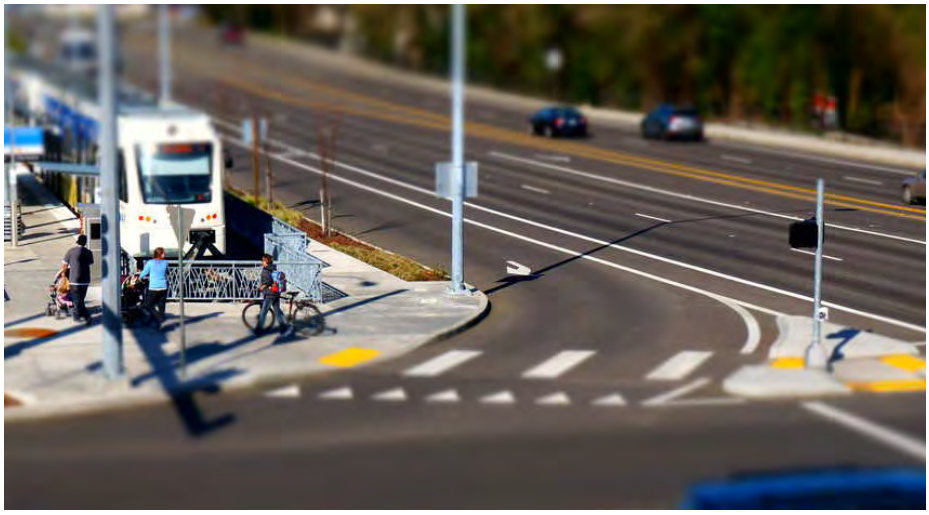
DRAFT High Capacity Transit Strategy Update

May 2023



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INTRODUCTION

Renewed commitment

The Portland metropolitan area is an incredible place. Our region has vibrant communities, neighborhoods with distinctive personalities, and a world-class transit system. The communities of the Portland metropolitan region have worked together over the past decades to create one of the most livable regions of the country and strive to make our region the greatest place to live, work and play.

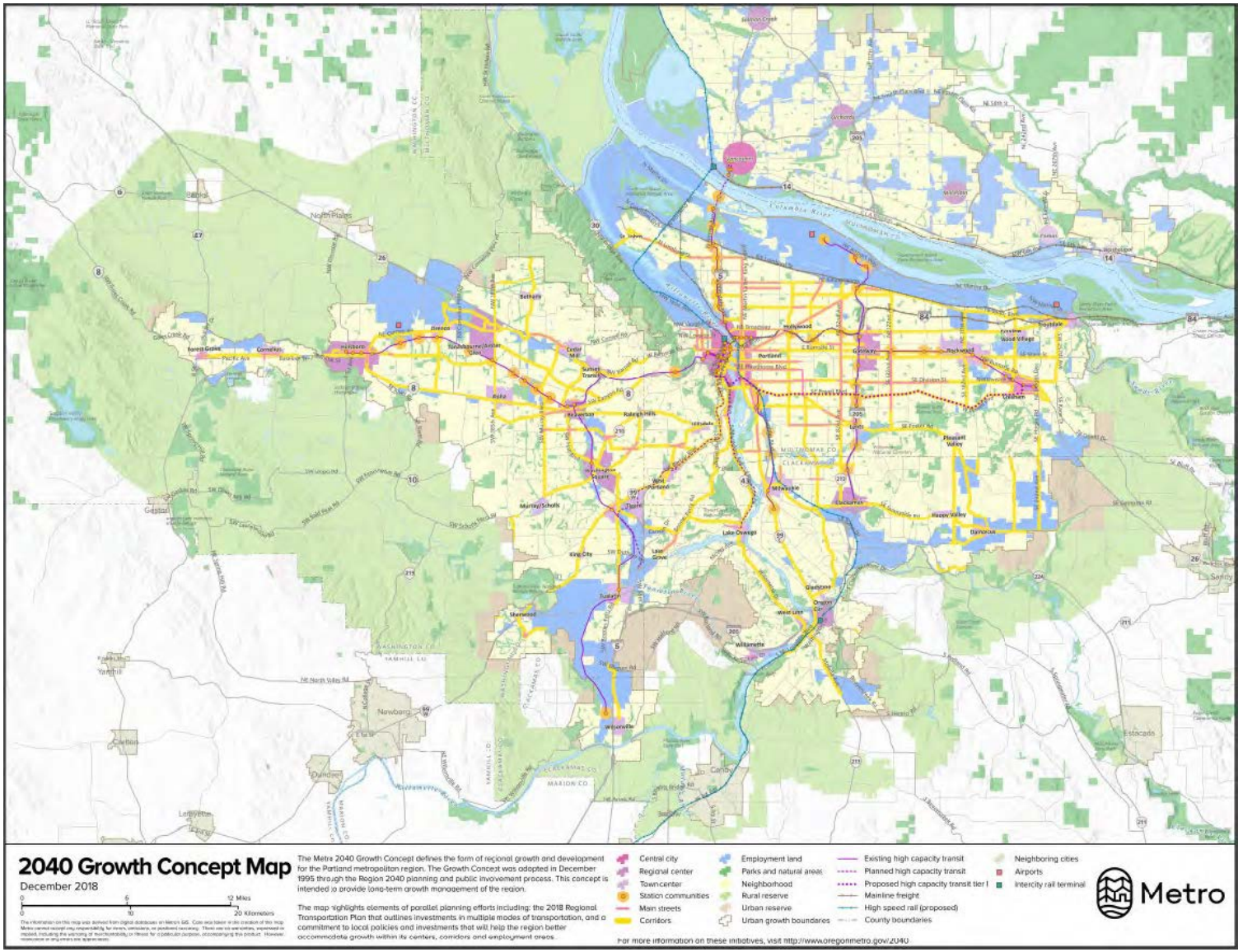
Rapid bus

This term refers to rubber-tired HCT modes that include bus rapid transit (BRT) and frequent express (FX)-style HCT services. In general, these services offer the core elements of HCT including exclusive guideways, enhanced amenities, and frequent, branded service. Rapid bus is distinct from "better bus" improvements that focus on spot treatments for speed and reliability.

Since Portland's MAX light rail Blue Line service from Portland to Gresham began in 1986 and the 2040 Growth Strategy was adopted in 1995, high capacity transit (HCT) has served as the backbone of the region's growth and prosperity. Despite periodic downturns in the economy, competition for resources among many regional needs, and most recently a global pandemic, HCT continues to play a vital role in achieving the region's goals. With many investments completed and continued work needed to achieve regional land use, economic, climate and safety goals, the region is doubling down on its commitment to HCT. HCT is a proven tool for achieving thriving, compact communities, furthering equity goals, and connecting people to opportunity every day. **This 2023 HCT strategy update reaffirms our regional commitment to HCT as a cornerstone of community development** and provides an actionable vision and plan for advancing HCT across the region**.** This strategy update recognizes that the region needs to adapt its approach to HCT investments — **rapid bus is a newer approach in this region that presents major opportunities to achieve HCT outcomes in a funding-constrained environment.**

HCT helps the greater Portland region grow in a way that supports healthy, vibrant communities and that preserves farmland and forestland. As envisioned in the 2040 Growth Concept (Figure 1) — the blueprint for how the Portland region grows — HCT plays a key role in connecting people with services, places to shop, work and school. High-quality transit connections also provide viable and affordable alternatives to driving, thus creating better transportation options and making greater Portland more equitable and climate friendly.

Figure 1. Regional 2040 Growth Concept



This HCT strategy update is part of the Metro Regional Transportation Plan (RTP), which is being updated in 2023. This strategy update:

- summarizes the regional vision for HCT investment, strategies for moving HCT corridors forward, and a shared policy framework for supporting and implementing HCT
- identifies and prioritizes corridors to envision where a higher quality of transit service would provide the most benefit to the greatest number of people
- provides a roadmap for realizing the vision for HCT investment to guide near- and long-term decision-making related to HCT investments
- takes into account how the region has grown, how communities and their needs have changed, how transit and travel are different, and how the funding landscape has evolved
- establishes a pipeline of corridor investments helping the region to be competitive for federal funding for HCT
- identifies the steps needed to advance corridor investments working in close partnership with local agencies.

This HCT strategy update is not a comprehensive review of the regional transit structure or its management or a complete service analysis of the existing HCT system. Rather, it provides a vision for continued HCT investment that aligns with the RTP and the regional 2040 Growth Concept. Much future work and commitment are needed to advance the investments described in this strategy.

Project process and timeline

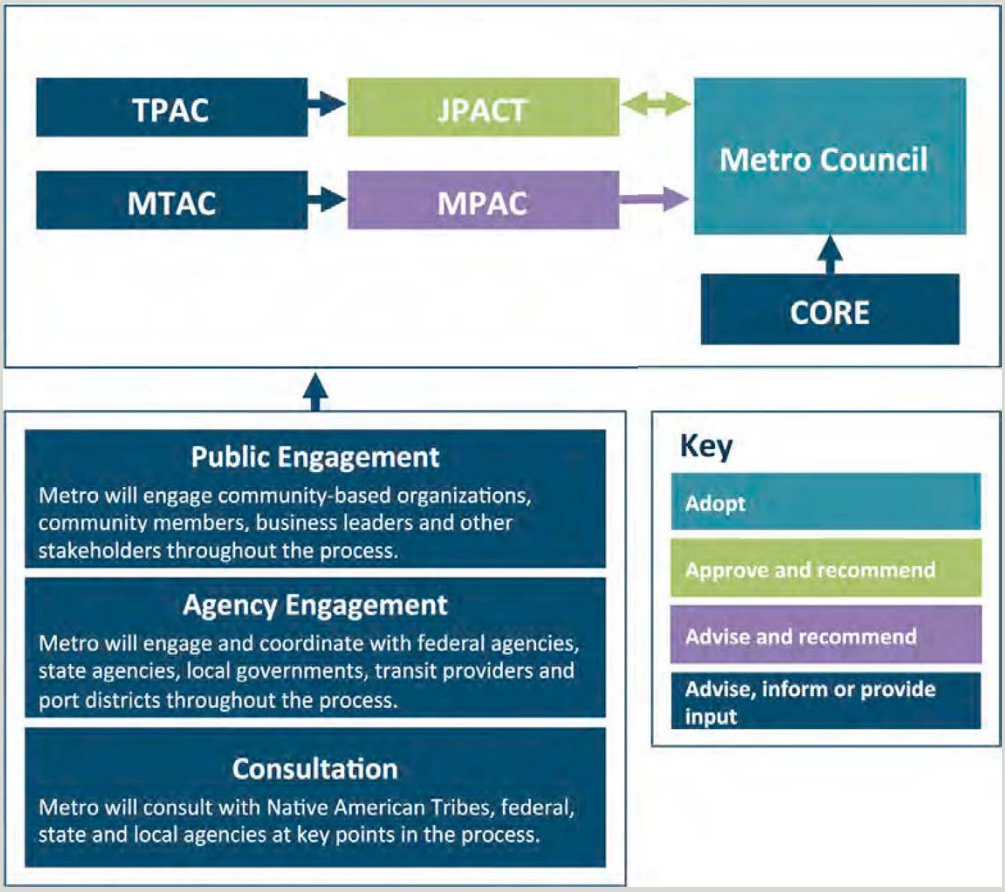
Metro began the HCT strategy update process in the summer of 2022. Figure 2 describes the overall timeline for the project. Metro and TriMet co-led development of this strategy update with significant participation from a working group composed of regional stakeholders: Clackamas, Multnomah, and Washington Counties; Clark County Public Transit Benefit Area Authority (C-TRAN); Oregon Department of Transportation; City of Portland; Portland Streetcar; South Metro Area Regional Transit (SMART); and Southwest Washington Regional Transportation Council.

Figure 2. Update timeline

This strategy update was informed throughout by public engagement through tools such as online surveys and open houses, presentations and discussions at dozens of local meetings, and community-led events and workshops. Appendix A includes a summary of this outreach and the input provided. Metro committees were also informed by public and agency engagement when providing input and advising at each milestone in the process.

Decision-making process

The chart below shows how different groups guided the HCT strategy update process. Ultimately, the Metro Council approves the final 2023 Regional Transportation Plan, which this strategy is a component of.



CORE = Committee on Racial Equity; JPACT = Joint Policy Advisory Committee; MPAC = Metro Policy Advisory Committee; MTAC = Metro Technical Advisory Committee; TPAC = Transportation Policy Alternatives Committee

Engaging community

Community input influenced all major milestones for this strategy through the following activities.

Surveys

- RTP)summer MetroQuest survey
- winter storymap survey.

Focus groups and forums

- two joint events: RTP Community Leaders Forum and Westside Multimodal Improvement Study Business Forum
- two meetings with both TriMet's Transit Equity Advisory Committee and Committee on Accessible Transportation
- two meetings with Clackamas County small transit providers
- two agency lessons learned focus groups: Metro/TriMet and C-TRAN
- one small business focus group and one presentation to the Washington County Chamber of Commerce.

Public events

- nine tabling events held at various locations throughout the region
- three community events and activities held by community-based organization partners such as Centro Cultural, The Street Trust and Verde.

Advisory committee meetings

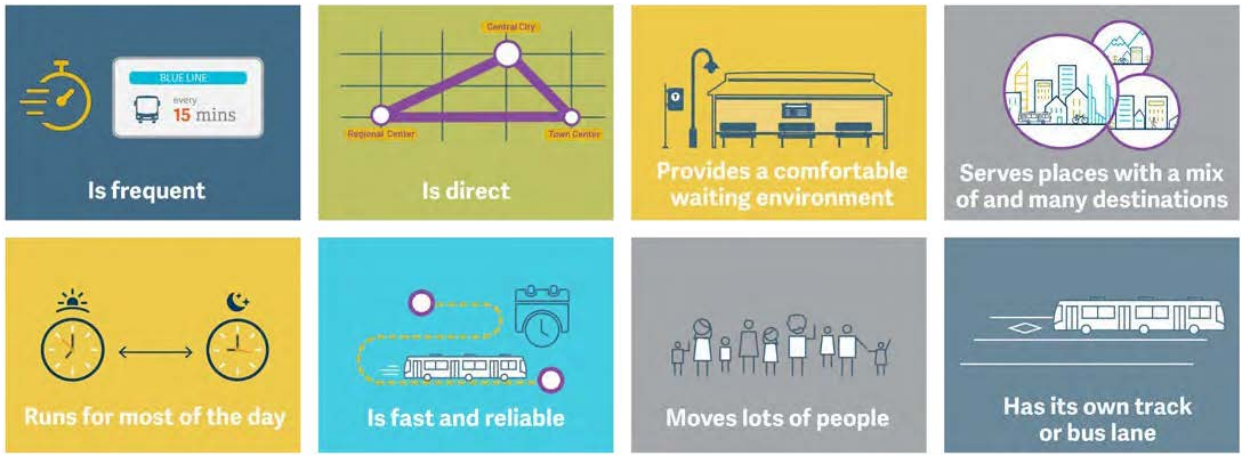
- six meetings with the HCT Working Group
- nineteen meetings with partner jurisdictional staff (Transportation Policy Alternatives Committee; Metro Technical Advisory Committee; Clackamas, East Multnomah, and Washington County Technical Coordinating Committees)
- nineteen meetings with elected officials (Metro Policy Advisory Committee; Joint Policy Advisory Committee; East Multnomah, and Washington County Policy Coordinating Committees).

HIGH CAPACITY TRANSIT

Defining high capacity transit

HCT is a type of public transportation that moves a lot of people quickly and often. It provides a higher quality of service with greater benefits to more people with improved convenience and travel time. See Figure 3 for the characteristics of high capacity transit.

Figure 3. Characteristics of high capacity transit



High capacity transit modes

Train-based HCT includes:

- rapid streetcar and streetcar (depending on context)
- light rail transit
- commuter rail and heavy rail.

Rapid bus-based HCT options include:

- bus rapid transit (BRT)
- corridor-based BRT

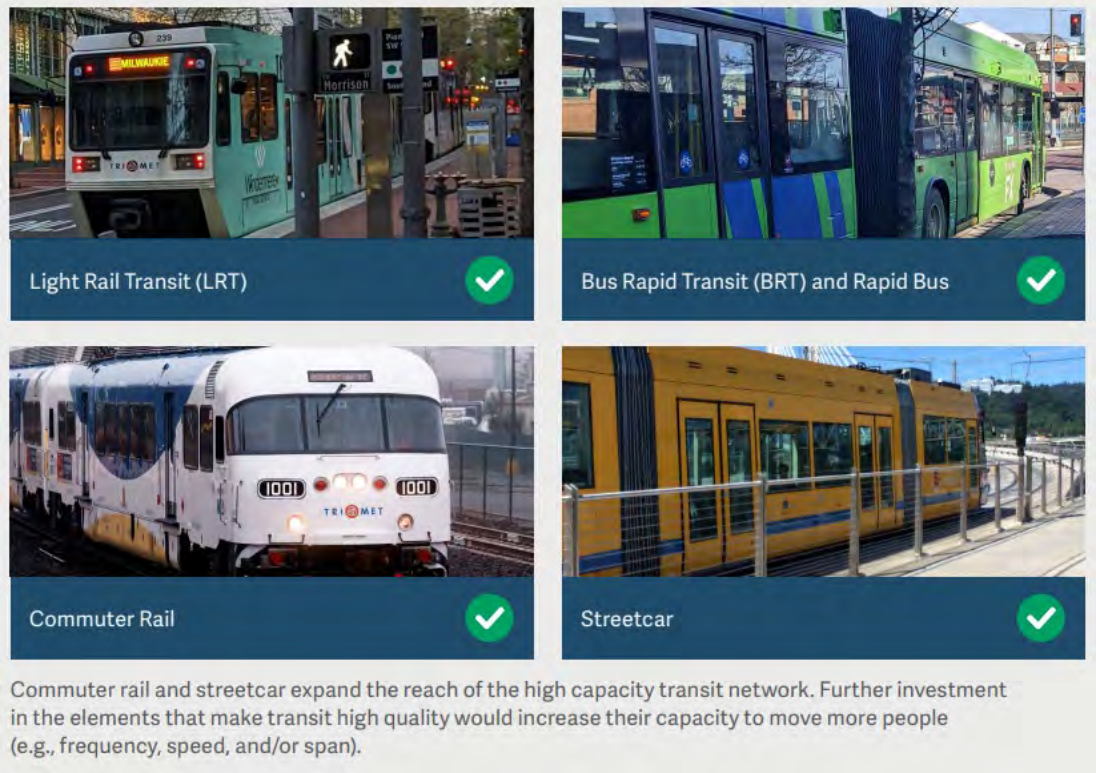
Bus rapid transit is a strategy for serving high-volume corridors with rail-like capacity for a smaller investment. These systems feature distinctive branding, a majority of dedicated bus-only lanes, and passenger amenities such as real-time information systems.

Regardless of mode, HCT investments include:

- some degree of roadway priority
- fast boarding due to off-board payment and multiple-door boarding
- comfortable waiting spaces with real-time information

- limited stops
- improvements to the surrounding streetscape for better pedestrian access.

Figure 4. High capacity transit modes



Additionally, this strategy update encompasses other system elements including:

- light rail transit operations improvements
- existing HCT corridor "state of good repair" investments.

While not defined as HCT, TriMet's Better Bus program (also known as enhanced transit corridor investments), as well as investments in operating the regional frequent service bus network are closely related to and support HCT. These investments include elements of HCT such as high frequency service or speed and reliability improvements, but they are not directly addressed by this strategy update. Many frequent transit corridors and better bus corridors are candidates for HCT investments.

Elements that make a transit investment high capacity

High capacity transit has both a level of enhanced amenities and transit priority — which work together to move more people more comfortably than other types of regional or local transit — that are implemented as part of a corridor-level capital project. The type or mode varies and can include light rail, commuter rail, rapid streetcar, bus rapid transit or corridor-based rapid bus.

Enhanced amenities are features that improve effciency and enhance the user experience. These include vehicles that are larger and allow boarding from all doors, stations with near level boarding, and frequent service (15 minutes or better). It also refers to amenities such as covered waiting areas, real-time bus or train arrival information, schedules, ticket machines, enhanced lighting, benches, bicycle parking, and even civic art and commercial services. Together, these features make high capacity transit more convenient and comfortable.

Enhanced priority investments are a package of physical features along much or most of a corridor that get people to destinations faster and on time. These include dedicated transit space or lanes in the street, also known as "exclusive guideway." In our region, MAX light rail vehicles operate on tracks with exclusive guideway while rapid buses operate in a mix of dedicated and shared street space. Rapid bus investments provide priority space for buses on the roadway and/or priority at traffc signals to achieve the transit speed and reliability characteristic of high capacity transit. These investments make transit more aractive for current and future riders.

History of regional high capacity transit planning

In 1974, there was a paradigm shift in how the Portland region addressed growth and approached transportation policy. Following public outcry over the expected cost and the destruction of neighborhoods required for its construction, elected leaders rejected the Mt. Hood Freeway project. Instead, the region set aside plans for 54 new highway projects in favor of a robust network of HCT and developed the 1982 Light Rail System Plan. The region's first light rail line — the MAX Blue Line — opened in 1986 and heralded in this new era in transportation for the region.

After several expansions in the 1990s and early 2000s, including the MAX Red and Yellow Lines, the Regional High Capacity Transit System Plan was developed in 2009 to guide future regional HCT capital investments. The HCT plan provided a framework on where to spend limited transportation dollars: where local jurisdictions had committed to supportive land uses, high-quality pedestrian and bicycle access, management of parking resources, and broad-based financial and political support. As a result, the region has seen the addition of the MAX Green and Orange Lines and will soon see both the MAX Red and Yellow Lines extended through the A Better Red MAX improvements project (under construction) and the Interstate Bridge Replacement Program MAX Yellow Line extension to Vancouver, Washington (planning). At the same time, planning for the new Southwest Corridor MAX line is moving forward.

