 23% in jobs across the Metro area, compared to the 2020 model. Much of the growth anticipated from the 2010 FEIS to 2030 has already occurred in the rapidly-growing City of Happy Valley, but more growth is anticipated.
Project Need third bulleted statement: Both the northbound and southbound weave sections of I-205 between SE 82nd Avenue and Highway 212/224 are approaching capacity, resulting in frequent stop-and-go movements, difficulty in changing lanes, and long queues forming because of minor incidents. By the year 2015, this section of I-205 will exceed its design capacity, and the length of these stop-and-go movements will continue to grow if no action is taken. Traffic traveling on the Milwaukie Expressway (Highway 212) heading east on Highway 212/224, as well as the reverse direction, must either use the above section of I-205 or the currently congested SE 82nd Drive.	**Third Bullet Need** – Partially addressed through Phase 1 implemented in 2016: The Sunrise Gateway Corridor Concept Refinement Plan is not proposing any changes west of SE 122nd Avenue.
Project Need fourth bulleted statement: Highway 212/224 near I-205 is ranked in the top 10 percent of state routes for vehicle crash rate. Over 500 vehicle collisions [between I-205 and Rock Creek Junction] were reported for this area during the five-year period of 1998 through 2002. The high crash rate is attributed to severe congestion and roadway deficiencies. Inadequate bicycle and pedestrian facilities reduce the safety and connectivity for these modes of travel in the project area.	**Fourth Bullet Need** – Partially addressed through Phase 1 implemented in 2016: The Sunrise Gateway Corridor Concept Refinement Plan is not proposing any changes west of SE 122nd Avenue.
Project Need fifth (last) bulleted statement: Highway 212/224 is designated as a statewide and regional freight route, with 12% of the traffic on the project section of this highway being trucks. Highway 212/224 serves the Clackamas Industrial Area, which is a major freight distribution center for the Northwest. This area is expected to nearly double its employment by the year 2015. Long delays are currently reported for trucks accessing I-205 from the distribution center.	**Fifth Bullet Need** – Still applicable: The corridor currently supports 6% trucks and employment is anticipated to increase 23% by year 2045.

Graphic rendering of the recommended Rock Creek Junction (Highway 212/Highway 224) looking northwest

Graphic rendering of the recommended SE 135th Avenue to SE 152nd Avenue Segment of the Sunrise Corridor looking northeast

07
IMPLEMENTATION PLAN

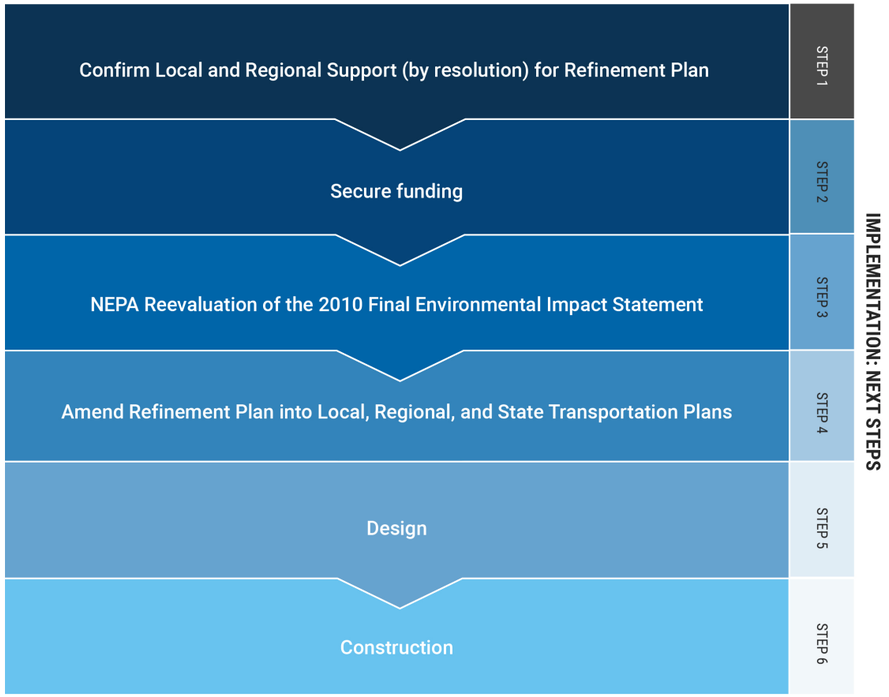
The recommended alternative, which is in the early stages of process and design development, will establish the framework for future environmental review, design, and construction efforts. The next step for project partners is to seek funding to conduct further formal environmental reviews (i.e., Sunrise FEIS reevaluation) with FHWA, proceed with design, and ultimately construct the highway and local multimodal improvements along the Sunrise Corridor.