The 2018 Regional Transit Strategy (an element of the 2018 RTP) refreshed the region's HCT strategy in advance of a major regional funding measure put to the voters in 2020. This funding measure was ultimately not successful, and funds are still needed to support expansion of the transit network. Since that time, greater Portland's first rapid bus project (FX2-Division) opened, and planning began for two additional rapid bus projects: 82nd Avenue and Tualatin Valley Highway. Rapid bus has provided a new opportunity to think differently about what the region's HCT network could look like in the future. It can be more flexible and cost-effective to implement than light rail and has the potential to move projects more quickly through the federal project development process. Further, it is an opportunity to leverage federal funding. The 2021 Bipartisan Infrastructure Law authorized $109 billion for transit infrastructure and made more funding available for Small Starts Capital Investment Grant rapid bus projects.

HIGH CAPACITY TRANSIT POLICY FRAMEWORK

Role of HCT strategy update within the regional transportation plan process

The Metro 2023 RTP update is the process to refine the region's transportation investment blueprint for the next 20 years and beyond. The RTP process evaluates the available revenues for transportation spending, assesses the region's needs, and presents a list of prioritized projects and programs to achieve the Portland metropolitan region's transportation goals. The RTP recognizes that demand for transportation investments exceeds existing financial capacity; prioritization is necessary to demonstrate fiscal constraint for federal reporting processes and to ensure we take intentional steps in expanding our transportation system.

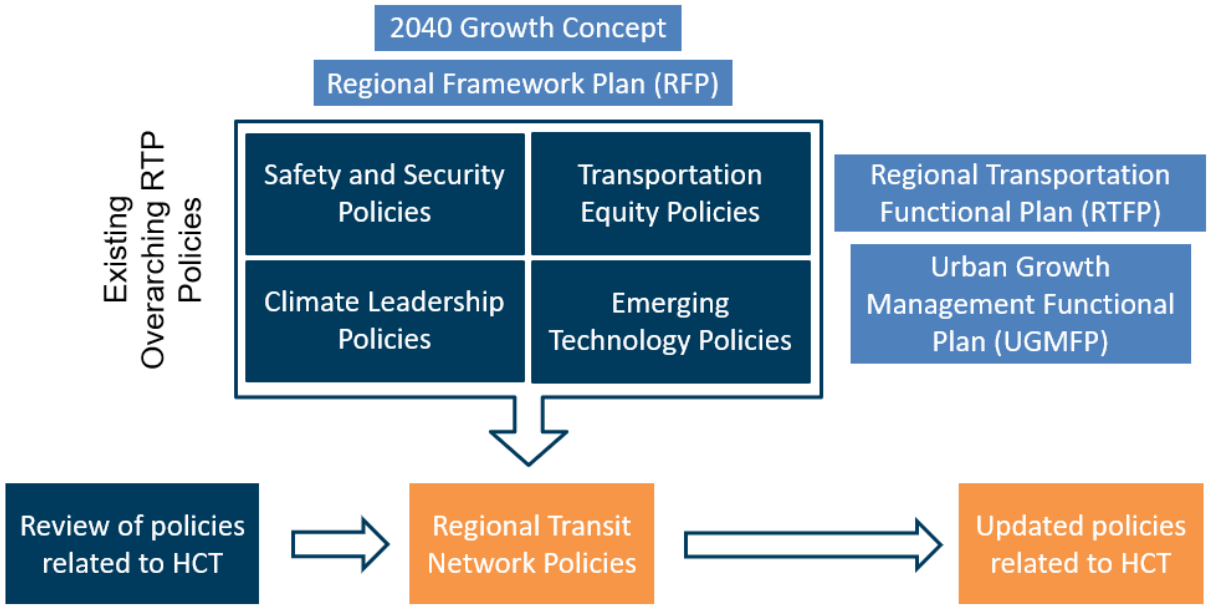
This HCT strategy update sets the vision and priorities for regional HCT corridors. It falls under the Regional Transit Strategy, which is a part of the RTP that provides the region's overall vision for meeting future transit needs. As shown in Figure 5, the RTP continues to support the 2040 Growth Concept: the region's long-range land use and transportation plan for managing growth. The Regional Framework Plan identifies regional policies to implement the 2040 Growth Concept goals.

Figure 5. Related regional plans and policies

As shown in Figure 6 below, the RTP includes overarching policies that guide the Regional Transit Network Policies.[1] This HCT strategy update recommends updates to these policies; the updates will guide how Metro evaluates transportation projects including identifying and prioritizing investments that will advance the regional HCT network in a fashion that benefits the most people.

[1] Two "functional plans" – the Regional Transportation Functional Plan and the Urban Growth Management Functional Plan – provide additional guidance to local jurisdictions to implement the policies in the RTP.

Figure 6. Regional transit network policies in relation to the RTP and other Metro plans



As part of this HCT strategy update, plans and policies from state and federal agencies; transit providers including TriMet, SMART, and C-TRAN; and cities and counties in the region were reviewed to document relevant policies or efforts. Appendix C, Policy Framework, provides additional detail on the local and regional plans that were reviewed and their respective relationships to the update.

Regional transit strategy

High capacity transit is one part — a key part, but still one part — of the broader transit strategy. It plays a specific role in moving many people quickly along major travel corridors. The regional transit strategy is implemented by improving transit service, investing in transit infrastructure, collaborating between transit providers and local jurisdictions, and expanding transit-supportive elements.

Transit service improvements Local and regional transit service improvements designed to meet current and projected demand in line with local and regional visions and plans.

Capital investments in transit New enhanced transit strategies such as signal priority, dedicated lanes or HCT options such as rapid bus, light rail, commuter rail or high speed rail.

Transit supportive elements Includes programs, policies, capital investments and incentives such as travel demand management and physical improvements such as sidewalks, crossings and complementary land uses.

Incorporating community feedback in the policy framework

Community stability Strong support for investments in corridors to maintain housing and business affordability and avoid displacement.

Safe access to transit Support for safe and comfortable facilities for walking and biking to transit and for waiting at the transit stop (crosswalks, sidewalks, lighting, bus stop amenities).

Transit service Support for more frequent and reliable service. Support for expanding service, particularly to growing areas and town centers in the broader Metro region.

Broaden access Better serve community members who are older, who do not speak English, who have mobility challenges or other disabilities, who have health conditions, who are travelling with children, or who are in school.

Priority corridors for transportation investments include:

- Multnomah: 82nd Ave., Powell Blvd., 122nd Ave., Downtown Portland
- Clackamas: McLoughlin Blvd., 82nd Ave., Highway 212/Sunrise, Clackamas to Columbia/181st Ave.
- Washington: Tualatin Valley Highway, SW 185th Ave., Burnside/Barnes Road.

Other related regional work

Other recent regional studies, planning efforts or work underway informed development of this strategy and include:

- Mobility Corridors Atlas (2014)
- Strategic Plan to Advance Racial Equity, Diversity and Inclusion and Equity Framework (2016)
- Southwest Corridor Equitable Development Strategy (2017) and Locally Preferred Alternative (2018)
- Division Transit Locally Preferred Alternative (2019)
- Designing Livable Streets and Trails Guide (2019)
- Regional Framework for Highway Jurisdictional Transfer (2021)
- Regional Congestion Pricing Study (2021)
- Transportation System Management and Operations Strategy Update (2021)
- Regional Mobility Policy (2019-22)
- Tualatin Valley Highway Corridor Study (2022-23)
- 82nd Avenue Corridor Study (2023)
- Transit-Oriented Development Strategic Plan Update (2022)
- Emerging Transportation Trends Study (2022)
- Climate Smart Strategy Update (2022)

Challenges/opportunities

This strategy update revisits investment priorities based on new and emerging regional issues, challenges and opportunities including the possibilities presented by rapid bus, the transit priorities identified through recent work by Metro and partners, and the lessons learned from the work of peer regions and in the wake of the COVID-19 pandemic. This strategy update considers and responds to these recent trends through the updated policies and the HCT vision described in later sections.

What issues were considered in the 2009 plan?

Our Place in the World

In 2008, Metro developed the document, Our Place in the World, which highlighted global issues that were creating challenges for the Portland metropolitan region at the time.[2] While these challenges were central to the 2009 HCT plan, many are still relevant today and to this strategy update:

- Growth has brought opportunity and prosperity to the region, but it has also Brought growing pains.
- Uncertain energy supplies and the rising price of petroleum products affect transportation project costs and household transportation expenses. Increasing costs will make travel more difficult for those of modest means and make it imperative that our transportation system provides affordable transportation choices across the region.
- Expanded transit service will be necessary to reduce the region's impact on climate change and improve air quality.
- Current sources of transit funding are not enough to support system expansions needed to serve the region's rapidly growing ridership.

System design considerations

The 2009 HCT plan documented a number of considerations regarding the design of the HCT system, many of which continue to be relevant today.

Grid versus radial system The 2009 plan identified corridors that would continue to build out a radial HCT network. New cross-region routes that would create a grid connection between markets may become priorities for the region once the radial system is fully realized and/or markets generate enough riders to justify an HCT investment. Grid systems provide additional person-carrying

[2] Metro, Our Place in the World, October 2008. Pages 23-24 are specific to integrated transportation networks and travel options.

capacity and travel choices but are only feasible if there are enough riders to support parallel lines that are high frequency to minimize transfer time. The FX2-Division line illustrates corridor-based rapid bus as a strategy that can build out the HCT grid.

Appendix B: Regional Transit Modes summarizes the characteristics of HCT and other regional transit modes

Passenger capacity (network density versus coverage) Transit vehicle capacity and frequency determine person-carrying capacity. Light rail provides a higher passenger capacity per hour of service. The MAX system was developed to fit downtown Portland's 200-foot blocks; this limits the light rail trains to two cars. The 2009 plan identified strategies to increase passenger-carrying capacity including increasing frequency on existing lines, adding new lines serving existing corridors, adding parallel lines with minimum one-mile spacing, and considering a tunnel under downtown that would allow longer trains and support faster travel across the region; the region has continued to study a tunnel solution.

Branching As the region expands, branching lines from a common route could be considered to serve multiple end-of-line destinations. This strategy remains applicable, particularly for rapid bus lines.

Rail interoperability The potential to build streetcar tracks to accommodate MAX trains in specific segments was identified as a consideration to provide system redundancy. Streetcar design standards typically do not allow MAX trains to operate on streetcar tracks. Streetcar and MAX currently interoperate on the Tilikum Crossing bridge, which is also shared with buses. Shared rail and bus segments can maximize the utility of investments in constrained corridors.

Vehicle features Low floors, fare payment at stations or on board, multiple wide doorways, and other "universal design" features streamline boarding and alighting and maximize accessibility. As with the frequent express FX2-Division project, an iconic vehicle can become a symbol of the HCT brand that makes it easier for riders to identify and use.

Service quality considers the total customer system experience. HCT includes:

- moderate to full transit priority, i.e., speed and reliability
- very frequent service (every 15 minutes or more often)
- long hours of service on weekdays and weekends
- longer station spacing of one-third to one-half mile or more for fast travel time
- high-quality station access is important since HCT stations are farther apart
- high-quality station amenities including shelters and real-time information.

Land use and urban form Mixed land uses concentrated within walking distances of HCT stations are critical to fostering walkable communities and successful HCT performance. High-quality transit service and pedestrian access must be in place to realize a significant drop in per capita vehicle miles traveled that occurs as neighborhoods and regional centers transition from a character of closer to 10 persons and employees per acre to one of 25 to 50 persons per acre — an environment supporting rapid bus and light rail investment.

Transit system constraints The 2009 plan identified that the Steel Bridge, the Rose Quarter Transit Center and at-grade light rail crossings increase transit delay.

What has evolved since the 2009 HCT plan?

Since 2009, the region's awareness and level of urgency has heightened around issues including social equity-related disparities based on people's race and income, housing affordability and displacement, the impacts of climate change and eliminating traffic deaths and serious injuries through the Vision Zero program. The pandemic brought additional transformation around how and where people travel. It has also resulted in more urgent personal safety and health concerns, and has continued to impact how transit is utilized and delivered. This section summarizes takeaways from several recent efforts that analyzed these trends.

An evolving approach to high capacity transit

Since the 2009 plan was adopted, the regional funding landscape has changed. Federal funding now requires a much more significant match than in the past — typically, 50% as opposed to 10% in past decades. With few dedicated local funding sources, funding for major HCT investments presents a substantial challenge. Rapid bus and related "rubber-tire" HCT investments can provide all the benefits of HCT, often at a reduced cost compared to other modes. While each HCT corridor will go through a refinement process that examines the most appropriate HCT mode, the region recognizes that rapid bus and similar investments represent a cost-effective path forward for introducing HCT in the face of uncertain funding.

Metro and TriMet Forward Together and Emerging Trends Studies

In preparation for the 2023 RTP and the Forward Together service plan, Metro and TriMet, respectively, conducted research into current and emerging trends for transportation in the region.[3] Key trends related to HCT that were identified through these efforts are described below.

[3] Metro, Emerging Trends, Executive Summary, October 2022. TriMet, Forward Together, Existing Conditions and Market Analysis Reports, April/May 2022.

Declining transit ridership and a gradual recovery Nationally and on TriMet, transit ridership declined by 4% between 2010 and 2019, although ridership began to increase in the year before the COVID-19 pandemic. Between February and April 2020, regional transit ridership dropped by nearly 70%, and TriMet reduced service by 20%. As of early 2023, ridership is recovering and is expected to be at pre-pandemic levels by 2026 supported by the service plan envisioned in Forward Together (see Figure 7).

Shifts in when and where transit is needed Peak commute demand has declined since the pandemic as many people continue to work from home (see Figure 8). But not everyone is able to work remotely, and lower-wage workers are less likely to have that option. The pandemic showed that people in lower-income areas continued to ride transit at higher rates.

Figure 7. Estimated Service and Ridership Changes, 2021

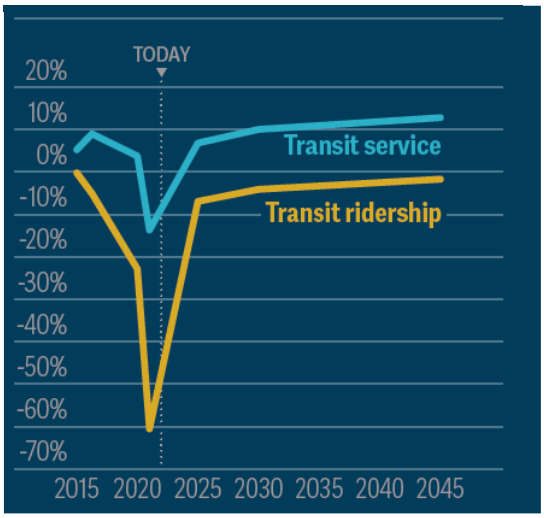
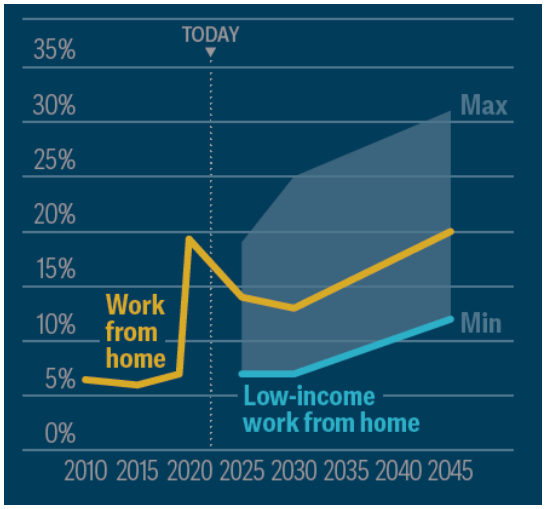


Figure 8. Oregon Remote Work Levels



Disparities in access to jobs and services. Even before the pandemic, housing costs had pushed lower-income residents and people of color to more affordable outlying areas that tend to be farther from transit and require longer trips to access jobs and services (see Figure 9).

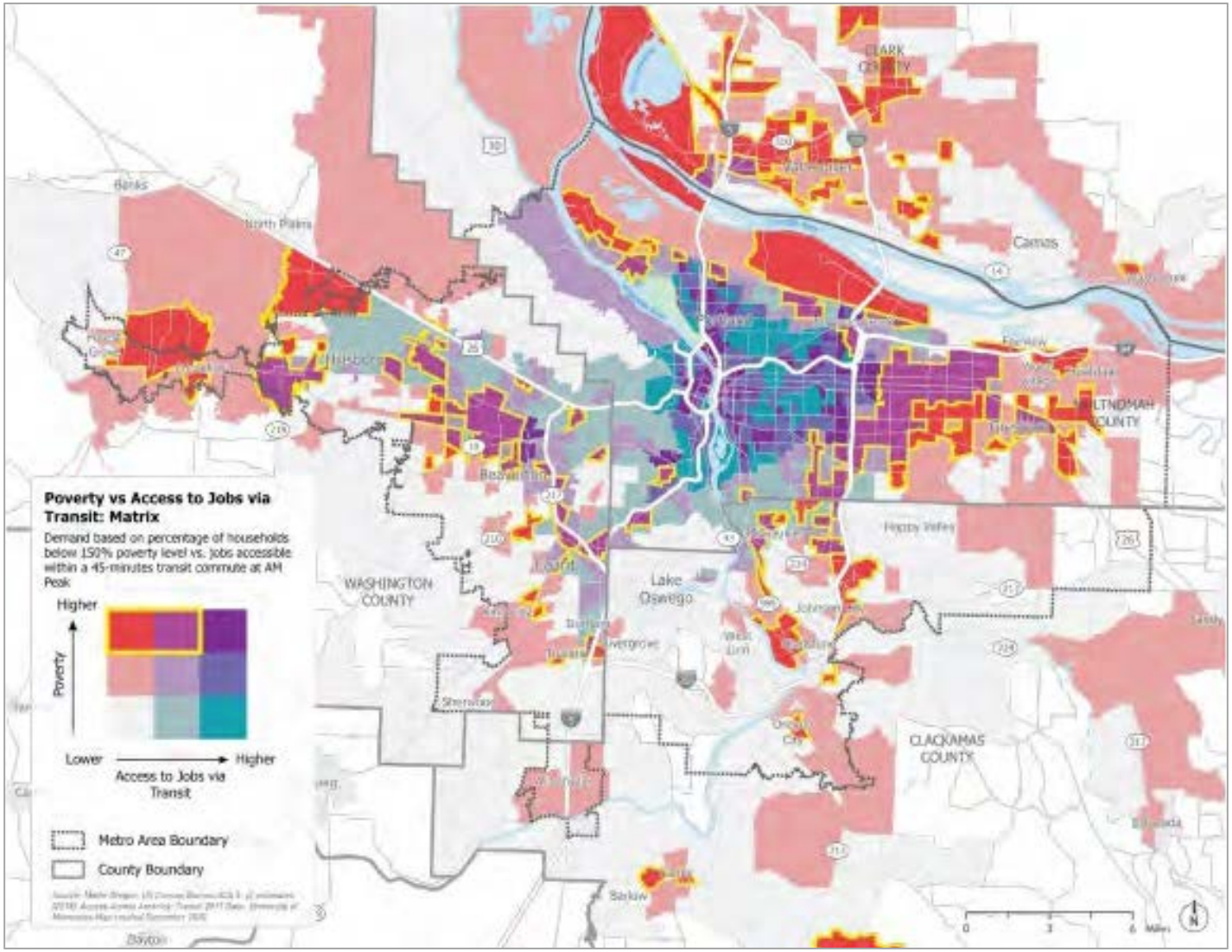


Figure 9. People with low incomes in relation to transit service (Forward Together[4])

[4] https://trimet.org/forward/

Impacts of climate change

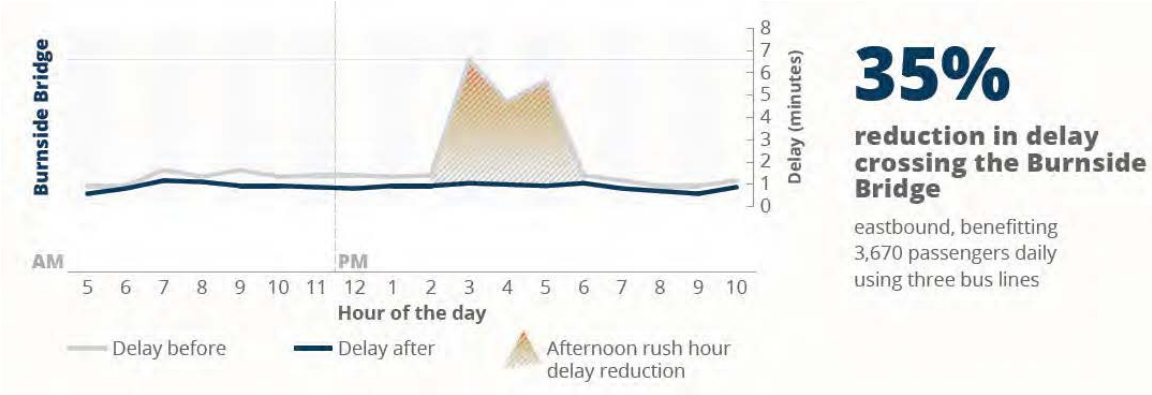
Reducing the impacts of climate change can benefit low-income communities and communities of color who are more likely to live in areas of high flood risk and areas that experience urban heat island effects from a sparse tree canopy.

Growing and lingering personal safety concerns Personal safety on transit vehicles is now a top concern of riders. Some potential riders remain concerned about their health and choose not to use transit. The number of people experiencing houselessness has grown, including the numbers of unhoused residents at or near transit stops. Severe injuries and traffic fatalities have also increased in recent years.

Similarly, pedestrian and cyclist safety has declined during and post pandemic. Regional agencies are focused on addressing the root causes, which include an increase in traffic speeding, facility gaps, poor lighting and other issues.

Improvements to make transit faster, more reliable, and more attractive TriMet, Metro, the City of Portland (including its Rose Lane Plan) and other jurisdictions have studied hundreds of bus-priority lane and spot improvement projects between 2018 and 2022; more than 50 were implemented. Figure 10 provides an example of the effectiveness of one of these investments: the Burnside Bridge.

Figure 10. Before-and-after effects of Burnside Bridge bus-priority improvements



Safe and Healthy Urban Arterials

In preparing for the RTP, Metro developed this RTP policy brief describing existing conditions, challenges and policy considerations for urban arterials in the region, which are of high importance for transit.[5] Eight of the 10 highest-ridership TriMet

[5] Metro, Safe and Healthy Urban Arterials Policy Brief, October 2022.

bus routes are on urban arterials that carried 25% of TriMet's ridership in 2020. Takeaways from the report are included below.