Implementation will be a collaborative effort, with ongoing community input and partner feedback to ensure the process respects the area's cultural and historic significance.

There are six steps for the Sunrise Corridor implementation plan:

1. **Confirm Local and Regional Support (by resolution)**
2. **Secure Funding**
3. **NEPA Reevaluation of Sunrise Final Environmental Impact Statement**[5]
4. **Amend Refinement Plan into Local, Regional, and State Transportation Plans**
5. **Design**
6. **Construction**

What Happens Before a Project Gets Built?



5 The reevaluation work will also clarify whether a Supplemental Environmental Impact analysis is potentially needed

Confirm Local and Regional Support

Following consensus by the agency partners, the Clackamas County Board of County Commissioners and Happy Valley City Council will formally support the Sunrise Gateway Corridor Refinement Plan a adopting a resolution of support. This action will allow the agency partners to seek funding and move forward with the NEPA Reevaluation effort.

Secure Funding

ODOT, Clackamas County, Happy Valley, and Metro will need to pursue funding for each stage of the Sunrise Gateway Corridor Refinement Plan. Key funding sources for these facilities could include:

- **BUILD**—Better Utilizing Investments to Leverage Development, formerly known as RAISE and TIGER, is a discretionary federal grant with criteria including safety, environmental sustainability, quality of life, economic competitiveness, state of good repair, innovation, and partnership. The U.S. Department of Transportation (USDOT) plans to prioritize projects that can demonstrate improvements to racial equity, reduce impacts of climate change, and create well-paid jobs.
- **INFRA**—The Infrastructure for Rebuilding America (INFRA) discretionary grant program funds transportation projects of national and regional significance that align with the Biden Administration's principles for national infrastructure projects. The projects should result in well-paid jobs, improve safety, apply transformative technology, and explicitly address climate change and racial equity.
- **HSIP**—The Highway Safety Improvement Program (HSIP) is a core federal-aid program with the purpose of achieving a significant reduction in traffic facilities and serious injuries on all public roads, including non-state-owned public roads and roads on tribal lands. HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance. Applications must focus on a strategy, activity, or project consistent with a state strategic highway safety plan. Projects must correct or improve a hazardous road location or feature, or address a highway safety problem, including automated enforcement in school zones. Projects require a small local match (10 percent) and are administered through the Statewide Transportation Improvement Program (STIP; next page). ODOT's All Roads Transportation Safety (ARTS) program implements HSIP dollars. ARTS selects projects through a data-driven process to ensure resources have maximum impact on improving the safety of Oregon's state highways and local roads.
- **NHPP**—The National Highway Performance Program (NHPP) provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that federal investments in highway construction support progress toward the achievement of performance targets established in a state's asset management plan for the NHS. States may transfer up to 50 percent of the funds to the Surface Transportation Block Program (STBG), Transportation Alternatives, HSIP, or the Congestion Mitigation and Air Quality programs.
- **STBG**—The Surface Transportation Block Grant Program (STBG) provides flexible funding that may be used by states and localities for projects to preserve and improve conditions and performance on any federal-aid highway; bridge and tunnel projects on any public road; walking and biking infrastructure; and transit capital projects, including intercity bus terminals. Projects must be identified in the state's STIP or Transportation Improvement Program and be consistent with the long-range statewide transportation plan and the metropolitan transportation plan(s).
- **STIP**—The Statewide Transportation Improvement Program (STIP) is ODOT's four-year capital improvement program for state- and federally-funded projects. STIP project lists are developed through the coordinated efforts of ODOT, federal and local governments, area commissions on transportation, tribal governments, and the public. The STIP is divided into the following categories:
  - **The Fix-It program** funds projects that fix or preserve the state's transportation system, including bridges, pavement, culverts, traffic signals, and others.
  - **The Enhance program** funds projects that enhance or expand the transportation system—area commissions on transportation recommend high-priority investments from state and local transportation plans in many Enhance programs.
  - **Safety programs** reduce deaths and injuries on Oregon's roads. These programs use a data-driven approach to identify and prioritize projects that have the greatest potential to improve safety on both state highways and local roads. ODOT implements these programs using federal HSIP funds.
  - **Non-highway programs** fund bicycle, pedestrian, and transit projects.
  - **Local government programs** direct funding to local governments for priority projects.