- Urban arterials represent 5% of roadway miles but have over 40% of serious and fatal crashes, as well as a disproportionate number of serious bicycle and pedestrian crashes and fatalities.
- Two-thirds of urban arterials are in areas with higher populations of people of color and people with lower incomes; fatal and severe injury crashes disproportionately affect these communities.
- Urban arterials are critical for implementing the regional growth concept since they serve many of the region's regional centers, town centers and station communities where the most housing and job growth will occur.
- Existing zoning, design and safety deficiencies, outdated standards, lack of funding, and complex coordination are among the challenges to addressing needs and creating thriving centers along urban arterials.

The policy brief identified policy, design and funding challenges for the RTP to address in defining a new approach for urban arterials that addresses equity and safety issues. HCT investments identified for urban arterial corridors could be a key mechanism for coordinating improvements on these streets.

Synthesis of challenges and opportunities to be addressed

Figure 11 below illustrates the five pillars of the 2023 RTP goals and how they relate to HCT opportunities.

Figure 11. HCT opportunities related to 2023 RTP goals

Equity

- Address transportation system disparities including increasing access to high-quality service, providing faster travel across the region, and improving localized air quality for people of color, people with low incomes, and other under-served communities.
- Consider the importance of trips outside of the peak commute times for people of color and low-income people, who are more likely to hold multiple jobs.
- Employ strategies that minimize displacement of low-income people and community-serving small businesses that do not exacerbate housing affordability.

Climate

- Make using transit an attractive choice to shift trips that are currently made by single occupancy vehicles. This will reduce VMT, improve air quality, and reduce greenhouse gas emissions.
- Link roadway pricing to opportunities to reduce greenhouse gas emissions and prioritize project funding for corridors along and within congestion pricing areas.
- Prioritize HCT projects to improve local air quality and integrate electrification or other clean fuel strategies to reduce emissions from transit.

Mobility

- Connect regional and town centers as part of the 2040 Growth Concept. HCT will serve as the backbone of the regional transit system, providing the necessary capacity
- Ensure a safe, welcoming system with high quality infrastructure and service to retain and attract new transit riders and to reverse ridership trends that were compounded by the pandemic.
- Integrate corridors and station areas with active transportation facilities, to make HCT projects accessible and allow more people to fulfill their travel needs by walking and bicycling.
- Consider investments to address MAX system capacity constraints that limit current system speed, affect system resiliency, and preclude future expansion, including over the Steel Bridge, at the Rose Quarter Transit Center, and through downtown Portland.

Economy

- Prioritize access to in person jobs and essential services, recognizing the potential for fast, reliable service to increase access to economic opportunities for people of color and people with lower incomes.
- Minimize wait times by making efficient and convenient transfer opportunities that will benefit lower-income workers, women, and essential workers who have a greater tendency to make multiple trips
- Employ strategies to accommodate growth while alleviating displacement risk with equitable transit oriented development investments along major corridors that welcome people across all income brackets.

Safety

- Prioritize personal safety– on board transit vehicles (including continued concern about health risks), at stations, and along streets (including street lighting). Rethink safety interventions, including education, communication, and encouragement to make all people feel safe on transit, and address the threat that people of color may feel regarding transit security personnel.
- Design streets to be safer for all people. HCT projects are an opportunity to partner with local jurisdictions. Fatal and severe injury crashes are disproportionately on urban arterials which often run through communities of color and lower-income communities. All people must feel safe using transit if HCT investments are to have the intended climate and social equity benefits. Race, gender, and age play a role in perceived safety when traveling.

High capacity transit policy framework updates

High capacity transit is the backbone of both the 2040 Growth Concept and Climate Smart Strategy,[6] as well as the foundation for the transit network in the RTP which is a key tool for implementing both documents. The 2040 Growth Concept sets forth a vision for connecting the central city to regional centers such as Gresham, Clackamas and Hillsboro with fast and reliable HCT; these connections will help greater Portland concentrate development and growth in its centers and corridors.

Based on a review of existing regional, state and federal policies; evaluation of the challenges and opportunities described above; and review of policies in similar regions; this strategy update refined the policy framework to better reflect current and future regional priorities and desired outcomes for HCT. Key considerations included:

- prioritizing social equity in transit investments by emphasizing the importance of high-quality service to make transit work for everyone
- addressing climate change as another key priority for transit investment, recognizing that climate and equity are interrelated challenges for the region
- prioritizing maintenance as key to preserving a resilient and reliable system, and
- more clearly addressing the role of the better bus program as a distinct tool for increasing reliability of the transit system.

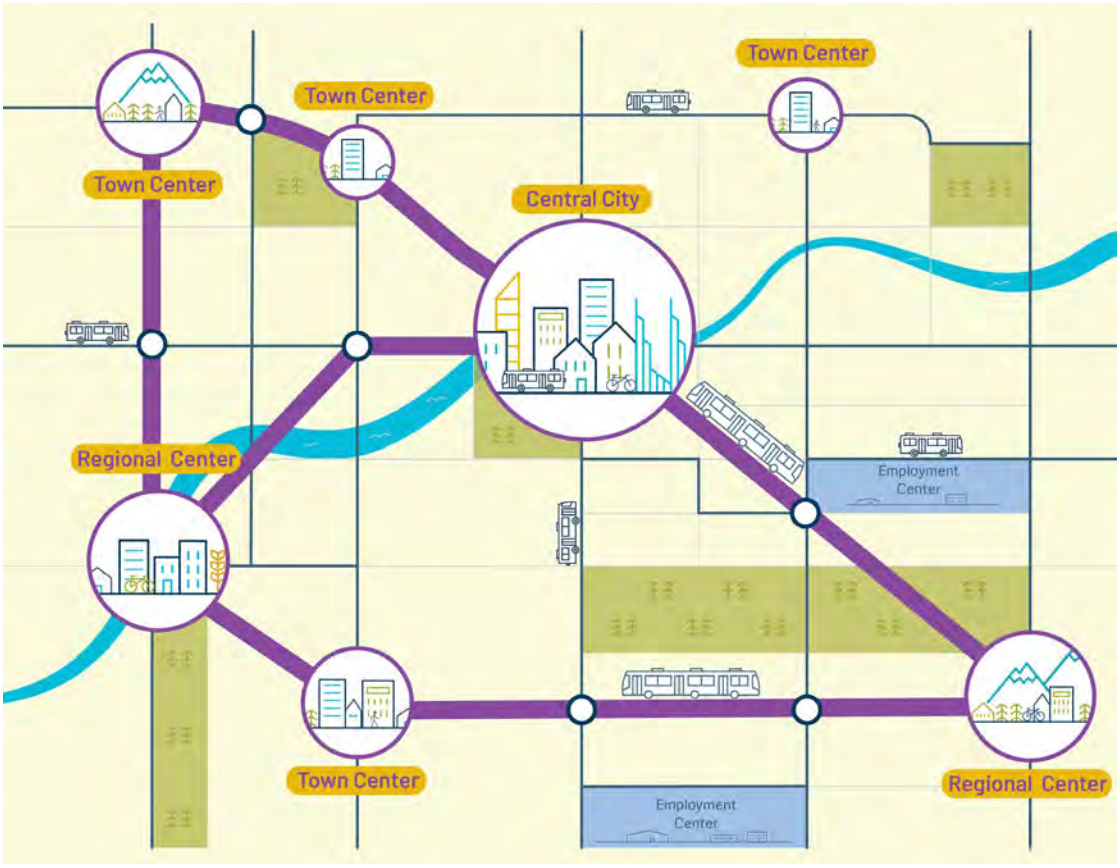
A key element of the policy framework is defining what HCT looks like in greater Portland and the role that it plays in the regional transportation network. This strategy update recharacterized high capacity transit to:

- lead with the *purpose* of HCT, which is to serve as the backbone of the regional transportation (not just transit) network
- expand the *role* of HCT to connecting regional centers and major town centers (see Figure 12)
- integrate *social equity* by emphasizing that HCT should connect people who are marginalized by society (e.g., communities of color), suffer from institutional or structural discrimination or rely on transit (i.e., people of color, limited English proficiency, 18 or under, 65 or over, low-income, differently abled) with high-quality transit
- define the *essential attributes* of high-quality transit as fast, frequent, safe and reliable

[6] https://www.oregonmetro.gov/climate-smart-strategy

- emphasize that HCT provides the needed *capacity* to serve the region's highest demand corridors
- specify the *levels of transit priority,* aspiring to operate in exclusive guideway to the extent possible
- specify the *transit modes* that may be considered, which include corridor-based rapid bus such as the FX2-Division line, that may not have majority exclusive guideway.

Figure 12. Regional transit network concept



Defining bus rapid transit

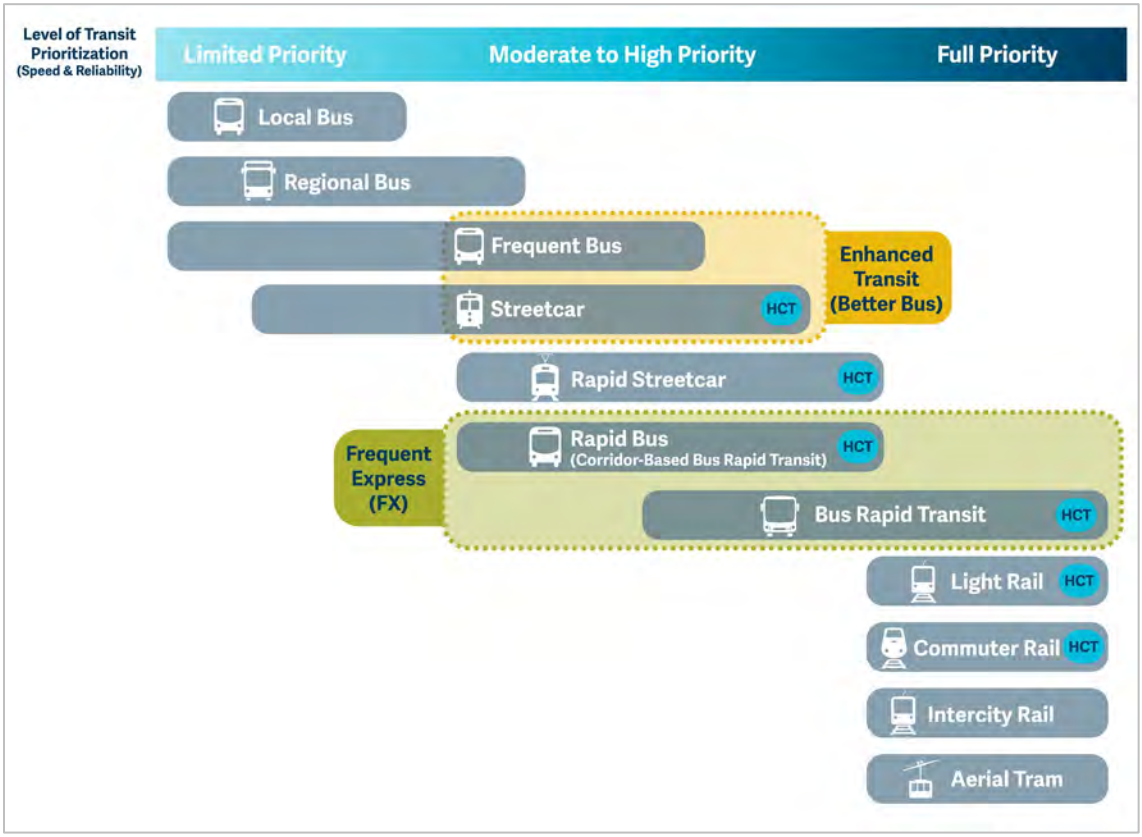
Federal funding has been and will continue to be essential to advancing most HCT corridors. BRT, as defined by the Federal Transit Administration's Capital Investment Grant program, must include:

- more than 50% of the route is in a fixed, separated guideway dedicated for public transportation during peak periods
- defined Americans with Disabilities Act-compliant stations with shelters and route schedules
- solutions for faster travel time at congested intersections
- bi-directional weekday service for at least 14 hours a day arriving at least every 15 minutes all day or 10 minutes at peak and 20 minutes at all other times
- weekend service for at least 10 hours a day arriving at least every 30 minutes all day
- unique branding.

The program also considers projects that are corridor-based BRT. These projects do not have requirements for weekend service, and the corridor does not need to have exclusive guideway. Corridor-based BRT projects must still include the other elements noted above.

Figure 13 below illustrates the modes that are HCT, ranging from light rail or rapid bus (bus rapid transit) with majority exclusive guideway to corridor-based rapid bus with a mix of exclusive and shared right of way (such as the FX2-Division high capacity bus service) to a streetcar mode.

Figure 13. Spectrum of regional transit modes



Better bus: Example of a city-led initiative

Cities all over Greater Portland can work with TriMet to support shared goals.

The City of Portland developed an Enhanced Transit Toolbox that describes many types of speed and reliability improvements that can be implemented as part of better bus enhancements.

Better bus investments complement HCT by improving the speed and reliability of regional transit and improving access to jobs, services, recreation and other essential destinations in the Metro area. Better bus includes spot treatments that enhance bus speed and reliability, but it does not include the comprehensive corridor investments of HCT. The diagram to the right compares common better bus and frequent express (FX) rapid bus treatments.

HIGH CAPACITY TRANSIT VISION DEVELOPMENT PROCESS

High capacity transit vision

The HCT vision is the comprehensive future network of HCT corridors with enhanced amenities and transit priority that work together to move more people, more quickly than other types of regional or local transit. Well-connected and people focused, the vision will create convenient connections between people and jobs, services, commerce and other major destinations (e.g., colleges, hospitals, affordable housing). The vision prioritizes those who depend on transit or lack travel options, particularly communities of color and other marginalized communities.

Reflecting local and community visions

Community feedback show strong support for the following corridors. This feedback was essential to refining the HCT vision:

- Lombard/Killingsworth
- Martin Luther King Jr. Blvd.
- Cesar Chavez
- Clackamas to Columbia
- Halsey
- Burnside
- Powell
- Highway 212/Sunnyside
- I-205
- McLoughlin
- WES/Route 76 - Beaverton to Wilsonville
- Highway 26
- 185th Avenue
- Highway 99W

The vision builds on prior work and:

- reflects the vision and goals adopted as part of the 2023 RTP Update process, described in the HCT policy framework section
- carries forward regional goals and investment priorities using the 2018 RTP HCT Readiness and Assessment criteria developed based on those priorities in partnership with regional stakeholders
- connects regional and town centers to support the 2040 Growth Concept
- maintains consistency with the Federal Transit Administration's Capital Investment Grant Program project justification criteria
- reflects the greater Portland region's history of success with the Federal Project Development process (advancing one corridor every 3 years)
- considers investments within the RTP horizon and beyond (thinking toward the next growth concept horizon of 2070)
- contemplates optimal network design (e.g., radial, grid, multihub) and character (e.g., coverage, spacing, intensity).

The vision will take years to achieve, but significant progress has been made in the last 35 years. Some HCT corridors identified are not ready to move forward today; they lack the population density or number of jobs to warrant a major transit investment such as HCT. However, the vision recognizes that these places are where future growth is focused and that as time goes on, they will become viable and important corridors for HCT investment. Other corridors are already clear regional priorities — such as the Southwest Corridor project — where all of the

right ingredients are in place today. The vision combines all of these corridors, representing the full buildout of the region's HCT system.

Evaluation approach

Metro enacted a two-step process, very similar to the 2018 Regional Transit Strategy process. The first step considered a broad universe of potential future HCT corridors and narrowed to those best aligned with regional goals. The second step focused on readiness, or the ability for a given corridor to move forward in the near versus long term. Once the prioritized short list of corridors was identified, community feedback and discussions with regional stakeholders refined the list of corridors and priorities.

Core evaluation criteria

Mobility Ridership and travel time

Land use and market support Urban form, centers and land use

People and job density Cost effectiveness

Operating and capital project cost per rider Equity benefit and access to jobs and services

Environmental benefit Vehicle miles traveled

The following sections provide a brief summary of the evaluation process; for more details, please see Appendix D, Level 1 Screening, and Appendix E, Readiness Evaluation. The process is illustrated in Figure 14.

Figure 14. Regional HCT plan update process

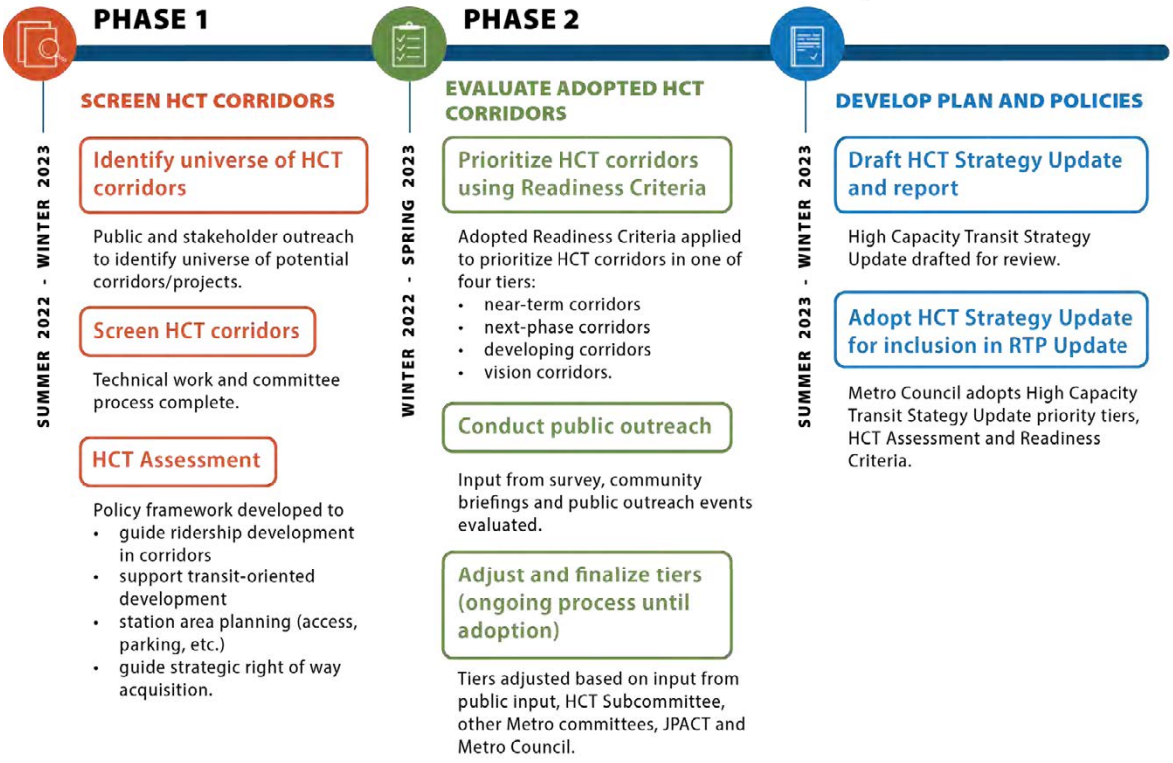
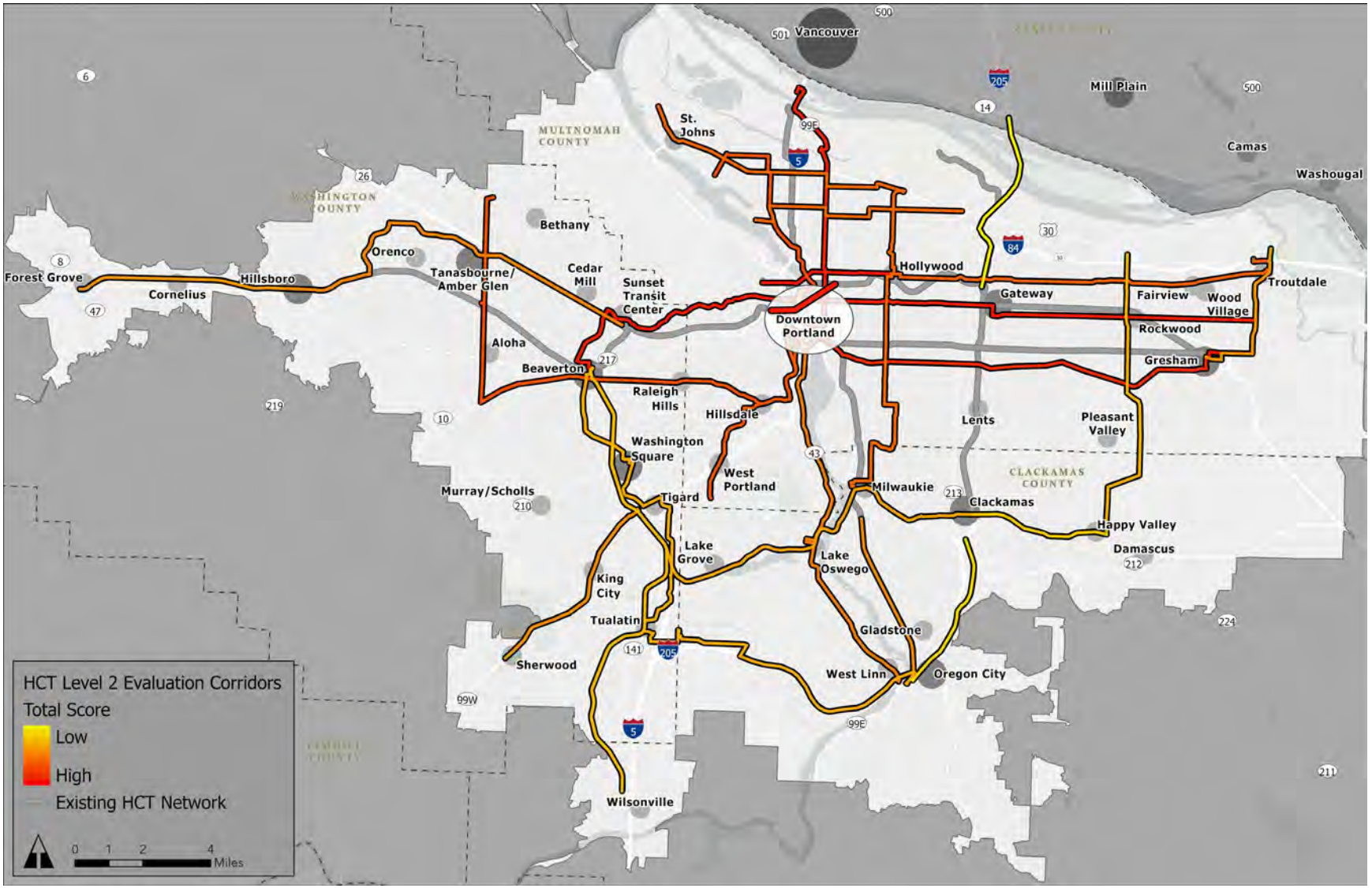


Figure 15 shows the initial scoring from the evaluation which considered the following:

1. Where are more people traveling today and where will they want to travel in the future?
2. What connections link the most people and historically marginalized communities to jobs, essential services and other major destinations?
3. How long does a transit trip in a certain area currently take compared to other travel options? How much could an investment in high capacity transit improve travel?
4. What are the needs and priorities voiced by community members and organizations, businesses, agency partners and elected officials.

The HCT corridors shown are representative; that is, they do not necessarily represent the exact corridor that would advance. Additional work outside of this strategy update is required to define the exact corridor, termini and mode.

Figure 15. Level 2 evaluation corridor scores



Readiness assessment

To use resources cost-effectively and consistent with regional mobility, equity and environmental priorities, HCT is a tool for connecting centers of activity where a high number of people live, work, and visit. The readiness assessment considered the following factors that are known to contribute to successful HCT corridor implementation and that reflect federal funding priorities:

- very compact urban form (e.g., grid, small blocks) that places destinations and affordable housing options near transit (with limited parking)
- very dense mix of uses and a balance of jobs and housing that create a place where activity occurs at least 18 hours a day
- mix of many and diverse essential services near transit: grocery stores, medical clinics and educational institutions
- well-designed streets and buildings that encourage walking and rolling
- streets with space to accommodate larger buses or trains and that are designed to include elements prioritizing transit
- good street connectivity with safe, direct and convenient access to walk and roll to, from, and beyond transit stops and stations
- local plans, strategies and partnerships that underpin transit-supportive places.

Table 1 shows the readiness criteria used for corridor evaluation.

Table 1. Readiness criteria

Category	Metric
Documented Support	Community support Transit-supportive land use Work completed to date
Physical Conditions in the Corridor	Physical space Miles of sidewalks within one-half mile of the corridor, normalized Miles of street with bike facility present within one-half mile corridor, normalized
Implementation Complexity	Corridor length Freight corridor

HIGH CAPACITY TRANSIT CORRIDOR INVESTMENT PRIORITIES

The strategy update prioritizes corridors to create a pipeline for implementation over time. In the past 30 years, Metro and TriMet have taken on a major investment analysis about every 3 years. This number has increased in recent years as four regional corridor planning efforts have been initiated since the 2018 Regional Transit Strategy was adopted, including two rapid bus projects. More corridors could potentially move forward if additional resources are devoted.

Prioritized investments

This strategy update identifies near- and long-term regional HCT investment priorities. Mode decisions will be made as corridors enter into the FTA alternatives analysis process, but most corridors assume rapid bus as the primary investment mode.

To distinguish near-term regional priorities from corridors that will need time to develop, a simple set of priority tiers was established. Funding is a major constraint in moving corridors forward both because of federal funding timelines and requirements, as well as a lack of local funding to move projects forward. Obtaining funding through the FTA Capital Investment Grants program, whether Small Starts or New Starts funded, takes 7 or 8 years or more from initiation of a federal alternatives analysis to completion of a full funding grant agreement and construction. Additionally, only those HCT corridors that meet strict federal funding criteria are eligible for federal funding. In most cases, lower-tier corridors do not have sufficient land use, population, and employment density in place to be competitive for increased investment in the short term.

Table 2 shows the HCT vision corridors ranked by priority tier. Near-term regional priority corridors (Tier 1) should be advanced first and work on these corridors is already underway. However, no corridor is guaranteed advancement, and every corridor has the opportunity for rapid advancement by meeting the High Capacity Transit Assessment and Readiness Criteria in the 2023 RTP.

Table 2. HCT regional priority investment corridors by tier

Tier		Tier description	Explanation	ID	Corridor
1	Near-term corridors	Corridors most viable to advance into implementation in next 4 years.	Tier 1 corridors include those with adopted locally preferred alternatives or have active work underway. They were *not* included in the evaluation detailed in the HCT vision development process section above because the region has already identified these corridors as a priority.	C7	82nd Ave
				C16	Tualatin Valley Highway
				C29	Southwest Corridor
				C30	Interstate Bridge Replacement
				C28	Montgomery Park Streetcar
2	Next-phase corridors	Corridors in which implementation may be viable if recommended land use planning and policy actions are implemented.	Tier 2 corridors scored well on Level 2 and Readiness criteria; they are candidates for HCT investment and could be ready to advance toward implementation in the next 5 years.	C14	Central City Tunnel
				C19	Portland to Gresham via Burnside
				C21	Hayden Island to Downtown Portland via MLK
				C23	Bethany to Beaverton via Farmington/SW 185th
				C25	Beaverton to Portland via Hwy 10 (BH Hwy)
				C20	St. Johns to Milwaukie via Cesar Chavez
				C24	Swan Island to Parkrose
3	Developing corridors	Corridors in which implementation may be viable if: 1. There is additional land use investment; and 2. There is a local champion to support corridor development; or 3. There is interest in development, but land use and ridership potential are not yet supportive.	Tier 3 corridors were those in which more work would be needed before they become candidates for investment. Some scored well on Level 2 but not on Readiness criteria, which may mean that corridors may not yet have sufficient population density/land use policies in place. Alternatively they could have scored moderately on Level 2 and Readiness criteria. These corridors have a longer-term path to implementation.	C1	Portland to Gresham in the vicinity of Powell Corridor
				C22S	PCC Sylvania to Downtown Portland via Capitol Hwy
				C18E	Hollywood to Troutdale
				C11	NW Lovejoy to Hollywood via Broadway/Weidler
				C17S	Oregon City to Downtown Portland via Hwy 43
				C5	Sunset Transit Center to Hillsboro via Hwy 26/ Evergreen
				C27	Park Ave MAX Station to Oregon City in the vicinity of McLoughlin Corridor
				C4	Beaverton - Tigard - Lake Oswego - Milwaukie - Clackamas Town Center
				C6	Beaverton - Tigard - Tualatin - Oregon City

Tier	Tier description	Explanation	ID	Corridor
4	Vision corridors	Corridors in which implementation may be viable when projected land use, policy outcomes and projected ridership is in line with HCT investment.	C2	Tigard to Sherwood via Hwy 99W Corridor
		Tier 4 corridors are those that scored lower on Level 2 or Readiness criteria. Additional planning work, and increased land use and population density would be needed to support HCT investment. These corridors may be candidates for other types of investments.	C9	Hillsboro to Forest Grove LRT extension
			C10	Gresham to Troutdale LRT extension
			C15	Happy Valley to Columbia Corridor via Pleasant Valley
			C3	Beaverton to Wilsonville in the vicinity of WES
			C12	Clackamas Town Center to Damascus
			C26	Clackamas Town Center to Oregon City
			C8	Gateway to Clark County in the vicinity of I-205 Corridor

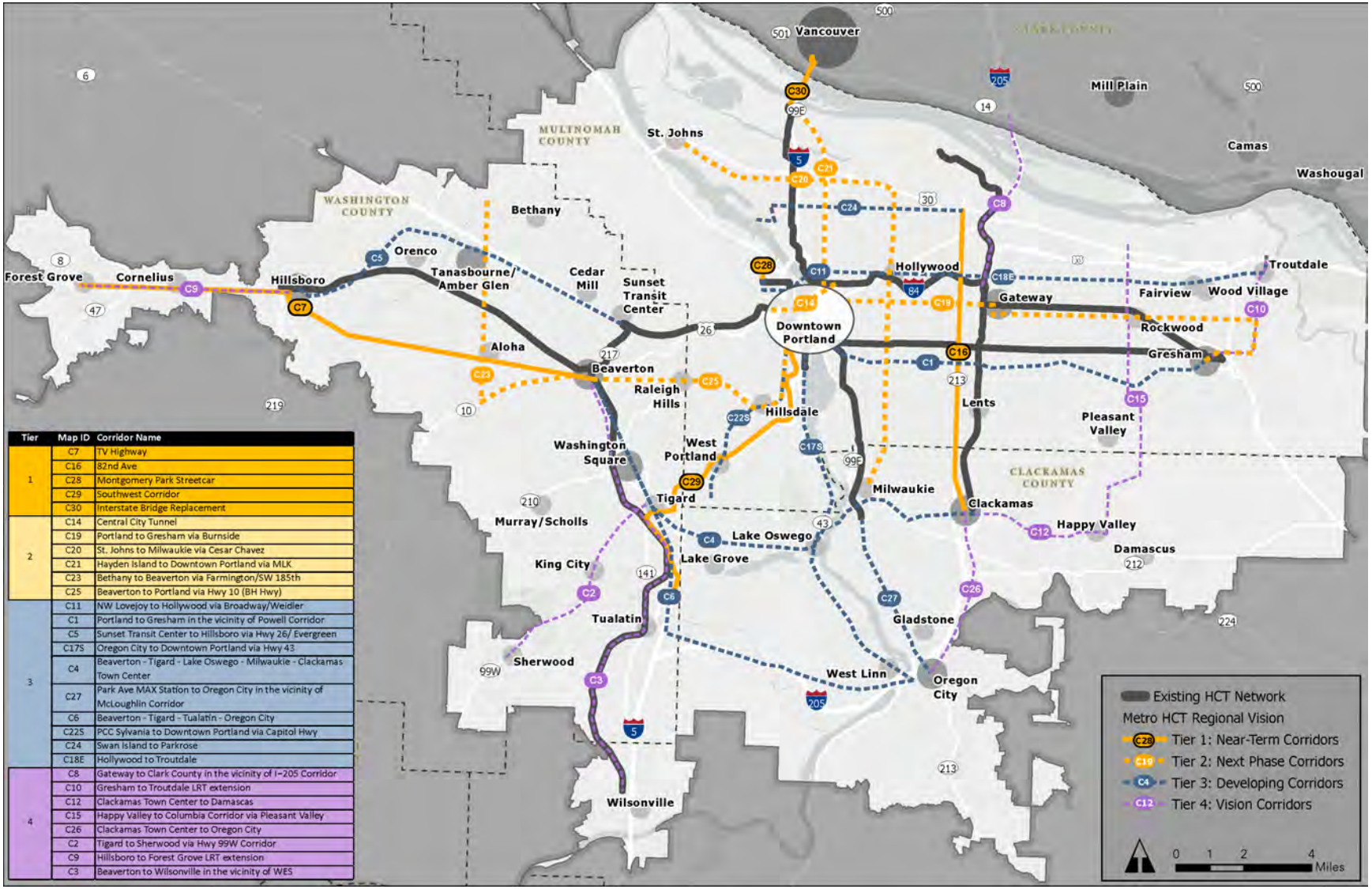
Figure 16 shows the corridors by tier. The corridors shown on this map were used to define and analyze potential HCT investments, but do not necessarily represent the ultimate corridor or termini of any given corridor. Much additional work, described in the next sections of this report, is required to further define and refine these corridors, their HCT modes, and many other components.

Community priorities

These vision tiers also reflect community investment priorities which indicated clear need for and interest in high capacity transit solutions for near-term and next-phase corridors for better access to neighborhoods, jobs, and community places. Additional community priorities are focused on making high capacity transit for comfortable to use:

- increasing capacity to reduce crowding
- reducing bus travel and waiting time
- providing lighting, especially at the stop
- installing shelters offering protection from the weather
- ensuring stops are safe to access and comfortable to wait at
- increasing feeling of safety and security on the bus.

Figure 16. HCT regional vision corridors by tier



Tier	Map ID	Corridor Name
1	C7	TV Highway
	C16	82nd Ave
	C28	Montgomery Park Streetcar
	C29	Southwest Corridor
	C30	Interstate Bridge Replacement
2	C14	Central City Tunnel
	C19	Portland to Gresham via Burnside
	C20	St. Johns to Milwaukie via Cesar Chavez
	C21	Hayden Island to Downtown Portland via MLK
	C23	Bethany to Beaverton via Farmington/SW 185th
	C25	Beaverton to Portland via Hwy 10 (BH Hwy)
3	C11	NW Lovejoy to Hollywood via Broadway/Weidler
	C1	Portland to Gresham in the vicinity of Powell Corridor
	C5	Sunset Transit Center to Hillsboro via Hwy 26/ Evergreen
	C17S	Oregon City to Downtown Portland via Hwy 43
	C4	Beaverton - Tigard - Lake Oswego - Milwaukie - Clackamas Town Center
	C27	Park Ave MAX Station to Oregon City in the vicinity of McLoughlin Corridor
	C6	Beaverton - Tigard - Tualatin - Oregon City
	C22S	PCC Sylvania to Downtown Portland via Capitol Hwy
	C24	Swan Island to Parkrose
	C18E	Hollywood to Troutdale
4	C8	Gateway to Clark County in the vicinity of I-205 Corridor
	C10	Gresham to Troutdale LRT extension
	C12	Clackamas Town Center to Damascas
	C15	Happy Valley to Columbia Corridor via Pleasant Valley
	C26	Clackamas Town Center to Oregon City
	C2	Tigard to Sherwood via Hwy 99W Corridor
	C3	Hillsboro to Forest Grove LRT extension
	C9	Beaverton to Wilsonville in the vicinity of WES

IMPLEMENTING THE VISION

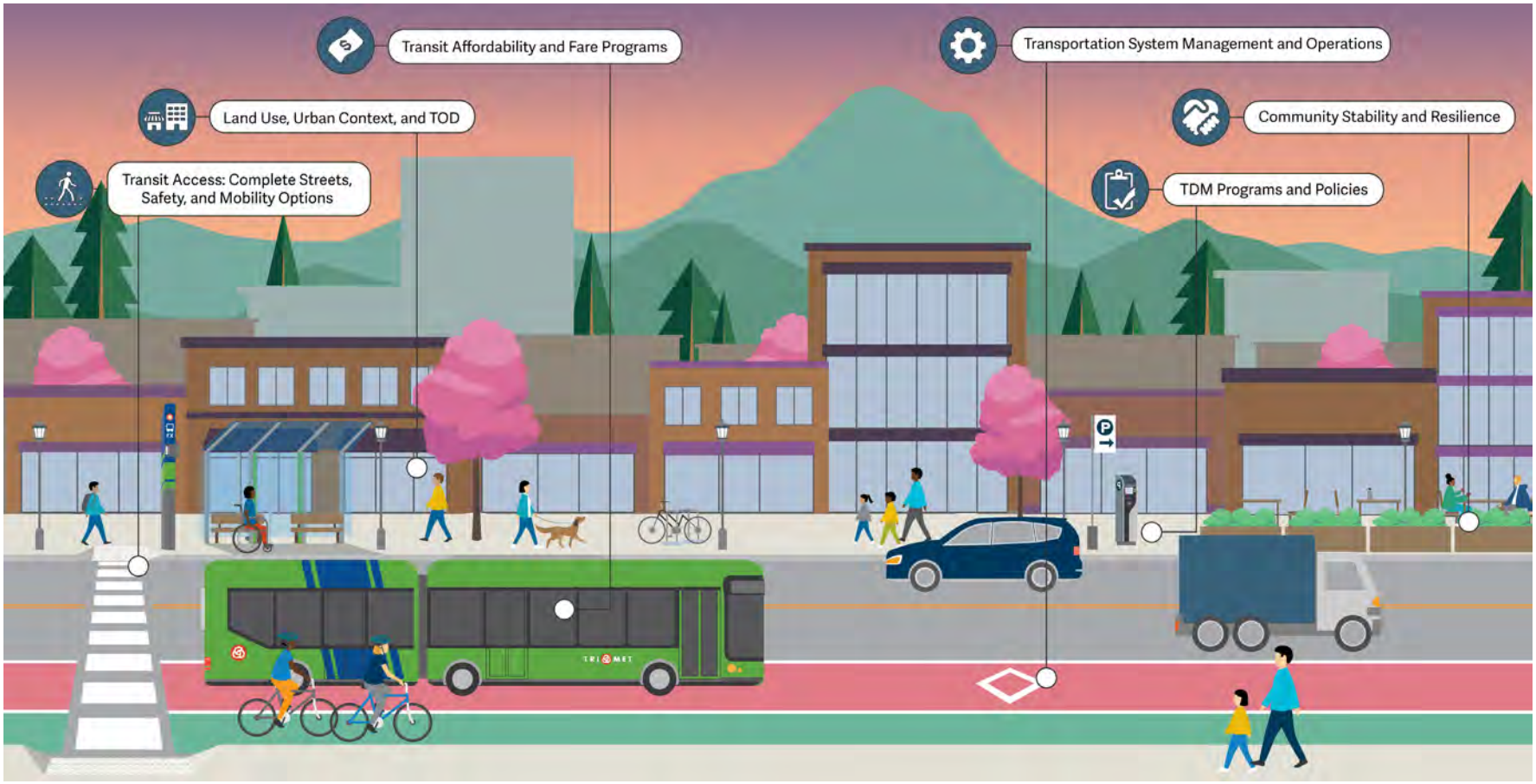
Supporting high capacity transit development

High capacity transit investments take existing strong transit connections to the next level in accessibility and priority on the roadway and at the signal – while shining a light on the corridor in which it travels to improve safety, access and livability for current and future riders. For transit investments to meet success and be utilized to its fullest potential, other elements and improvements around the transit service and infrastructure are needed. The following general types of transit supportive elements factor into creating an environment that encourages transit ridership while meeting regional objectives around equity and affordability:

- land use, urban context, and transit-oriented development
- community stability and resilience
- complete streets: transit access and safety
- transportation demand management policies and programs
- transportation system management and operations
- transit affordability and fare programs.

Figure 17 presents these transit supportive elements and the strategies that can be considered under each.

Figure 17. Overview of transit-supportive elements








Element	Land Use, Urban Context, and Transit-Oriented Development	Community Stability and Resilience	Transit Access: Complete Streets, Safety, and Mobility Options	Transportation Demand Management Programs and Policies	Transit Affordability and Fare Programs	Transportation System Management and Operations
Why does it matter?	Density and mixed uses support high-frequency service and modeshare goals	Strategies to ensure existing residents and and small businesses benefit from HCT investments	Multimodal streets help people get to and from transit safely	Incentivize alternatives to driving, and increase attractiveness and awareness of transit options	Make transit more affordable and accessible to all people	Make transit a competitive alternative to driving
What does it include?	• Supportive land uses including mixed use developments • Transformation potential through transit-oriented development and higher-density development aligned with 2040 Growth Concept and the community's vision for growth • Supportive planning and policies • Local commitment to corridor investment	• Robust community input and engagement • Equitable development and affordable housing strategies • Local anti-displacement policies and actions • Targeted support for small businesses	• Pedestrian network completion (sidewalks, crossings, accessibility, lighting, etc.) • Bicycle network connections • Transit-supportive street design • Transit stop and station amenities • Mobility hubs • Shared mobility options • First/last mile connections • Shuttles • Bicycle parking and storage	• Parking policies • Education and outreach • Employer benefits programs • Transportation wallet programs • University/school affiliate programs (i.e., student passes, education programs)	• Hop fastpass, e.g., enables fare capping and other discount options • Reduced Fare Programs: Youth, Low-income, Honored Citizen, and Veterans • Free fare grant programs • Employer-sponsored transit discount programs	• Optimize existing transit system operations and performance • Transit-priority treatments • Passenger information technology
When is it done?	All stages	Pre-Project and Ongoing	All stages	Pre-project and ongoing	Pre-project and ongoing	Pre-project, as part of implementation, and ongoing
Who is responsible?	• Local jurisdictions • Metro	• Local jurisdictions • Metro • CBOs (i.e., Community-Based Organizations)	• Local jurisdictions • Transit service providers • ODOT • Metro	• Local jurisdictions • Transit service providers • Metro • CBOs • Employers	• Transit service providers • Employers	• Transit service providers • ODOT • Metro

The role of community engagement

Community engagement is a core priority of Oregon communities; it is the first goal in Oregon's statewide land use goals. Intentional and authentic community engagement conducted throughout the HCT planning process informs project development and can galvanize lasting community support. Engagement improves projects and outcomes by helping hone the problems addressed by HCT corridor investments, avoiding or mitigating impacts, and identifying how the investment can best meet needs.

Buy-in from residents, employees, and other stakeholders living in and around a transit corridor is crucial, underlying each of the six elements presented above. Community engagement creates opportunities for co-creation, giving both agency staff and residents an equal stake in decision-making — jointly designing, planning, and executing project work. A key component of co-creation is centering events designed and led by residents, including **street design workshops, walk audits,** and **charrettes**. These events cement residents' ownership of the narrative surrounding their communities and the changes they wish to see.

Land use, urban context, and transit-oriented development

The value of HCT lies in its ability to move large numbers of people at high frequencies. The land uses and development context around station areas are critical to realizing HCT's full potential. Higher density zoning allows for more people to live, work, and play in proximity to transit, while mixed use developments create a variety of destinations for people to access in one place. This makes transit a convenient and attractive option for large numbers of people, effectively reducing the number of trips needed to be taken by car.

There are many considerations when designing transit-supportive land uses and urban contexts, from local community support to government policies.

Existing conditions and context. Many communities feel strongly about the character and role of their neighborhood against the wider urban context, especially those who are at risk of displacement. Existing anchor institutions such as major employment centers or regional destinations will also heavily impact ridership potential. Understanding the needs and concerns of existing residents, businesses, and other stakeholders is crucial to project success.

Future transformation potential as imagined under the 2040 Growth Concept and the community's vision for growth. Planning solely based on the existing land use and urban context isn't enough, especially when considering the time and cost of developing transit infrastructure. Supportive land use decisions should be visionary in their approach, factoring in the unrealized potential for futher density or growth. Considering the long-term land use vision helps future-

proof HCT investments, ensuring the infrastructure can accommodate future needs, which can save resources in the long term.