  STIP funding is primarily generated through State of Oregon legislative actions affecting the general fund, gas tax, registration fees, tolling, and other fundings mechanisms
- **RFFA**—Metro's Regional Flexible Funds program provides federal funding for investments in sidewalks, trails, and roadways in communities across the region.
- **Great Streets**—Great Streets is a funding program that addresses multiple needs within a single project to create more complete streets. It is accountable for improving outcomes including safety, equity, climate, and more. The program focuses on state highways that operate as main streets and other state highway corridors where the top priority multimodal transportation needs intersect. An individual project may fill a sidewalk gap, make intersection improvements, add drainage to better withstand extreme weather, and address critical safety needs.
- **Tolling** - Tolling the new segment of the Sunrise between SE 122nd Avenue and SE 172nd Avenue could be a potential funding source for bonding, ongoing operations, and maintenance of the new facility

SE 135th Avenue/Highway 212 intersection looking east

NEPA Reevaluation

An FEIS was previously completed in 2010 to satisfy NEPA requirements for the corridor. To support the Refinement Plan, a reevaluation report will need to be prepared and accepted by FHWA. The reevaluation would determine whether there is a need for a supplemental EIS or if the Refinement Plan is generally consistent with the FEIS and can meet the original Purpose and Need.

Amend Refinement Plan into Local, Regional, and Statewide Plans

Following the NEPA reevaluation effort, the Sunrise Gateway Corridor Refinement Plan will need to be adopted by the City of Happy Valley and Clackamas County into their respective transportation system plans to demonstrate local support for the recommended changes, initiate regional and statewide adoption, and set the stage for the Design and Construction of the project. Each entity will need to file a 35-day notice with the Oregon Department of Land Conservation and Development and hold evidentiary public hearings with their planning commissions followed by the City Council and Clackamas County Board of County Commissioners. Following local adoption of the Refinement Plan, Metro and ODOT will need to amend the Regional Transportation Plan and the Oregon Highway Plan respectively.

Design

Further refinements to the recommended Refinement Plan alternative will need to be completed to prepare this project for final design and construction. It is recommended that a 20 percent design be prepared following completion of the environmental reevaluation report or in conjunction with a supplemental FEIS, if deemed necessary. The 20 percent design should include the following elements:

- Updated topographic survey of the project area.
- Detailed geometric design for the four-lane cross section that meets applicable City of Happy Valley, Clackamas County, and ODOT Roadway Standards.
- Intersection control evaluations for all affected existing and new intersections throughout the corridor.
- Local access consolidation and management needs between SE 162nd Avenue and SE Tong Road.
- Exploration of riverbank erosion and design needs in proximity of the proposed highway roundabout and SE 142nd Avenue overpass.
- Vertical profile design, corridor modeling, and earthworks calculations for both the two-lane and four-lane cross sections.
- Clackamas County, ODOT, City of Happy Valley, and partner agencies prior to or during the design phase will implement agreements on design, construction, funding, maintenance, operations, and/or facility ownership.
- Construction phasing plan.
- Refinement of noise walls, stormwater treatment, landscaping, and other mitigating environmental treatments.
- Updated cost estimates.

Note final intersection control and configuration will be driven by an Intersection Control Evaluation (ICE) and Safety Performance for Intersection Control Evaluation (SPICE) evaluation prior to 20 percent design.

Construction

ODOT will prepare plans, specifications, and cost estimates (local roadway improvements may be led by local agencies) for competitive construction bids. Once ODOT determines the contracting mechanism—whether a traditional design, bid, and build or an alternative delivery method—the project will be advertised for construction bidding and be built. Similarly, local agencies may use different methods to design, bid, and build local roadways.