Supportive local planning and policies. Local and regional jurisdictions can create the legislative space for transit-supportive decisions to be made. The state's Climate Friendly and Equitable Communities amendments to the Transportation Planning Rule require policies such as eliminating parking minimums with new development. Developing station area plans are an early action in corridor development that help tailor local zoning codes and policies to the local context and community-supported vision.

Commitment to corridor HCT delivers economic potential to entire corridors, and local jurisdictions should be on-board with the opportunities and impacts that will cascade along the route that transit services will take. This could mean matching local investments, zoning, and redevelopment opportunities to the rights-of-way and urban streetscape throughout the corridor.

Community stability and resilience

HCT infrastructure brings new and improved travel options to our region. HCT is an important element of our regional transit system and providing people with access to jobs and other opportunities. However, HCT investments can incentivize redevelopment of property along project corridors and have historically led to land value and rent increases. Taking intentional steps to prevent the displacement of local residents and small businesses, particularly those of lower income backgrounds and historically marginalized communities, is an important part of equitably investing in HCT. Building community resilience to change is a complex and multifaceted process and is not limited to one stage of an HCT project's lifecycle. Many elements should be put in motion during early planning, but require ongoing reassessment and engagement.

Understanding demographic and market trends. Trends in demographics and market indicators can identify whether a corridor is currently undergoing gentrification and displacement (residential and commercial), and help jurisdictions evaluate the potential risk for further gentrification and displacement that may accompany proposed transit investments, and prioritize policies and programs to mitigate potential impacts.

Equitable development and affordable housing strategies. Creating an equitable development framework that guides all land use and development planning in a project corridor helps a community evaluate its guiding principles to ensure that equity is an ongoing part of the planning and development conversation, and includes affordable housing and anti-displacement strategies. The Southwest Corridor Equitable Development Strategy and Equitable Housing Strategy (see callout below) are recent local examples. Metro's transit-oriented

development program is one resource providing funding to stimulate private development of higher-density, affordable and mixed-use projects near transit.

Local anti-displacement policies and actions Cities have policy tools that they can deploy to prepare for potential gentrification and displacement**.** Readiness for HCT includes steps to mitigate that risk through community input, partnerships with local organizations, and allocating funds to support or subsidize projects/programs. Metro is currently scoping an agency-wide, cross-departmental anti-displacement action plan that will also be a resource to regional partners looking to implement local strategies.

Targeted support for small businesses As communities change, small businesses benefit from outreach and designated support to ensure they understand the changing market, potential rent changes, and have access to programs that may help them stay in an area. Additionally, support is needed during construction to avoid disrupting local businesses and keep customers coming in the doors.

Southwest Corridor Equitable Development Strategy and Equitable Housing Strategy

Thanks to a Federal Transit Administration grant, Metro worked with partners from the community to explore how a proposed light rail and other investments in the Southwest Corridor could support community development and improve the quality of life for people of all incomes and backgrounds. This process built relationships among government and community members, employers, affordable housing providers, business leaders, philanthropic organizations and educational institutions. It established a new group, the Southwest Equity Coalition, and a pilot project grant program to support continued implementation of the strategy. One element nested within the broader effort is the Equitable Housing Strategy. A joint effort between the cities of Portland and Tigard, the strategy laid the groundwork for early actions to prevent displacement, and plan for more housing options and opportunities in the corridor. It also includes actions for building capacity in under-represented communities for advocacy and public involvement — one example being the SW Community Grants Program funding community-based partners to organize and engage low-income tenants related to affordable housing and transit issues.

These innovative tools can be replicated to create more equitable outcomes as greater Portland plans expansions to the HCT network.

Planning for transit-oriented development

Both Metro and TriMet are working on updates to transit-oriented development plans.

Metro's Transit-Oriented Development Strategic Plan Update is exploring opportunities for better implementing regional racial equity strategies and furthering climate mitigation and resilience goals, including contracting and workforce, community-based organization development partnerships, inclusionary investment decision-making, urban heat island mitigation design requirements, energy efficiency standards, and parking ratios and other traffic demand management incentives. The plan guides transit-oriented development program activities to acquire land and provide gap funding for nonprofit and for-profit private developers to support the construction of higher density buildings in areas served by frequent service bus, streetcar or light rail. Similarly, Metro's Affordable Housing Bond Program allocated 10% of its funds to a site acquisition program where access to transit was identified as the top desired nearby amenity by community.

TriMet's draft Regional Transit-Oriented Development Plan builds on the guidelines approved by the Board of Directors in May 2020 to provide clarity and structure to the Transit-Oriented Development Program. The plan includes information and guidelines for the inventory, evaluation and prioritization of TriMet sites in the transit-oriented development program. It details how TriMet promotes transit-oriented development across the region. Most importantly, the plan empowers communities and partners to provide feedback regarding where transit-oriented development projects are located, how sites are selected, and how decisions are made. The plan is designed to provide transparency to all elements of TriMet's transit-oriented development work and is focused on creating equitable transit-oriented development projects for everyone.

Transit access: complete streets, safety, and mobility options

Most transit trips begin and end with active transportation. The quality of access to transit stops and stations can make a marked difference in the usefulness of transit services. This means investing in the streetscape around transit station areas, completing pedestrian and bicycle networks and to HCT stations, and partnering with mobility service providers to ensure people can safely reach HCT services.

Multimodal and Complete Streets Completing the local sidewalk and bicycle facility network, providing wayfinding and street lighting will make it safer for all people to access transit. Promoting disability-friendly transit services means committing to Americans with Disabilities Act-compliant crossings, sidewalks, and curb ramps, as well as transit platforms that offer level boarding onto vehicles. Resources including the National Association of City Transportation Officials Transit Street Design Guide provide guidance on how city streets can be adapted to serve the needs of all people accessing transit facilities. The Oregon Department of Transportation has also developed updated guidance for accommodating all modes on state highways, the Blueprint for Urban Design.

First and last mile mobility options Bikeshare, carshare, circulator shuttles, and rideshare are all travel options that can be made available at HCT stations, allowing riders to easily switch between modes and complete the first or last part of their trips. Providing secure bicycle storage encourages bicycle owners to consider riding to and from transit. These travel options and amenities can be integrated with Complete Streets efforts and integrated into mobility hubs — locations where transportation services come together providing options for people to access and comfortably make connections to and from transit.

Transportation demand management programs and policies

For many people, driving (alone) is the default means of travel, especially if existing systems and policies incentivize and subsidize driving and parking. Transportation demand management programs seek to shift trips to travel modes such as transit, active transportation (walking and biking), and ridesharing through incentives that make them more attractive and feasible for everyday trips. A lack of knowledge and understanding of transit is a common barrier to transit use, making strategic distribution of transit information and resources an important element of transit success. Transportation demand

Safe and healthy urban arterials

Another focus area for the 2023 Regional Transportation Plan update is developing safe and healthy urban arterial roadways. State and local transportation agencies have been working to enhance safety on urban arterials for decades. While these corridors serve an important regional mobility function in connecting centers, they are typically more dangerous due to higher speeds, volumes and more travel lanes than minor arterials and are the most complicated roads to make improvements on because they require a lot of coordination and planning. Successful high capacity transit projects have illustrated the capacity of regional partners to coordinate effectively to complete complex, multimodal corridor projects. The safe and healthy urban arterial policy brief identifies strategic actions that regional partners can take to support developing urban arterials as complete streets and increase access to current and planned transit routes.

Access to transit study

An emerging trend in local transit services is using smaller vehicles that range from vans and shuttles to small buses with fixed to flexible routes to fill the gap between traditional bus and rail services, as well as local destinations. In some cases, these services use ride-hailing and other new technologies to provide on-demand micro transit services.

In close coordination with public transit service providers in the region, Metro will explore how these emerging trends improve transit access and convenience, and how they might fit into a broader strategy to fill gaps in transit service that connect people in more suburban areas. This study will make recommendations for consideration in the 2028 RTP update.

management programs come in many different shapes and sizes depending on design and context.

Employer-based programs Employers can offer commuter benefits such as subsidized transit passes or bikeshare credit instead of parking permits, which encourages employees to make their regular trips without their cars. Employers are also an important stakeholder to partner with in raising awareness of transit options, and encouraging ridership.

Municipal and agency policies Jurisdictions can manage parking supply and parking costs to support the competitiveness of transit. Parking policies that support transit include matching parking pricing to demand, shared parking between uses, unbundling parking from rental and for-sale residential and commercial space, and removing minimum parking requirements for new developments. Transportation wallet programs in the City of Portland are another successful example that incentivizes transit and active transportation use over driving and parking. Establishing parking districts around station areas can be a helpful policy and planning tool to achieve transportation demand management goals.

Transit affordability and fare programs

For lower-income people, the cost of transportation can be a substantial if not disproportionate financial burden. Per trip transit fares can be high especially for families and for those making frequent short trips. Part of making HCT accessible lies in establishing fare policy that enable more people to choose transit as a regular option. The following considerations can further help price transit competitively to make it an attractive choice for all riders.

Student and youth fare programs The majority of students are not in the workforce, and thus lack substantial regular income. Both TriMet and SMART offer reduced fares for students, including community college students. Portland Public School students can ride TriMet free during the school year and there are free summer programs. Partnering with schools, universities, and other community organizations can help publicize fare programs for young people, and encourage more to ride transit and navigate transit.

Low-income fare programs TriMet currently offers an Honored Citizen Fare Card, and people with low incomes can apply to use this fare with proof of income and government-issued ID to be submitted either through an online portal or at a designated enrollment location. While TriMet has taken numerous steps to make transit fares more accessible, barriers may still remain particularly those who lack access to a smartphone or availability during weekday business hours. Exploring partnerships with convenience stores and local retailers could help make low-income fare programs more accessible.

Transportation system management and operations

Improvements to the speed and reliability of transit services is one of the most crucial ways to make transit more competitive with driving. Convenience is a key value for many people, and this can be achieved by reducing bus travel times, making transfers more seamless, and providing real time information for people to plan their trips.

Optimize existing transit network Many local bus services connect neighborhoods to key corridors, providing a feeder service for HCT. Timing transfers and right-sizing the amount of line duplication will help increase the transit travelshed, optimizing transit coverage and enhancing the rider's experience.

Transit priority treatments The Portland Metro region's framework for speed and reliability spot improvements, known as the Better Bus Program, partners with local jurisdictions to make capital investments. Improvements such as transit signal priority, transit-only lanes, queue jumps, and optimizing bus stops can reduce the amount of delay that transit vehicles experience and improve overall travel times.

Passenger information technology Real-time passenger information, either presented in a mobile application or on station displays, allow passengers to know when a transit vehicle will arrive. Information is important in helping people make travel decisions, and reduces the uncertainty faced by passengers who are transferring between services.

Project development and funding

Federal funding and eligibility

Federal funding will continue to be an essential component of HCT investment for many corridors in the Portland region. Some rapid bus projects could be delivered sooner and more cost-effectively if new revenues were available. FTA administers several Capital Investment Grants programs including Small Starts, New Starts, and Core Capacity grants. Roughly $2 billion is allocated annually across all FTA Capital Investment Grant programs:

- Small Starts projects must be less than $400 million in total cost and seek less than $150 million in total Small Starts funding
- New Starts projects are greater than $400 million in total cost and are seeking more than $150 million in total funding.

Projects must be commuter (heavy) rail, light rail, streetcar, BRT or corridor-based BRT — the primary difference being that rail and BRT projects with fixed-guideway investments must have more than 50% of the route in dedicated transit lanes or other separated right of way. Corridor-based BRT projects do not need to

have exclusive guideway, but must have other elements. To be eligible investments, projects must:

- involve a "substantial" investment on a single route within a defined corridor
- include defined stations
- include features such as traffic signal priority for buses, off-board fare collection, park and ride facilities, etc.
- have short headways, including a maximum of 15 minute headways all day on weekdays and for BRT only, a maximum 30 minute headways on weekends. Corridor-based rapid bus is not required to operate on weekends
- use a separate and consistent brand identity for the service.

Since 1986, the region has been very successful in obtaining New Starts and Small Starts funding through the FTA 5309 Capital Investment Grants program. Partnerships in the region have resulted in approximately $4.2 billion in transit investments, which includes $2.29 billion from the FTA 5309 Capital Investment Grants program and nearly $500 million from other federal sources. New Starts/Small Starts funding are a key part of the financial plan for major transit capital projects in the region. The FTA Capital Investment Grants program has historically contributed between 50% and 90% of project funding through Full Funding and Small Starts Grant Agreements.

Current assumptions and future projections for the 2023 RTP assume that Capital Investment Grants-eligible projects will pursue approximately 50% of project funding from the FTA 5309 New Starts/Small Starts program. This means that local matching funds must be allocated. Additional federal funding may be allocated to cover project costs through the allocation of financially constrained MPO-directed funding (e.g., Urban Surface Transportation Program, Congestion Mitigation and Air Quality, or Transportation Alternatives Program); however, total federal funding for a project cannot exceed 80% of the total project cost.

The local funding commitment typically includes contributions from state, regional and local projects partners. Contributions are discussed and budgeted during the planning and project development phases and range in type from dedication of right of way, lottery-backed bond proceeds, local improvement districts, general fund contributions and others. Non-federal funding contributions are negotiated project by project and typically consider facility jurisdiction, project needs and benefits and opportunities for partnership.

Operations Funding

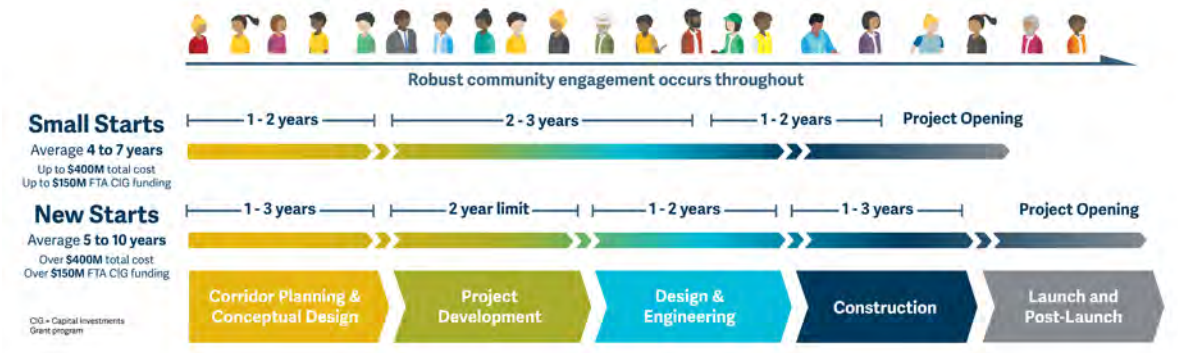
Funding to design and construct HCT corridors is only part of the funding story. Long-term funding is also needed for operations of HCT corridors – ongoing dollars to pay drivers, keep systems maintained, and supported. There are several dedicated sources of funding for transit capital projects, but fewer grant sources for ongoing operations. All HCT corridor projects will need to establish a solid

plan, working with TriMet and others, for long term operations and maintenance of these investments.

Federal funding process

Projects follow a stepwise process to obtain New Starts or Small Starts funding (Figure 18). The first major step in the process is submitting a request to formally enter Project Development to the FTA. Prior to making this request, project sponsors typically have completed early planning work in the corridor, have arrived at a locally preferred alternative, and may have started on the environmental review process. The National Environmental Policy Act process is the environmental review, which evaluates the environmental impacts of a project and documents the required mitigations. There is no specific requirement around completing certain activities prior to entering the project development phase.

Figure 18. Small Starts and New Starts project development timelines



The project development phase is when substantial design work and the National Environmental Policy Act process are completed, the Small Starts Rating application is submitted, and the funding commitments finalized prior to award of construction funding. Sponsors must show that they have funds available to complete this phase within a reasonable timeframe. FTA also requires submittal of additional information once preliminary design is completed, including a project management plan, refined cost estimates, identification of needed right of way, and completion of value engineering.

Once project sponsors have submitted information to support rating and evaluation of the project, FTA makes recommendations for which projects to fund in the Annual Report on Funding Recommendations. Funding is not guaranteed until Congress and the president have approved the funding requests. Typically, once a project makes it to the annual report, it will receive funding, though it may take several budget cycles to be allocated funding by Congress.

Project development includes:

- locally preferred alternative and RTP adoption, if not completed
- sufficient design and engineering

- National Environmental Policy Act clearance
- project evaluation and rating
- critical third-party agreements
- Requirement that 50% of non Capital Investment Grants funding is committed within 3 years of entering project development
- risk assessment/readiness.

Figure 18 shows a hypothetical timeline for an HCT project that uses federal Capital Investment Grants program funds after completing the process to get to project development. The process can take a minimum of 5 years to complete and typically extends to 7 or more years.

Moving corridors forward

Figure 19 illustrates the general actions needed to prepare HCT corridors for and advance them through the development process to construction, categorized into five phases. Timelines for each phase will vary depending on project type and complexity.

1. **Pre-project** actions involve improving readiness.
2. **Corridor planning** including determining a preferred alignment and mode, early concept design, and applying to enter into the federal project development process, if applicable.
3. **Project development** includes advancing design, completing environmental review (e.g., National Environmental Policy Act) and securing project funding.
4. **Final design and construction** will result in a completed project.
5. **Post-project** actions may include fostering transit-oriented development, transit network changes, and anti-displacement actions

Elevating local voices

HCT investments don't happen without the leadership and engagement of local jurisdictions and partners. Local champions are needed to see projects through, all the way from "good idea" to station construction. Local partners are needed for the long haul, too – projects take years to come to fruition, meaning consistent engagement is key. Local champions and partners are also critical to ensuring transformative HCT invesments maximize benefits to the local community, and to guide approaches to mitigating potential impacts likes displacement.

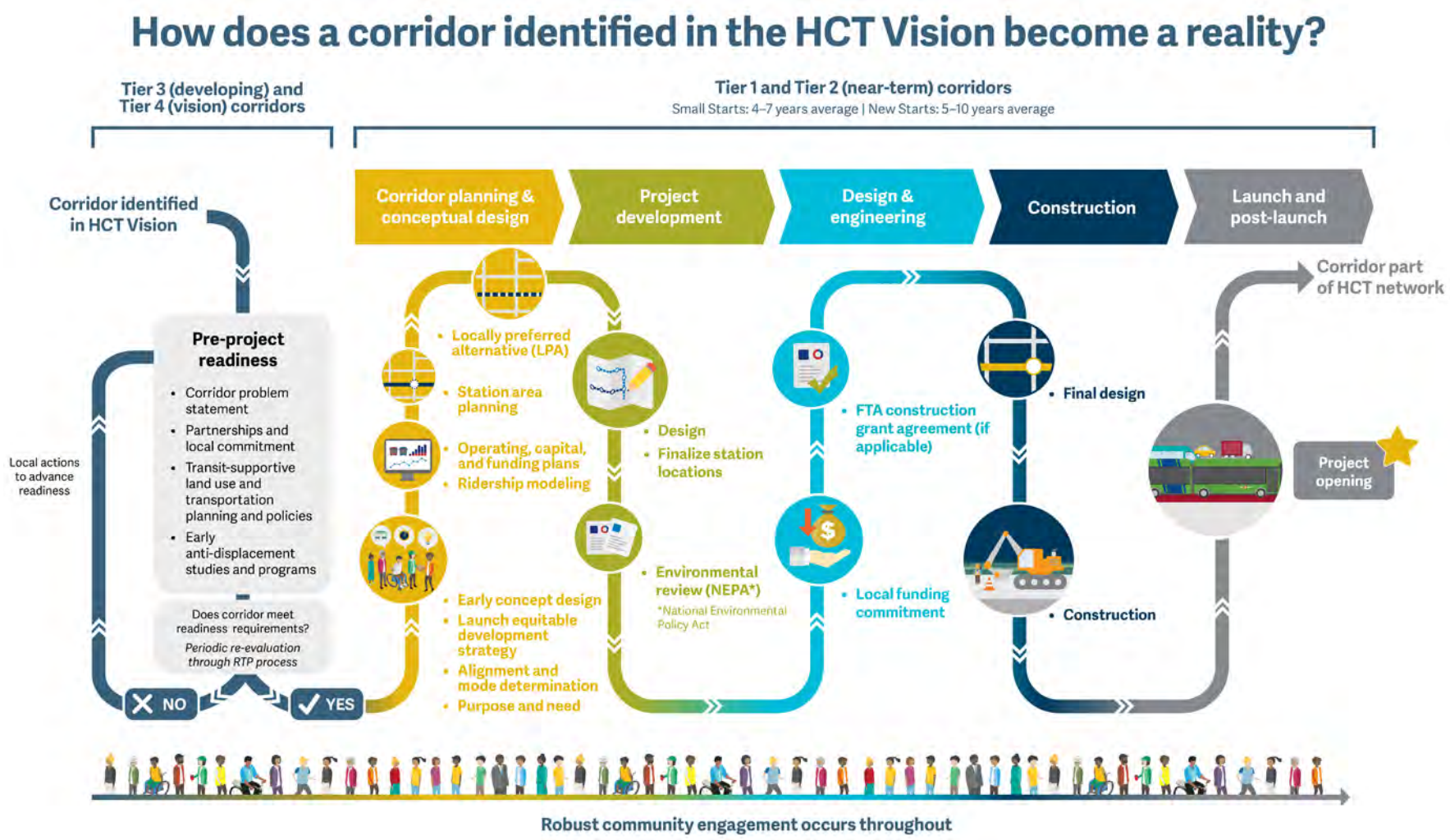
Figure 19 also illustrates conceptually where HCT corridors are in the project development lifecycle based on readiness tier.

Tier 1 corridors are already in corridor planning and/or early project development actions.

Tier 2 corridors are generally ready to proceed with HCT corridor studies, although they may be completing some readiness actions.

Tier 3 and Tier 4 corridors, in general, are not yet ready to proceed. These recommendations focus on actions to increase the readiness of a given corridor including securing commitments from project partners and early land use planning.

Figure 19. HCT project development lifecycle



The general recommendations and actions needed to advance corridors based on readiness tier are broken out by 5-year increments below.

Tier 1 and Tier 2 corridors, in general, are ready to proceed with HCT studies and investment; the recommendations for these corridors are centered on concrete actions to further define the corridors, establish project champions and determine funding.

Recommendations

Tier 1 corridor advancement, near term

- Complete alternatives analysis and select locally preferred alternatives as appropriate.
- Complete NEPA process.
- Collaborate with local and regional partners, including Metro and TriMet, to determine funding approach.
- Foster continued community support and interest by providing regular updates to communities about the status of HCT investments.
- Collaborate with TriMet and Metro on sequencing of major HCT capital investments to ensure adequate staffing capacity is available to move projects forward.
- Collaborate with TriMet to determine operating funding and staffing needs to support the long-term operations of new HCT investments.
- Develop an equitable engagement and development strategy with key community stakeholders and Metro's Committee on Racial Equity.

Tier 2 corridor advancement, near term

- Update functional classifications in transportation system plans to be consistent with the RTP design classifications to support implementing the 2040 Growth Concept and planned land uses. Commit to applying urban design standards (Blueprint for Urban Design, National Association of City Transportation Officials, Metro's Designing Livable Streets Guide, approved local standards) on identified corridors in policies and projects. Apply an outcomes and performance-based process that prioritizes safety, transit, walking and bicycling in trade-offs.
- Identify transit corridors in transportation system plans as candidates for HCT investment. Identify constraints or barriers that would need to be addressed to make the corridor "HCT-ready," such as freight designations, traffic volumes, and presence of cycling and walking facilities.
- Revisit land use plans and zoning to align higher-density uses with planned HCT corridors. Also consider development code and regulations that support transit usage, such as parking standards.

- Define corridor problem statement, refinement planning, and conceptual design to better understand the specific needs in the corridor and establish a shared vision with partners. There are usually corridor needs beyond the HCT investment – project partners must coordinate with other corridor planning processes to understand how improvements will be coordinated.
- Assess corridor against HCT Assessment and Readiness Criteria and make any needed adjustments to support Capital Investment Grants competitiveness.
- Begin identifying funding sources and/or commitments and engaging community about corridor transit needs.
- Build a coalition of local and regional stakeholders to support continued work on the corridor, including to support development of an equitable development strategy.

Tier 2 corridor advancement, medium term

- Conduct alternatives analysis to develop and vet HCT and related improvements that address the identified problems. Through this process, further define the preferred HCT mode, corridor termini, routing, potential station/stop locations, etc.
- Advance design work in support of alternatives analysis and NEPA.
- Gain further clarity on cost.
- Determine the locally preferred alternative with partners and community.
- Collaborate with Metro, TriMet, and partners to determine the appropriate funding approach. If federal funding is likely, review Capital Investment Grants program criteria and determine areas where the corridor could improve performance with respect to the criteria. This could mean additional changes to development code, adopting policies that encourage development of affordable housing, and others.
- Secure funding and start construction for projects.

Tier 3 and Tier 4 corridors, in general, are not yet ready to proceed. These recommendations focus on actions to increase the readiness of a given corridor.

Tier 3 corridor advancement, near term

- Identify transit corridors in transportation system plans and ensure roadway classification design supports transit-supportive elements. Identify constraints or barriers that will need to be addressed to make the corridor HCT-ready, such as freight designations, traffic volumes, and presence of cycling and walking facilities. As land use or comprehensive plan updates occur, consider how they can focus growth in key corridors to support HCT investment (and vice versa). Consider the presence of access to transit improvements and the mix of uses and destinations that are supportive of density thresholds that are

supportive of HCT and federal Capital Investment Grants funding program criteria. Consider how HCT would support the local land use vision.

- Develop corridor problem statements and corridor extents.
- Assess corridor against HCT Assessment and Readiness Criteria and look for opportunities to support readiness.
- Build a coalition of local and regional stakeholders to support continued work on the corridor.
- Invest in anti-displacement and housing stabilization before major transportation investments add displacement pressure.

Tiers 3 and 4 corridor advancement, ongoing

- Establish project champions, partnerships and political leadership.
- Create ridership development, land use and transit-oriented development plans for key centers and station areas.
- Assess financial feasibility. Conduct early analysis to understand how the corridor aligns with federal Capital Investment Grants funding program criteria and identify areas where improvement or changes are needed.

Capital Investment Grants land use criteria

The Capital Investment Grants program assigns a rating to each project based on multiple criteria, spanning land use to financial performance. In general, a project must achieve an overall "medium" rating to be considered for funding.

Capital Investment Grants funding criteria include specific thresholds for employment and household density that contribute to how well a project scores. Additionally, project sponsors must demonstrate that the investment will create new ridership above and beyond the existing corridor ridership.

Lessons learned from Division Transit and The Vine

Fourth Plain in Vancouver, Washington, and Division Transit in Portland, Oregon, are the first rapid bus routes in the region. As the trailblazers, there is much to learn from these projects in looking ahead to building out the rapid bus network.

While rapid bus is a catalyst for other much needed investments in the corridor (e.g., sidewalks, housing), there are trade-offs to consider when packaging these investments. To be most successful, these projects should focus on key gaps and mobility needs to be most competitive for federal funding and efficient with local match dollars. Cost capping can be an effective tool for pursuing rapid implementation. Being clear about these trade-offs when identifying an approach is critical at the outset of the process.

Understand the problems rapid bus is trying to solve Is it problems with capacity and full buses or with speed and travel time? Knowing that at the outset will help identify the right tools to focus on in the solution in order to set the project up for success.

Determine what decisions need to be made and who makes those decisions early on to improve processes and provide greater transparency. Create a funding strategy and address environmental, right-of-way and utility needs earlier than you think you need to. Engage community-trusted stakeholders in decision-making and provide a clear process of two-way communication to influence the process.

Be context-specific in the approach used and the solutions considered Rapid bus along Division may look different than rapid bus along Tualatin Valley Highway. Consider opportunities for bus only lanes that can carry more people, more efficiently on a congested corridor. Consider what future transfers might be needed or leveraged.

Consider how transitioning to electric buses will factor into the needs of the future transit network and how the network can respond to and create opportunities for more multi-modal trips (e.g., more spaces for mobility devices and bikes on board).

Plan for a seamless continuity of service during construction and identify a traffic control plan early on. Be clear with contractors on specifications and how to manage construction to avoid or minimize impacts to communities and businesses. Reach out early and often to communicate any impacts that are expected or do arise.

Looking forward

The region's multi-decade investment in MAX light rail will continue to be the backbone of the regional transit system, connecting the central city and regional centers. As we look forward to advancing new HCT corridors to serve growing population and employment, while meeting our land use goals, new approaches like rapid bus present major opportunities. Rapid bus provides the benefits of HCT at a cost that is more in line with the current constraints on the regional funding landscape, as well as imparting benefits like lower construction complexity and lower risk of displacement. It provides an opportunity to broaden the network and expand connections to town centers and strengthen connections to regional

centers — allowing us to fill the gap where corridors are indicating a readiness for high capacity transit investment in their ability to further the region's mobility, safety, equity, climate and economy goals. This framework will inform future updates to the region's long-standing 2040 Growth Concept as we look toward continuing to support compact urban development.

However, in all cases, the best HCT mode for all corridors will be developed through robust corridor planning. Different HCT tools are appropriate depending on context; streetcar in urban corridors, light rail extensions to serve new centers, and rapid bus in constrained corridors, are a few examples. All of these approaches will be considered in light of evolving regional goals and other priorities, including the recently adopted statewide Climate Friendly and Equitable Communities rules, to influence what HCT tool is determined to best for the needs of a given corridor.

The strategy update renews our regional commitment to HCT as an essential tool for achieving many regional goals. To realize these investments and all the benefits they bring, the region will need strong partnership, local champions, and engaged communities to ensure HCT maximizes value to everyone in our region.

If you picnic at Blue Lake or take your kids to the Oregon Zoo, enjoy symphonies at the Schnitz or auto shows at the convention center, put out your trash or drive your car – we've already crossed paths.

So, hello. We're Metro – nice to meet you.

In a metropolitan area as big as Portland, we can do a lot of things better together. Join us to help the region prepare for a happy, healthy future.

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April 2023

Appendix A
Summary of Outreach and Input

Public and stakeholder engagement and consultation summary

High Capacity Transit Strategy Update
2023 Regional Transportation Plan

DRAFT April 2023

TABLE OF CONTENTS

INTRODUCTION

This report provides a high-level summary of the public and stakeholder engagement and consultation that was conducted to support the High Capacity Transit (HCT) Strategy Update for the 2023 Regional Transportation Plan (RTP). The project team organized or participated in dozens of outreach activities, and the feedback from these activities was used to shape and refine the HCT Strategy Update. This summary lists these outreach activities, outlines the groups of community members, stakeholders, and regional leaders that were involved, and summarizes the salient points of feedback received through the planning process.

HCT is a key element of the 2040 Growth Concept, a long-range plan adopted by the Metro Council in 1995. As a part of the 2023 RTP, the HCT Strategy will identify priority areas for investments that would provide the most benefit to the most people.

Public and stakeholder outreach for the HCT Strategy Update was closely coordinated with the overall planning and engagement for the 2023 RTP process.

Outreach for the HCT Strategy Update was built on a foundation of recent public and stakeholder outreach initiatives, including the 2009 HCT Plan, the 2018 Regional Transit Strategy, and the 2023 RTP Phase 1 scoping conversations, among others. The project team considered this feedback and engagement when deciding how to tailor outreach efforts for this Strategy Update.

Engagement Goals

HCT engagement goals were the same as those for the broader 2023 RTP planning process, and are as follows:

- Learn about the transportation needs and priorities of communities across greater Portland.
- Reflect the priorities identified through community engagement and prioritize the input provided by communities of color, the disability community and communities with limited English proficiency, in the elements of the 2023 RTP that guide investment decisions.
- Build support for and momentum to achieve community-driven objectives and build public trust in Metro's transportation planning process.
- Strengthen existing and build new partnerships with local, regional, state and federal governments, Tribes, business and community leaders, academic institutions and historically underrepresented communities including Black, Indigenous and people of color, people with disabilities, people with low incomes and people with limited English proficiency, as well as youth and older adults for sustained involvement in decision-making.

The public engagement process was organized by four major milestones, which aligned with the development phases of the HCT Strategy Update. These milestones are described here, and detailed further below:

- **Milestone 1** focused on the policy framework for HCT and reflected on changes since developing the 2018 RTP.
- **Milestone 2** refined the network vision and discussed corridor readiness factors.
- **Milestone 3** reviewed the corridor prioritization, organized by "tiers," and evaluated whether the corridors meet the readiness factors.
- **Milestone 4** will gather feedback on the Draft HCT Strategy.

PUBLIC ENGAGEMENT OVERVIEW

Feedback through the engagement and consultation process spanned a variety of topics, including general requests for service improvements, suggestions for improving access to transit, and interest in prioritizing specific corridors. However, several overarching themes emerged through the process. These include the desire to:

- **Improve regional HCT connections without routing through downtown Portland.** Demand to travel to the city center has been waning with the reduction in commuter traffic and the growth of other regional centers. Instead, people want to travel between regional centers directly, without passing through downtown Portland.
- **Improve safety and security while accessing and using the transit system.** Responses frequently mentioned concern for personal safety while riding transit, waiting at transit stops, and when traveling on streets and sidewalks to access transit stops.
- **Locate transit corridors and stops convenient for accessing job centers.** Responses affirmed that HCT access to employment opportunities is good for both employers and employees, improving access to talent and jobs.
- **Improve existing transit service.** Faster and more frequent service along existing routes would make transit more attractive to potential riders.
- **Align HCT investments with future tolling.** Feedback suggested HCT could provide an alternative to driving tolled routes, and could be a tool to mitigate traffic diversion.
- **Define clearly what HCT includes and HCT's objectives.** The public may not always understand what "high capacity transit" means or what it includes. A clear definition will help with planning efforts, and understanding its objectives will better frame the priority corridors.

STAKEHOLDERS

Metro partnered with standing committees throughout the process, including:

Agency Partners

- City of Portland
- Clackamas County
- C-TRAN
- Multnomah County
- Oregon Department of Transportation (ODOT)
- Southwest Washington Regional Transportation Council (RTC)
- South Metro Area Regional Transit (SMART)
- TriMet
- Washington County

Partner Jurisdictional Staff

- Clackamas Transportation Advisory Committee (CTAC)
- East Multnomah County Transportation Committee Technical Advisory Committee (EMCTC TAC)
- Metro Technical Advisory Committee (MTAC)
- Transportation Policy Advisory Committee (TPAC)
- TriMet Committee on Accessible Transportation (CAT)
- Washington County Coordinating Committee Transportation Advisory Committee (WCCC TAC)

Partner Elected Officials

- Clackamas County Coordinating Committee (C-4)
- Washington County Coordinating Committee (WCCC)
- East Multnomah County Transportation Committee (EMCTC)
- Joint Policy Advisory Committee on Transportation (JPACT)
- Metro Policy Advisory Committee (MPAC)

Stakeholder Advisory Committees

- Active Transportation Return on Investment (ATROI)
- TriMet's Committee on Accessible Transportation (CAT)
- TriMet's Transit Equity Advisory Committee (TEAC)
  Included representatives from:
  - Africa House
  - Join PDX

- APANO
- Asian Family Center (a project of IRCO)
- Bus Riders Unite!
- Central City Concern
- Centro Cultural
- Clackamas Community College
- Clackamas Workforce Partnership
- Immigrant and Refugee Community Organization (IRCO)
- Latino Network
- Milwaukie High School
- Multnomah County Youth Commission
- Oregon Food Bank
- Portland Community College
- The Street Trust
- TriMet

STRATEGIES

The project team consulted a broad spectrum of community members through various activities, as listed in Table 1. When practical, outreach for the HCT Strategy Update was integrated with activities for the 2023 RTP, including events, meetings, and surveys. At other times, outreach for the HCT Strategy Update was focused solely on HCT to target feedback related to the HCT vision.

Table 1. Public and Stakeholder Engagement Overview

Activity	Events	
Online Surveys	1	Survey as part of an RTP survey (summer 2022).
	1	HCT online open house and survey (winter 2022-2023).
Focus Groups and Forums	2	Meetings with RTP Community Leaders Forum and Westside Multimodal Improvement Study Business Forum (joint events).
	2	Meetings with Clackamas County Small Transit Providers.
	2	Meetings with TriMet's CAT.
	2	Meetings with TriMet's TEAC.
	2	Agency Lessons Learned Focus Groups (one on Division Transit Project with Metro/TriMet and one on the Vine with C-TRAN).
	1	Business Focus Group *with representatives from the Gresham Chamber of Commerce, Tigard Chamber of Commerce, and Westside Economic Alliance.*
	1	Small Business Focus Group with ATROI.
	1	Meeting with Washington County Chamber of Commerce.

Activity	Events
Public Tabling Events with TriMet's *Forward Together*	5 Events in Multnomah County: Rosewood Initiative (2 events), PCC Cascade, St. Philip Neri, and Fairview City Hall.
	2 Events in Clackamas County: CCC Harmony (2 events).
	3 Events in Washington County: Shute Park Library, Washington County Conference Center, and Muslim Educational Trust.
Advisory Committee Meetings	6 HCT Working Group *convened with stakeholders from around the region, including Clackamas County, Multnomah County, Washington County, Portland Bureau of Transportation, TriMet, Portland Streetcar, C-TRAN, Oregon Department of Transportation, Southwest Washington Regional Transportation Council (SW RTC), and Metro.*
	5 Meetings with WCCC.
	4 Meetings with CTAC.
	4 Meetings with EMCTC
	4 Meetings with EMCTC TAC.
	4 Meetings with JPACT.
	4 Meetings with TPAC.
	4 Meetings with WCCC TAC.
	3 Meetings with C-4.
	3 Meetings with Metro Council Work Sessions.
	3 Meetings with MPAC.
	3 Meetings with MTAC.

MILESTONE 1: FRAMEWORK

In Milestone 1, the project team introduced the HCT Strategy Update to the public, stakeholders, and leaders in the region. Outreach focused on shaping the HCT policy framework and considering regional transportation changes related to HCT since developing the 2018 RTP. Feedback was used to help shape the HCT policy framework.

Milestone 1 Feedback Summary

Feedback from Milestone 1 highlighted a desire to strengthen the transit network with HCT connections between regional centers. Suggestions included growing the network to serve areas of expected growth and prioritizing equity areas with BIPOC (Black, Indigenous, and People of Color) communities. Feedback indicated the importance of making HCT accessible to people with mobility impairments and of providing pedestrian and biking connections to HCT stops. Safety and security were mentioned multiple times as a perceived barrier to transit use.

Access to and from the Transit System

- Stakeholders emphasized how streets, transit stations, and transit vehicles need to be more accessible for people in wheelchairs. Station elevators are often broken, making the station inaccessible to someone using a wheelchair. Improve maintenance with existing elevators and provide ramps instead or to supplement elevators.
- Stakeholders suggested educating the community and Metro employees about disability and accessibility issues.
- Community members expressed concern about the existing biking and pedestrian connections to transit.
- Stakeholders expressed desire to improve transit connections at the ends of transit lines by connecting to other transit providers or to transit hubs.
- Stakeholders suggested improving amenities at transit stops toward the ends of transit lines to make them more comfortable for people who may be waiting a while.

Environmental Impacts

- Stakeholders and regional leaders were interested in using HCT to help meet the requirements for Climate Friendly Equitable Communities.
- Stakeholders were concerned about transit's negative impacts to air quality and the climate crisis.

HCT Network

- Regional leaders and stakeholders expressed a desire to connect regional centers without going through downtown Portland.
- Stakeholders suggested growing the transit network to support where people are traveling now and where the region is expected to grow, with a focus on areas zoned for mixed use.
- Stakeholders recommended prioritizing equity areas and areas with BIPOC communities.
- Regional leaders expressed a desire to improve WES Commuter Rail service as an HCT corridor and to extend it to Salem.
- Regional leaders expressed a desire to extend HCT along I-205 to Tigard Triangle, Wilsonville, and Tualatin.
- Regional leaders suggested using bus-on-shoulder (or light rail on ODOT right of way) to make connections on highways. They suggested pursuing funding from the Statewide Transportation Improvement Fund (STIF) and considering how it could align with congestion pricing.
- Stakeholders suggested considering effects from tolling when defining corridors.
- Stakeholders suggested connecting with Clark County.

- Stakeholders suggested creating an express light rail line to downtown Portland.
- Regional leaders mentioned that Powell Boulevard was not an attractive corridor because it had already been studied for HCT and was passed over.

Planning for HCT Investments

- Regional leaders recommended using this process to position for FTA funding.
- Stakeholders recommended focusing on outcomes as opposed to a specific mode.
- Stakeholders recommended coordinating with concurrent projects, such as the Westside Multimodal Improvements Study and the Climate Smart Strategy.
- Stakeholders suggested Metro incorporate restorative justice and BIPOC leaders in the planning process.

Transit Service

- Regional leaders and the public expressed desire for faster transit service. The public also expressed desire for improved frequency. Survey results revealed that travel time is the primary factor for deciding which transportation mode the public chooses for a given trip.
- Regional leaders suggested improving transit service to destinations as well as improving service in the outer areas of the region.
- Stakeholders expressed a desire for improving night and evening service to help employees get to and from late shifts.
- Stakeholders suggested that this would be a good time to improve transit to entice people back after COVID.
- Feedback was mixed on how to prioritize service improvements. Public comments suggested improving service on existing routes or corridors, while regional leaders emphasized prioritizing new routes where none currently exist.

Transportation and Safety Concerns

- Regional leaders and the public expressed concern about safety and security on transit.
- The public also expressed concern about safety and security while walking or biking.
- The public and stakeholders expressed concern about regional traffic congestion.
- Stakeholders suggested improving curb management to help local businesses. They suggested establishing dedicated loading zones and dedicated parking for mobile businesses and local residents.
- Stakeholders expressed frustration about the cost of transit.

Milestone 1 Engagement Activities

Activities for Milestone 1 were conducted from June through October 2022.

- June 30 – HCT Working Group #1
- July 6 – EMCTC TAC
- July 7 – WCCC TAC
- July 13 – TPAC Intro and Overview
- July 18 – EMCTC
- July 20 – MTAC Intro and Overview
- July 26 – Metro Council Intro and Overview
- August 4 – Presentation to C-4 TAC
- August 10 – ATROI Small Business Study Listening Session
  A listening session to assess the transportation needs of BIPOC business owners and business leaders as a follow-up to the ATROI Study conducted in the spring of 2021. Seventeen participants attended the two-hour session to share concerns and suggestions regarding accessibility, public transit, and other issues that affect their ability to do business.
- August 15 – Presentation to WCCC
- August 16 – HCT Working Group #2
- August 18 – JPACT Intro & Overview
- August 24 – MPAC Intro & Overview
- September and October - RTP Public Survey 2
  An online survey for the RTP open from September 7 through October 17, 2022. Questions in the survey helped inform the HCT Strategy Update, including questions about transportation needs and priority investment. The survey was available in 5 languages (English, Spanish, Vietnamese, Simplified Chinese, and Russian) and collected input from 1,191 participants.

MILESTONE 2: VISION

In Milestone 2, the project team shared the draft vision for the HCT Strategy Update. Outreach focused on refining this vision and better understanding what factors make a corridor ready for an HCT investment. Feedback was used to shape the initial tiers of corridors, which were later shared in Milestone 3.

Milestone 2 Feedback Summary

Stakeholders, the public, and elected officials often had similar ideas for the HCT vision. Many expressed a desire to expand the transit service area, with a particular focus on more connections in Washington and Clackamas counties. People suggested connecting HCT investments to better serve equity populations and target employment hubs. Many were

interested in how HCT investments might relate to future tolling. The vision for HCT generally centered around an expanded network that provided faster trips to job centers while strengthening existing connections.

Access to and from the Transit System

- The business community and stakeholders from Clackamas County suggested that shuttles could provide first- and last-mile transit connections.
- The business community raised concerns about congestion slowing drivers and creating problems for private shuttles that transport employees to work.