SE 135th Avenue/Highway 212 intersection looking east

08 SUPPORTING DOCUMENTS

The following documents provide the background information on the process and outcomes to develop the recommended Sunrise Gateway Corridor Refinement Plan alternative. The development of the Sunrise Gateway Corridor Refinement Plan was iterative, and information provided in this Refinement Plan is the most up-to-date and supersedes earlier analyses.

Document	Description
Sunrise 2011 Final Environmental Impact Statement	Identifies a Selected Alternative to address safety and congestion in the Highway 212 and 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.
2020 Sunrise Gateway Corridor Concept	Documents the Get Moving 2020 regional transportation measure's Sunrise Gateway Corridor Concept, which analyzed and enhanced the plans for the Sunrise Phase 2 (SE 122nd Avenue to SE 172nd Avenue) segment. The Sunrise Gateway Corridor Concept was the foundation for the Phase 2, Stage 1 project (SE 135th to SE 152nd) included in the measure.
Plans Review	Reviews 11 local and regional planning documents and six statewide planning documents and statutes that are relevant to the Sunrise Corridor. Previous and ongoing planning efforts have played a crucial role in guiding the refinement of the Sunrise Corridor.
Existing Transportation Conditions in the Study Area	Documents the existing transportation conditions within the Sunrise Corridor study area, including study intersections, functional classification, and roadway jurisdiction, as well as intersection and corridor operations, transit service, active transportation facilities and a review of five years of crash data.
NEPA Considerations Comparison and Matrix	Assists with clarifying the anticipated elements that need to be addressed in a National Environmental Policy Act (NEPA) Re-evaluation after the Visioning project is complete.
Tech Memo 4.4: Future Transportation Conditions in the Study Area	Documents the future no-build and build transportation conditions within the Sunrise Corridor study area, including future walking, biking, and transit infrastructure, Metro travel demand model overview, and future intersection operations. The purpose of this memorandum is to understand if planned or potential improvements in the area meet the needs and goals of the FEIS, Sunrise Corridor Community Visioning, and other related planning efforts.

Document	Description
Tech Memo 4.4.1: Sunrise Gateway SE 162nd/SE 172nd Concept Revision and Evaluation	Documents a SE 162nd to SE 172nd revision to the Sunrise Gateway Corridor Concept based on feedback provided through the ongoing Sunrise Corridor Visioning Project. The revision provides an interim diamond interchange at SE 162nd that would be forward-compatible to a split-diamond interchange with frontage roads between SE 162nd and SE 172nd. A description of the revision and the feedback that led to proposing it are summarized alongside an operational analysis confirming its performance under year 2045 conditions. This document compares the revision to the 2010 FEIS to confirm its ability to meet the purpose and need and the ability of the concept to be compatible with potential solutions east of SE 172nd beyond the year 2045 horizon.
Tech Memo #4.4.2: Proposed Sunrise Gateway SE 162nd/ SE 172nd Recommended Alternative Addendum #1	Documents the proposed SE 162nd to SE 172nd revision to the Sunrise Gateway Corridor Concept and updates to the SE 122nd/Sunrise (Highway 212/224) junction based on feedback provided through the Sunrise Corridor Visioning Project. After receiving feedback and reviewing the interim solution, the need to preserve right-of-way and adjust the Happy Valley TSP, the split-diamond interchange was recommended by the project team as the recommended alternative for implementation by 2045. This memorandum describes the reasoning and benefits, presents the operational analysis for the concept, shows the need for westbound access at SE 162nd, and compares the split-diamond operations to the FEIS and other previous concepts.
Cost Estimating Memorandum	This memorandum provides the planning level cost estimates, assumption, quantities, unit costs, bridge and wall calculations, and contingencies for the four identified stages of the recommended Sunrise Gateway Corridor Refinement Plan
Tech Memo #4.4.3: Sunrise Gateway SE 162nd Interim Concepts	Documents potential interim near-/mid-term improvement options at SE 162nd Avenue and OR 212, presents the operational analysis for the options, and develops planning level cost estimates for the most promising options. The primary purpose of these interim near-/mid-term improvement options is to allow further development within the Rock Creek Employment Center area while preserving the long-term Sunrise Gateway Corridor Refinement Plan alternative.

Graphical rendering of the recommended SE 122nd Avenue/Sunrise interchange looking northeast

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