Economic Considerations

- The business community, stakeholders, and elected officials expressed a desire to locate transit stops near job centers.
- Members of the public and business community mentioned that many people have security concerns on transit, which has led to business losses near the MAX.
- The business community mentioned that transit does not meet the needs of some job fields, such as construction, where workers need to carry tools.
- Stakeholders noted how HCT could act as a lever for future development and potentially aid in reaching the 2040 Growth Concept.
- A stakeholder stated that economic opportunity should be more fully reflected in HCT policies and objectives.

HCT Network

- Elected officials, stakeholders, and the public asked for stronger north-south connections in Washington County and Clackamas County.
- Elected officials, stakeholders, and the public suggested expanding the transit service area to provide more people with the option to take transit.
- Elected officials wanted HCT corridor investments to be balanced through the three counties in the region.
- Stakeholders are interested in aligning HCT with future tolling.
- Stakeholders expressed interest in investing in HCT connections, including:
    - To Montgomery Park.
    - Along NE MLK Jr. Boulevard.
    - Along NE Halsey Street.
    - WES Commuter Rail.
    - To Lents.
    - Between Hillsboro and Wilsonville.
    - Within East Portland and Gresham.
- The public expressed desire for better connections between rail systems, particularly the Yellow Line and Red Line, and the Green Line and Orange Line.

Planning for HCT Investments

- Stakeholders and elected officials emphasized the need to support people with mobility challenges and People of Color in the planning and implementation process.
- Stakeholders emphasized that the HCT definition and objectives should be clear, and that people should know why HCT is needed in a particular corridor.
- Stakeholders mentioned the importance of partnering with cities early to improve collaboration and the quality of the future investment.
- A stakeholder mentioned that it was important to plan for continued transit service during the construction of HCT projects.

Transit Service

- The public and stakeholders expressed desire for faster transit speeds and suggested investing in prioritization, such as dedicated lanes, signal priority, bus-on-shoulder, and queue jumping.
- The public and stakeholders were interested in grade separation of transit to provide faster connections, including a tunnel through downtown.
- The public and stakeholders called for further investment in commuter rail.
- The business community and stakeholders raised concerns about insufficient frequency during non-peak hours.
- The business community mentioned interest in having more one- or two-seat rides to reduce transfers and increase ease of access to large campus sites for employees.
- A stakeholder wanted to measure HCT investments to see how they could improve current transit.

Milestone 2 Engagement Activities

Activities for Milestone 2 were conducted from September 2022 through February 2023.

- September 27 – HCT Working Group #3
- October 4 – EMCTC TAC
- October 6 – WCCC TAC
- October 13 – HCT Working Group #3.5: Vision Workshop
- October 17 – EMCTC
- October 18 – Portland Community College Cascade Tabling
- October 19 – C-4
- October 19 – Rosewood Initiative Tabling
- October 19 – TPAC/MTAC Policy Framework and Vision
- October 20 – Shute Park Library Tabling

- October 24 – Clackamas County
- October 24 – WCCC PC
- October 26 – Clackamas Community College Harmony Tabling
- October 26 – MPAC Policy Framework and Vision
- October 27 – JPACT/Council Policy Framework and Vision Workshop Feedback
- November 8 – TEAC
- November 9 – Division Transit Project Focus Group
- November 10 – The Vine Focus Group
- November 17 – HCT Working Group 3.5 Vision Review Session
- November 30 – Clackamas County Small Transit Providers Meeting
- February 13, 2023 – Business Roundtable

MILESTONE 3: CORRIDOR TIERS

In Milestone 3, the project team shared the draft prioritization of corridors to the public, stakeholders, and leaders in the region. The prioritization organized HCT corridors in four "tiers," as follows:

- Tier 1: near-term corridors.
- Tier 2: next-phase corridors.
- Tier 3: developing corridors.
- Tier 4: vision corridors.

Feedback was used to refine corridor priorities and finalize tiers.

Milestone 3 Feedback Summary

Feedback from Milestone 3 was largely centered on corridor prioritization and refining the corridor alignments. Stakeholders and community members also suggested other improvements that would make transit a more viable transportation option, such as improved security, service, and amenities. Public input was largely supportive of the HCT vision, with a majority of survey respondents indicating they would use HCT more often if the vision were implemented.

Access to and from the Transit System

- Stakeholders emphasized how transit vehicles need to be more accessible, particularly articulated buses: not all ramps can be deployed for all-door boarding, these buses cannot accommodate courtesy stops during inclement weather, and they have reduced functionality for mobility devices.

- Community members suggested using wheel guides at bus stops to make it easier for buses to stop at a consistent location at the edge of the platform.
- Community members expressed a desire for improved pedestrian connections to transit.
- Stakeholders expressed concerns about sidewalk obstructions from people experiencing houselessness.

Amenities

- Community members expressed interest in amenities, such as better lighting, better ticket vending, real-time traveler information, better shelters, and more seating options for single riders.

Economic Considerations

- Regional leaders recommended talking to business leaders and thinking about density and jobs.
- Stakeholders recommended focusing on workforce development, especially with young workers who need transit to get from their schools to their jobs.

Equity

- Regional leaders expressed a desire for more north-south connections to improve options for underserved community members.
- Stakeholders mentioned that honored citizens can have difficulty finding priority seating.

HCT Prioritization

- Regional leaders suggested elevating the priority of certain corridors, especially:
    - OR 99W corridor.
    - WES Commuter Rail corridor.
- Regional leaders and stakeholders expressed support for the Southwest Corridor.
- Regional leaders and community members expressed desire for prioritizing HCT investments in WES Commuter Rail and for HCT improvements along 82nd Avenue.
- Youth community members prioritized locations and routes to improve transit connections, including:
    - Along 82nd Avenue.
    - To Clackamas Town Center.
    - Downtown Portland to Rockwood/Gresham.
    - Along Killingsworth Street.

- Public survey feedback indicated the Central City Tunnel, Interstate Bridge MAX, and Southwest Corridor as the top three HCT priorities for respondents.

HCT Network

- Regional leaders, stakeholders, and community members expressed desire for a light rail extension to Forest Grove.
- Regional leaders expressed interest in tolling, and specifically how HCT could align with tolling and expected traffic diversion.
- Regional leaders discussed transit improvements along Sunnyside Road and in Happy Valley.
- Community members expressed interest in improving regional HCT connections. Examples include:
    - A MAX line loop connecting all three counties.
    - Through Milwaukie, Oak Grove, and wider Clackamas.
    - Through Tigard, Tualatin, and Wilsonville.
    - More direct bus connections to Cully and Gresham.
    - Adding an express connection to Forest Grove.
    - Through Milwaukie, Oak Grove, and wider Clackamas.
    - Through Tigard, Tualatin, and Wilsonville.
- Stakeholders expressed interest in improved transit access to recreational facilities, medical facilities, and retirement communities.
- Stakeholders recommended connecting HCT with future housing trends and plans.
- Public survey results indicate strong support for the HCT vision, with 70 percent of respondents stating they would use the HCT network “somewhat” or “much” more often if the network looked like the planned vision.

Transit Service

- Regional leaders expressed an interest in other transit modes, such as shuttle service. They mentioned adding a shuttle service on the OR 99E corridor, as an example.
- Community members expressed desire for more frequent transit service and more FX2 buses.
- Stakeholders emphasized not removing regular transit as rapid transit is implemented.
- Stakeholders would like to evaluate how effective the Division Transit project improvements have been.
- Stakeholders expressed concerns with at-grade rail crossings for HCT, which can create reliability issues, and suggested a tunnel or car-free streets to improve HCT speeds.

- Community members expressed an interest in roadway improvements to bus lines to allow buses to more easily share the road with cars.
- Stakeholders suggested limiting MAX stops between Hillsboro and Sunset Transit Center to improve time travels.

Safety and Security

- Community members and stakeholders expressed concerns about safety and security. Community members mentioned safety and security is a significant barrier to young people taking transit.
- Community members expressed personal safety concerns eastbound from Hollywood Transit Center.
- Community members encouraged Metro to convene jurisdictions to improve roadway safety.

Planning for HCT Investments

- Regional leaders and stakeholders expressed interest in funding and emphasized being grant-ready.
- Stakeholders were interested in the assumptions used for modeling.
- Stakeholders recommended involving the Halsey business community in the small business focus group.
- Community members suggested Metro reach out to Sandy Area Metro (SAM) and the community in Sandy.
- Stakeholders shared concerns about funding transportation infrastructure.

Milestone 3 Engagement Activities

Activities for Milestone 3 were conducted from November 2022 through February 2023.

- November 16, 2022 – TriMet CAT
- November 23, 2022 – HCT Working Group #4
- December 8, 2022 – TriMet CAT
- January 4, 2023 – EMCTC TAC
- January 5, 2023 – C-4 TAC
- January 5, 2023 – WCCC TAC
- January 9, 2023 – WCCC
- January 10, 2023 – TEAC
- January 11, 2023 – TPAC Workshop
- January 18, 2023 – C-4

- January 18, 2023 – MTAC
- January 18, 2023 – St. Philip Neri Tabling
- January 19, 2023 – Rosewood Initiative Tabling
- January 24, 2023 – Clackamas Community College Harmony Tabling
- January 25, 2023 – Washington Street Conference Center Tabling
- January 26, 2023 – Fairview City Hall Tabling
- January 30, 2023 – Washington County Chamber of Commerce
- January 31, 2023 – Verde Adult Focus Group
- February 2, 2023 – Verde Youth Focus Group
- February 2, 2023 – Business Focus Group
- January through March 2023 – HCT Online Open House and Survey
  A public online open house and survey specifically for HCT was open from January 17 through March 15, 2023. The online open house shared the HCT vision and priorities. The survey asked participants if they supported the vision and what they would like to prioritize. The online open house was viewed over 800 times and the survey collected 354 responses.

MILESTONE 4: DRAFT STRATEGY UPDATE

In Milestone 4, the project team shared the Draft HCT Strategy Update along with the Draft 2023 RTP.

Milestone 4 Feedback Summary

[PLACEHOLDER FOR FEEDBACK FROM MILESTONE 4]

Milestone 4 Engagement Activities

[PLACEHOLDER FOR ACTIVITIES FROM MILESTONE 4]

If you picnic at Blue Lake or take your kids to the Oregon Zoo, enjoy symphonies at the Schnitz or auto shows at the convention center, put out your trash or drive your car– we've already crossed paths.

So, hello. We're Metro – nice to meet you.

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Appendix B
Regional Transit Modes

Mode	Aerial Tram	Intercity Rail	Commuter Rail HCT	Light Rail HCT	BRT HCT	Rapid Bus (Corridor-Based BRT) HCT	Rapid Streetcar HCT	Streetcar HCT [4]	Frequent Bus	Regional Bus	Vanpool, Microtransit, etc.
Level of Transit Prioritization (Speed & Reliability)	Full Priority Fully dedicated space where transit vehicles run/operate that is not shared with general traffic.	Full Priority	Full Priority	Full Priority	High Priority (>50% Exclusive Guideway)	High to Moderate Priority	Full to Majority Priority	Moderate to Low Priority	Moderate to Low Priority (Spot Treatments)	Limited to No Priority	
Frequency	Most Frequent < 10 mins	Varies	Frequent (Peak Hours) 15-30 mins	Most Frequent ~ 10 mins	Very Frequent ≤15 mins	Very Frequent ≤15 mins	Very Frequent ≤15 mins	Frequent 15 mins	Frequent 15 mins	Less Frequent (Varies)	Less Frequent (Varies)
Market Demand/Activity Density [1]	Serves major activity centers	35+ Connections between cities and regions	25+ Serves medium or higher volume corridors with commute-oriented demand	50+ Serves high volume corridors	25+ Serves medium-high volume corridors	25+ Serves medium-high volume corridors	25+ Serves medium-high volume corridors	25+ Serves dense urban areas	12.5 Serves medium volume corridors	Serves low to medium volume corridors	To be addressed in Metro Access to Transit Study (2024+)
Passenger Capacity [2]											
Transit Access Shed	1/2 Mile	> 1/2 Mile	1/2 Mile	1/2 Mile	1/2 Mile	1/2 Mile	1/2 Mile	1/3 Mile	1/4 Mile	1/4 Mile	
Stop/Station Amenities											
Capital Cost per Passenger [3]											
Operating Cost per Passenger [3]											

1.people per acre
2. based on vehicle capacity and frequency
3. per passenger capacity
4. depending on context

Appendix C
Policy Framework Technical Memorandum

Metro High Capacity Transit Strategy and Regional Transportation Plan Transit Update

HCT Policy Framework – Regional Transit Network Policy Review

December 2022 - **DRAFT**

Parametrix

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METRO HCT POLICY FRAMEWORK - REGIONAL TRANSIT NETWORK POLICY REVIEW

INTRODUCTION

In 2009, Metro adopted the first 30-year Regional High Capacity Transit (HCT) System Plan that guided investments in light rail, commuter rail, bus rapid transit and rapid streetcar in the Portland metropolitan region. The 2009 HCT Plan identified and ranked 16 corridors into four priority tiers using a multi-phase evaluation process and created the System Expansion Policy (SEP) framework for prioritizing future system expansion. The SEP framework is a process agreed to by Metro and local jurisdictions to advance high capacity transit projects as a regional priority. The framework:

- Identifies which corridors should move into the federal project development process
- Establishes a process for other corridors to advance toward development
- Measures a corridor's readiness for investment using targets such as transit supportive land use policies, ridership development plans, community support and financial feasibility.

In 2018 as part of the Regional Transportation Plan (RTP) update, the Regional Transit Strategy (RTS) was also updated and provided the following definition of HCT:

> *Our high capacity transit (HCT) system operates with the majority or all of the service in exclusive guideway. The high capacity transit system is meant to connect to regional centers and carry more transit riders than the local, regional and frequent service transit lines. HCT could include rapid streetcar, corridor-based bus rapid transit, bus rapid transit, light rail or commuter rail.*

The 2018 RTS also revised the SEP with a streamlined set of HCT Assessment and Readiness Criteria and updated the corridors included on the Regional Transit Network map. Finally, the 2018 RTS introduced the Enhanced Transit Concept (ETC), which improves transit speed and reliability on the

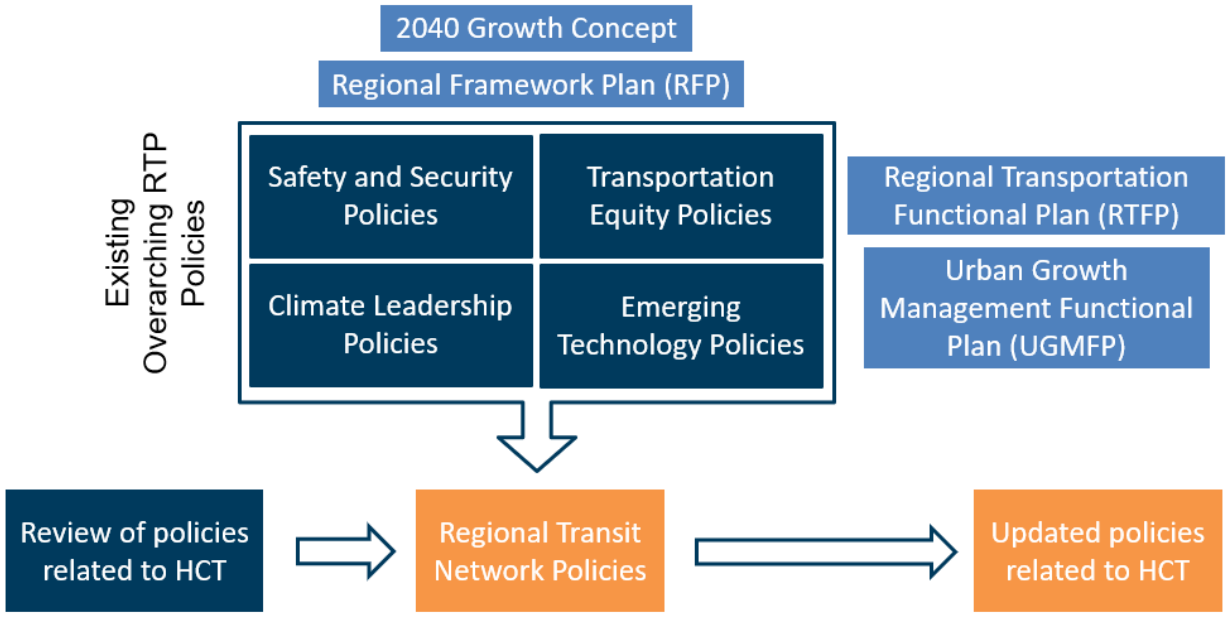
most congested existing and planned frequent service bus or streetcar lines. ETC is now known as "Better Bus."

As part of the 2023 Regional Transportation Plan update, **this HCT Policy Framework memo** provides an important first step in updating the Regional High Capacity Transit Strategy, a component of the Regional Transit Strategy. This memo focuses on a review of local, regional, state and federal policies as they relate to High Capacity Transit and suggests policy updates to reflect the region's current and future priorities and desired outcomes related to Equity, Safety, Climate and Mobility. To provide context and guidance as part of this policy review, this memo also identifies emerging trends impacting HCT and provides key takeaways from peer regions throughout the country. The suggested policy updates at the end of this memo will ultimately inform the evaluation criteria used to prioritize HCT corridors that will be included in the 2023 RTP update.

This memo focuses on reviewing and updating the existing transit-specific policies included in the Regional Transit Network, which will be an element of the 2023 Regional Transportation Plan. The 2023 RTP update continues to support the **2040 Growth Concept**, the region's long-range land use and transportation plan for managing growth, and the **Regional Framework Plan (RFP)** identifies regional policies to implement the 2040 Growth Concept. As part of Metro's code, two functional plans – the **Regional Transportation Functional Plan (RTFP)** and **Urban Growth Management Functional Plan (UGMFP)** – provide additional guidance to local jurisdictions to implement the policies in the RTP.

In addition to the transit-specific policies included as part of the Regional Transit Network, the RTP includes four overarching system policies related to **safety and security**, **transportation equity**, **climate leadership**, and **emerging technologies**. These policies will guide all other policies included in the RTP, including for High Capacity Transit. The relationship of each of the foundational plans that helped frame this policy review is summarized in **Figure 1** below.

Figure 1 Regional Transit Network Policies in Relation to the RTP and Other Metro Plans



The HCT Policy Framework memo is organized into the following sections:

- Existing Regional Transit Network Policies
- Regional, State, and Federal plans and policy review
- Local plans and policies related to HCT
- Current issues and trends, identified through regional, state, or federal plans or initiatives
- Long-range plans and policies in peer regions
- Other key issues and trends impacting transit infrastructure and investments

This memo concludes with suggested updates to the definition of HCT and considerations for updating and expanding the eight existing Regional Transit Network policies as they relate to HCT.

PLAN AND POLICY REVIEW

Existing Regional Transit Network Policies

This section provides a brief assessment of the existing RTP Regional Transit Network policies. **Figure 2** identifies:

- **A proposed "Headline" for each policy** that succinctly communicates the theme addressed.
- **Each policy's relationship to 2023 RTP priority outcomes**, which include Equity, Safety, Climate, and Mobility.[1]
- **Each policy's relationship to HCT**. The relationships are identified in one of three ways:
  - **Foundational to Role** of HCT in the region and the definition of HCT (Policy 4).
  - **Directs Investments** by directly influencing key evaluation/readiness measure(s) used for HCT decision making.
  - **Influences Outcomes** of HCT system investments.

Examples for how the policies were determined to relate to HCT include:

- Policy 1 can direct HCT investments to address disparities such as travel time for equity priority communities, through the criteria used to prioritize potential HCT projects. Policy 1 can also influence the outcomes of HCT projects through assessing displacement risk and putting into place partnerships and policies to prevent displacement.
- Policy 6 is not identified as directing HCT investments – using existing quality of the pedestrian and bicycling environment to prioritize investments may exclude projects that could help advance improvements. However, Policy 6 can influence HCT outcomes through improvements to walking and biking access around HCT stations in advance of or as part of a project.

[1] Metro, 2023 Regional Transportation Plan Update Work Plan, May 2022

Based on this assessment of existing Regional Transit Network policies, those that are most directly relevant to identifying and prioritizing HCT investments – and thus the focus of this memo – include:

- Policy 1: **System Quality and Equity**
- Policy 2: **Maintenance and Resiliency**
- Policy 3: **Coverage and Frequency**
- Policy 4: **High Capacity Transit**

The following two Regional Transit Network policies influence outcomes but are not foundational to the role of HCT nor direct investments:

- Policy 5: **Intercity and Inter-Regional Transit**
- Policy 6: **Access to Transit**

Finally, the last two policies are important to the overall transit network but are neither foundational to the role of HCT, direct investments, nor influence overall outcomes:

- Policy 7: **Mobility Technology**
- Policy 8: **Affordability**

Figure 2 Existing Regional Transit Policies and Relationship to 2023 RTP Outcomes and to HCT

Existing Regional Transit Network Policy (2018 RTP)	*Proposed* Policy Headline(s)	2023 RTP Outcomes	Relationship to HCT
Policy 1: Provide a seamless, integrated, affordable, safe and accessible transit network that serves people equitably, particularly communities of color and other historically marginalized communities, and people who depend on transit or lack travel options.	Service Quality and Equity	☒ Equity ☐ Safety ☒ Climate ☒ Mobility	☐ Foundational to Role ☒ Directs Investments ☒ Influences Outcomes
Policy 2: Preserve and maintain the region's transit infrastructure in a manner that improves safety, security and resiliency while minimizing life-cycle cost and impact on the environment.	Maintenance and Resiliency	☐ Equity ☒ Safety ☒ Climate ☐ Mobility	☐ Foundational to Role ☒ Directs Investments ☐ Influences Outcomes
Policy 3: Make transit more reliable and frequent by expanding regional and local frequent service transit and improving local service transit options.	Coverage and Frequency*	☐ Equity ☐ Safety ☒ Climate ☒ Mobility	☐ Foundational to Role ☒ Directs Investments ☒ Influences Outcomes
Policy 4: Make transit more convenient by expanding high capacity transit; improving transit speed and reliability through the regional enhanced transit concept.	High Capacity Transit	☐ Equity ☐ Safety ☒ Climate ☒ Mobility	☒ Foundational to Role ☐ Directs Investments ☐ Influences Outcomes
Policy 5: Evaluate and support expanded commuter rail and intercity transit service to neighboring communities and other destinations outside the region.	Intercity / Inter-Regional Transit	☐ Equity ☐ Safety ☒ Climate ☒ Mobility	☐ Foundational to Role ☐ Directs Investments ☒ Influences Outcomes
Policy 6: Make transit more accessible by improving pedestrian and bicycle access to and bicycle parking at transit stops and stations and using new mobility services to improve connections to high-frequency transit when walking, bicycling or local bus service is not an option.	Access to Transit	☐ Equity ☒ Safety ☒ Climate ☒ Mobility	☐ Foundational to Role ☐ Directs Investments ☒ Influences Outcomes
Policy 7: Use technology to provide better, more efficient transit service – focusing on meeting the needs of people for whom conventional transit is not an option.	Mobility Technology	☒ Equity ☐ Safety ☐ Climate ☒ Mobility	☐ Foundational to Role ☐ Directs Investments ☐ Influences Outcomes
Policy 8: Ensure that transit is affordable, especially for people who depend on transit.	Affordability	☒ Equity ☐ Safety ☐ Climate ☐ Mobility	☐ Foundational to Role ☐ Directs Investments ☐ Influences Outcomes

Note: * A proposed change in policies would create a new policy around reliability

Regional, State, and Federal Plans and Policies Related to HCT

This section identifies regional and statewide plans relevant to the HCT Policy Framework for the region. Similar to the previous section, each applicable policy in these plans is categorized by the Metro RTP outcomes (Equity, Safety, Climate, and Mobility) and its relationship to high capacity transit (HCT).

Other state or federal plans or initiatives that are relevant to the region's HCT Policy Framework were reviewed but were not included in the plan and policy review table:

- **Regional High Capacity Transit System Plan (2009).** This is the previous HCT plan for the Portland region, which is being updated through this effort, and is assumed to be reflected in more recent documents such as the Regional Transit Strategy (RTS).
- **Climate-Friendly and Equitable Communities (CFEC) Rulemaking (Ongoing)**. Rulemaking by the Department of Land Conservation and Development (DLCD) to strengthen transportation and land use planning for regions including the Portland Metro area; key outcomes including equity, climate, and housing will be addressed in the issues/trends section.
- **USDOT Equity and Justice40 in Transportation Planning**. Federal initiative to address racial equity and climate priorities, including delivering 40% of federal investments to disadvantaged communities; will be addressed in the issues/trends section.

Figure 3 Regional, State, Federal Plan Hierarchy and Policy Summary

Plan	2023 RTP Outcomes	Relationship to HCT	Considerations for Updating Regional Transit Network Policies (Foundational Considerations Bolded)
Portland Metro Transportation System Management and Operations Strategy	☒ Equity ☒ Safety ☒ Climate ☒ Mobility	☒ Foundational to Role ☒ Directs Investments ☒ Influences Outcomes	▪ Harm reduction ▪ Alleviating transportation system disparities ▪ **Connecting people to goods, services, and places** ▪ **Equitable transit reliability improvements** ▪ Transit system resiliency
Portland Metro and ODOT Regional Mobility Policy Update	☒ Equity ☒ Safety ☒ Climate ☒ Mobility	☒ Foundational to Role ☒ Directs Investments ☒ Influences Outcomes	▪ Land use and transit decision-making efficiency in movement of people and goods ▪ **Seamless, well-connected, low-carbon, convenient, and affordable mode share** ▪ **Transit system travel predictability and travel time reasonableness** ▪ Safe and comfortable mode share; equitable mobility experiences among Black, Indigenous, and People of Color (BIPOC) communities and people with low incomes, youth, older adults, and people living with disabilities
Portland Metro Regional Freight Strategy	☐ Equity ☒ Safety ☐ Climate ☒ Mobility	☐ Foundational to Role ☒ Directs Investments ☒ Influences Outcomes	▪ Coordinating for seamless movement and better access, with less conflict with transit ▪ Delay reduction, with increases in reliability and improvements in safety, for reliable transit planning ▪ Integrating issues with planning and communicating movement issues ▪ Eliminating traffic fatalities and serious injuries caused with other modes
Portland Metro Regional Transportation Safety Strategy	☒ Equity ☒ Safety ☐ Climate ☐ Mobility	☐ Foundational to Role ☒ Directs Investments ☐ Influences Outcomes	▪ Achieve Vision Zero goals using transit as a safety mechanism ▪ Safety investments to reduce speeds and speeding at high-risk areas, increase security, and reduce crime, with prioritization of vulnerable communities ▪ Equitable safety investments to benefit people with higher crash risk, such as vulnerable communities ▪ Safety increases across modes through planning, designing, constructing, operating, and maintaining the transit system with focus on speed reduction ▪ Avoidance of repeating and/or exacerbating safety issues ▪ Consideration of safety as an adequacy metric.
Portland Metro Emerging Technology Strategy	☒ Equity ☐ Safety ☐ Climate ☒ Mobility	☐ Foundational to Role ☒ Directs Investments ☒ Influences Outcomes	▪ Accessibility, availability, and affordability of new technologies to progress equity ▪ Usage of new technologies to improve transit, providing shared modes regionwide, and supporting transit, biking, and walking ▪ Empowering travelers with data for planning, decision-making, and managing transit ▪ Advancing public interest by preparing for, learning from, and adapting to new technological developments

Plan	2023 RTP Outcomes	Relationship to HCT	Considerations for Updating Regional Transit Network Policies (Foundational Considerations Bolded)
Portland Metro Strategic Plan to Advance Racial Equity, Diversity and Inclusion (Racial Equity Framework)	☒ Equity ☒ Safety ☐ Climate ☐ Mobility	☐ Foundational to Role ☐ Directs Investments ☒ Influences Outcomes	▪ Engaging communities of color ▪ Hiring, training, and promoting a racially diverse workforce ▪ Creating safe, welcoming services, programs, and destinations ▪ Allocating resources to advance racial equity
Portland Metro Climate Smart Strategy	☐ Equity ☒ Safety ☒ Climate ☒ Mobility	☒ Foundational to Role ☒ Directs Investments ☐ Influences Outcomes	▪ **Making transit convenient, accessible, and affordable** ▪ Making walking and biking safe and convenient ▪ Making streets safe, reliable, and connected ▪ Using technology to manage transit ▪ Providing information and incentives to increase mode share ▪ Securing funding for transit
Portland Metro Regional Active Transportation Plan	☒ Equity ☒ Safety ☒ Climate ☒ Mobility	☐ Foundational to Role ☒ Directs Investments ☒ Influences Outcomes	▪ Making walking and biking the most convenient, safe, and preferrable choices for trips less than three miles ▪ Developing well-connected regional pedestrian and bicycle routes integrated with transit to prioritize safe, convenient, accessible, comfortable pedestrian and bicycle access for all ages and abilities ▪ Ensuring that regional transit and active transportation intersections equitably serve all people ▪ Complete the regional active pedestrian and bicycle networks where transit transfers are common ▪ Use data and analyses to guide transit and active transportation investments

Plan	2023 RTP Outcomes	Relationship to HCT	Considerations for Updating Regional Transit Network Policies (Foundational Considerations Bolded)
ODOT Strategic Action Plan 2021-2023	☒ Equity ☒ Safety ☒ Climate ☒ Mobility	☐ Foundational to Role ☒ Directs Investments ☒ Influences Outcomes	▪ Supporting equitable operations and policies and establishing an informed and inclusive culture ▪ Promoting opportunities through transit investments, such as by working with BIPOC communities, women, and other historically and/or are currently marginalized communities ▪ Utilizing the perspectives of people who reside in communities served by Metro and who are likely to be affected by Metro decision-making ▪ Investing in the protection of vulnerable communities from environmental hazards ▪ Preserving, maintaining, and operating a multimodal transportation system and achieving a cleaner environment ▪ Ensuring the safety of transit riders and operators ▪ Providing greater transit access and broader range of mobility options while addressing climate change ▪ Investing in transit as a mechanism to manage and reduce congestion ▪ Enhancing multimodal options ▪ Implementing road usage charging to ensure revenue to maintain and improve the transit system and manage congestion
ODOT Climate Action Plan 2021-2026	☐ Equity ☒ Safety ☒ Climate ☒ Mobility	☐ Foundational to Role ☒ Directs Investments ☒ Influences Outcomes	▪ Integrating climate change and emissions reductions considerations in policy and investment frameworks ▪ Providing transit options to manage demand and reduce congestion ▪ Transitioning to an efficient transit fleet, supporting adoption of alternative fuels ▪ Maintaining and operating transit and recovering from climate impacts by using sustainable funding ▪ Increasing efficiency through investments in safety, and operations practices ▪ Utilizing sustainable products and fuels ▪ Reducing energy consumption, and reducing Metro's carbon footprint

Local Plans and Policies Related to HCT

In addition to reviewing regional, state, and federal plans and policies, relevant plans from or related to Metro area cities and/or counties were reviewed at a high level to document any policies that should be considered as part of the HCT Policy Framework. As shown in **Figure 4**, these plans included local transportation system plans (TSPs), comprehensive plans, or transit development/master plans (TDPs/TMPs), or HCT-specific plans, including the Clark County/CTRAN High Capacity Transit System Plan.

Specific plans that have recently been completed (or are currently underway) that relate to HCT and/or ETC include:

- Clackamas County completed its TDP in 2021.
- Washington County is conducting a Transit Study (completion anticipated in 2023), which will integrate the County's recent TDPs and shuttle planning study.
- The City of Portland developed the Rose Lane Vision in 2020 and the Enhanced Transit Corridors Plan in 2018, which are advancing projects to provide bus and streetcar lines with additional transit priority and help achieve the City's climate and transportation justice goals.
- TriMet is conducting the Forward Together Comprehensive Service Analysis, which will recommend a revised bus network concept to reflect shifts in ridership and travel demand that have occurred since the COVID-19 pandemic. TriMet also completed an Express and Limited Stop Bus Study (2021) to identify where these services could improve ridership and access to jobs, including for equity priority populations. These studies will shape the agency's FY2023 Service Plan.
- TriMet is also completing its first FX (Frequent Express) line in the Division Street corridor; Metro, TriMet, and the City of Portland are working on planning for the 82nd Avenue corridor; and TriMet is leading the Tualatin Valley (TV) Highway BRT Study, connecting Beaverton, Hillsboro, and Forest Grove, where TriMet's Line 57 operates today.
- The Southwest Corridor project, connecting downtown Portland with SW Portland, Tigard and Tualatin, has a Locally Preferred Alternative and Record of Decision from the FTA.
- Metro and TriMet are continuing the ETC program, now known as Better Bus, to improve transit speed and reliability across the region. Where the previous implementation of this program focused on the most congested locations on the system with the highest ridership, the next phase will look at other locations across the region to improve bus operations.

Outside of the TriMet service district:

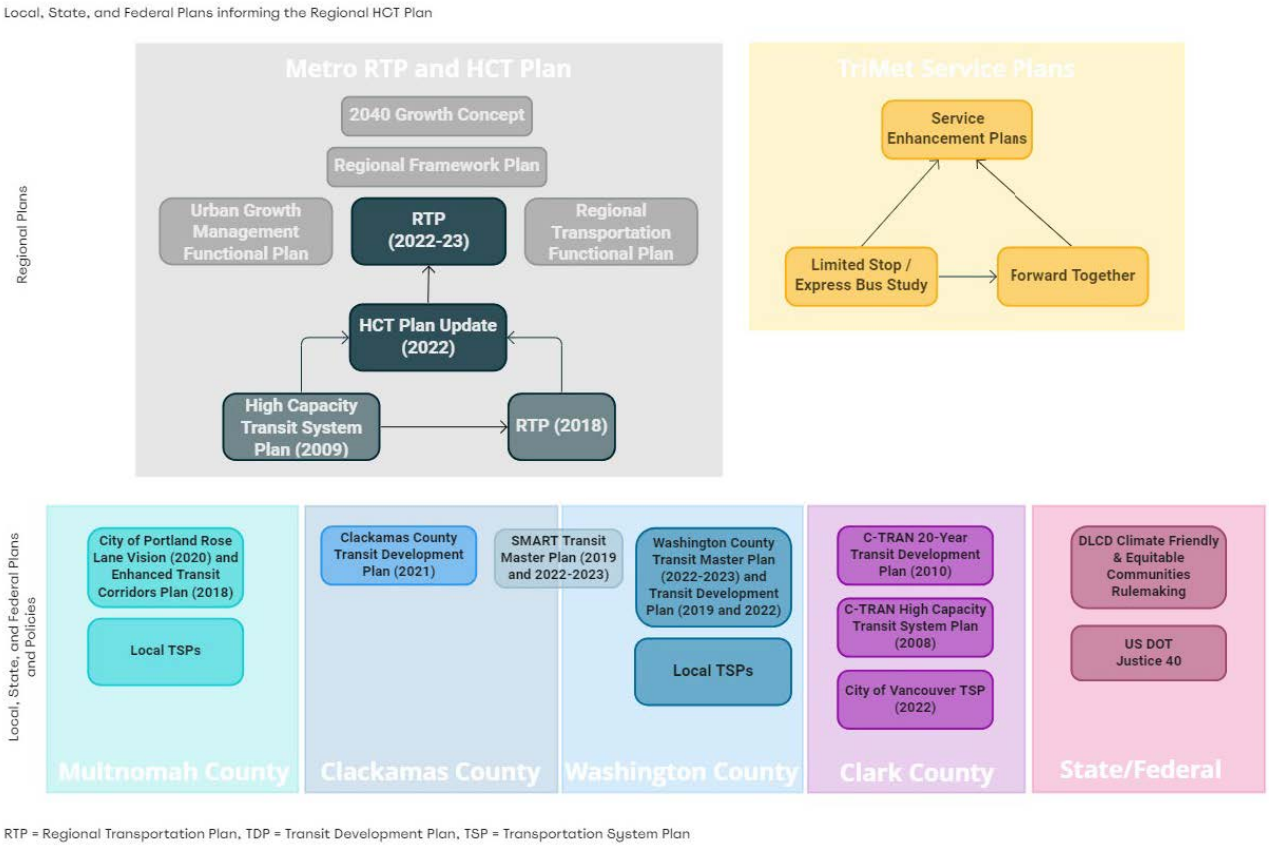
- The Interstate Bridge Replacement's Locally Preferred Alternative recommends a MAX Yellow Line extension from Expo Center across the Interstate Bridge to Evergreen in Vancouver, connecting to C-TRAN's Vine Bus Rapid Transit system.
- The City of Wilsonville (SMART) is updating its TMP (completion anticipated in 2023).

- The Clark County (C-TRAN) High Capacity Transit System Plan was completed in 2008; a TSP update for the City of Vancouver, which includes Enhanced Transit Corridors, is underway (completion anticipated in late 2022).
- C-TRAN has also completed development of several BRT corridors in recent years and others are in the planning stages.

As noted above, the Department of Land Conservation and Development (DLCD) has been conducting Climate-Friendly and Equitable Communities (CFEC) rulemaking, filed on August 22, 2022, to help local governments revise plans to reduce greenhouse gas emissions. Similarly, the US DOT has undertaken the Justice 40 initiative with a goal of delivering 40% of the overall benefits of federal investments in climate and clean energy, including sustainable transportation, to disadvantaged communities.

In addition to informing the HCT policy framework, these plans and studies can also be consulted to validate the universe of potential HCT projects considered in the HCT Plan update as well as inform criteria used in the evaluation.

Figure 4 Regional Plan Hierarchy and Policy Summary



Review of Plans and Policies from Peer Regions or other Agencies

This section includes a high-level review of long-range planning documents from peer regions. The purpose of the peer review is to inform the HCT Policy Framework, but key findings from the peer review could also be utilized in other dimensions of the HCT Plan and/or RTP updates, such as the development of corridor evaluation criteria.

Peer Identification

Key criteria for selecting the peer regions or agencies included:

- Preference for plans/policies developed after 2020 that address current issues and trends such as recovery from the COVID-19 pandemic.
- Identify high capacity transit in their goals and policies.
- Include/address multiple HCT modes (e.g., rail and bus).
- Potential HCT lessons learned related to RTP investment priorities (safety, equity, climate and mobility).
- Geographic distribution.

Thirteen regions were identified in **Figure 5** below (See also **Figure A-1 in Appendix A** for more detail). These were narrowed to seven for high-level consideration and the project team then focused on four peers for more detailed review.

Figure 5 Selected Peers

Region	Agency	Document	Year Published	HCT Modes
Seattle	Puget Sound Regional Council (PSRC), and/or Sound Transit (ST)	Regional Transportation Plan (2022-2050)	2021	Link and RapidRide
	King County Metro	Metro Connects Long-Range Plan		
San Francisco	Metropolitan Transportation Commission (MTC) and/or SFMTA/ConnectSF	Plan Bay Area 2050	2021	BART, LRT (e.g., Muni Metro), BRT and RapidBus (e.g., Muni Rapid)
Los Angeles	LA County MTA (Metro)	Long Range Transportation Plan	2020	BRT and LRT
Minneapolis-St. Paul	Metropolitan Council	Transportation Policy Plan	2020	LRT and BRT
Austin	Capital Area MPO (CAMPO)	2045 Transportation Plan (and Regional Transit Study)	2020	LRT MetroRail) and BRT (MetroRapid)
Boston	Metropolitan Area Planning Council (MAPC), Massachusetts Bay Transportation Authority (MBTA), The Greater Boston BRT Study Group	MetroCommon 2050 | Better Rapid Transit for Greater Boston | Focus40	2015-2021	BRT (Silver Line and additional prioritized corridors) and LRT and Heavy Rail (Commuter Rail, Blue, Green, Orange, and Red Lines)
Philadelphia	Delaware Valley Regional Planning Commission	Connections 2050 | StoryMap | Policy Manual | Process and Analysis Manual | Major Regional Projects	2021	BRT, Streetcar, LRT, Heavy Rail, High-Speed Rail
	City of Philadelphia, Southeastern Pennsylvania Transportation Authority	The Philadelphia Transit Plan		

Summary of Common Themes and Key Takeaways

Common themes and notable examples from the peer review are summarized below, organized by the four RTP priority outcomes. Examples include cases where policy shifts had a clear impact of prioritization criteria and plan outcomes.

- **Equity considerations for vulnerable communities and transit riders**
  - All peer regions have goals or objectives regarding the transit needs of women, people of color, people with low incomes, or people experiencing houselessness.
  - Direct feedback from community groups representing vulnerable populations (such as the Equity Cabinet for King County Metro) was critical in identifying specific policy areas to address in plan updates.
  - Many regions are also addressing affordability, such as through implementation of a means-based fare for low-income transit riders in the Boston region, funded with legislative support for consistent funding for operations.
  - All regions address how equity can be achieved by transit investments for priority communities, such as how communities access transit and destinations via transit.
  - In the City of San Francisco's ConnectSF program, the pandemic refocused investment priorities on serving essential trips citywide, including through quick-build capital improvements to maximize scarce resources. Model-based criteria used to prioritize investments (including access to jobs and services, ridership, cost-effectiveness, and travel time) looked at both equity priority communities and at low-income households earning below 200% of the federal poverty level, in addition to overall performance citywide.
- **State of good repair and safety / HCT system maintenance and reliability**
  - All regions seek to achieve safety goals in terms of how people wait for, access, or experience transit, some with a focus on Vision Zero targets systemwide.
  - 6 of 7 regions emphasize the need for transit infrastructure maintenance, preservation, reliability, or lifecycle expansion.
  - Prioritizing equity outcomes in the greater Philadelphia region included universal design and user experience, such as implementation of full ADA access, all-door boarding, safer and cleaner services, and better amenities at stops and for passengers.
- **System-level climate goals or objectives**
  - All regions specify climate goals or objectives that are part of other climate-related goals, such as stewardship or safety. Five regions prioritize a net-zero emissions transit fleet, such as procuring battery-electric buses and implementation of associated charging infrastructure, with a policy goal to achieve procuring 100% renewable electricity.

  - All regions prioritize VMT reduction goals, with Los Angeles and Philadelphia introducing concepts for VMT fees to generate revenue for transit investments and lower the dependence on the federal gas tax.
  - The urgency of addressing climate change was an impetus and key message around prioritizing transit improvements and related programs and initiatives, to attract additional trips to transit and other sustainable modes. For example, greater Boston has a goal to achieve a net-zero carbon region, which has an objective that all land travel is by carbon-free modes, such as walking, biking, and electrified public transit

- **Quality of service and mobility improvements for bus or rail**
  - All regions are pursuing bus or rail expansions or infrastructure improvements; for example, Seattle, Los Angeles, Boston, and greater Philadelphia have specific HCT and ETC enhancement goals, such as increasing the capacity of the transit fleet for new and existing services, expanding the HCT network to meet and respond to changing needs, or adding bus lanes and other features to speed up service and eliminate delay.
  - All regions emphasize the importance of transit and transportation system integration to expand travel choices and mode share; enhance local and regional transit connectivity; or improve transit frequencies, operations, or safety.

Peer Review Details

Please see **Appendix A** for additional peer review details.

Additional Key Issues and Trends

In addition to exploring how peer regions have structured their long-range transportation plans focused on HCT, it is important to note that several recent issues and trends have emerged over the past five years that are directly impacting local, state, and federal transportation policies. Metro and TriMet have recently summarized some of these issues and trends in separate but related memos: Metro Emerging Trends and TriMet Forward Together Emerging Trends. In addition, very recent policies related to climate change and the economy continue to shape how regions will adapt their transportation policies in the coming years.

The following is a summary of these issues and trends that were considered when conducting the HCT Policy Framework analysis:

- Transit service and ridership declines, including the decrease in peak commute demand
- Inequities and social justice
- Sustained reliance or preference for remote work
- Continued expansion of e-commerce
- Continued advancements in vehicle electrification (EVs and e-bikes)
- Issues with personal safety, especially for BIPOC riders
- Increases in severe and fatal crashes
- Increases in recreational cycling
- Challenges associated with agency recovery and innovation
- Continued gentrification and affordability issues, including people experiencing houselessness
- Inflation and increases in fuel prices
- Staffing shortages across many industries, including transit

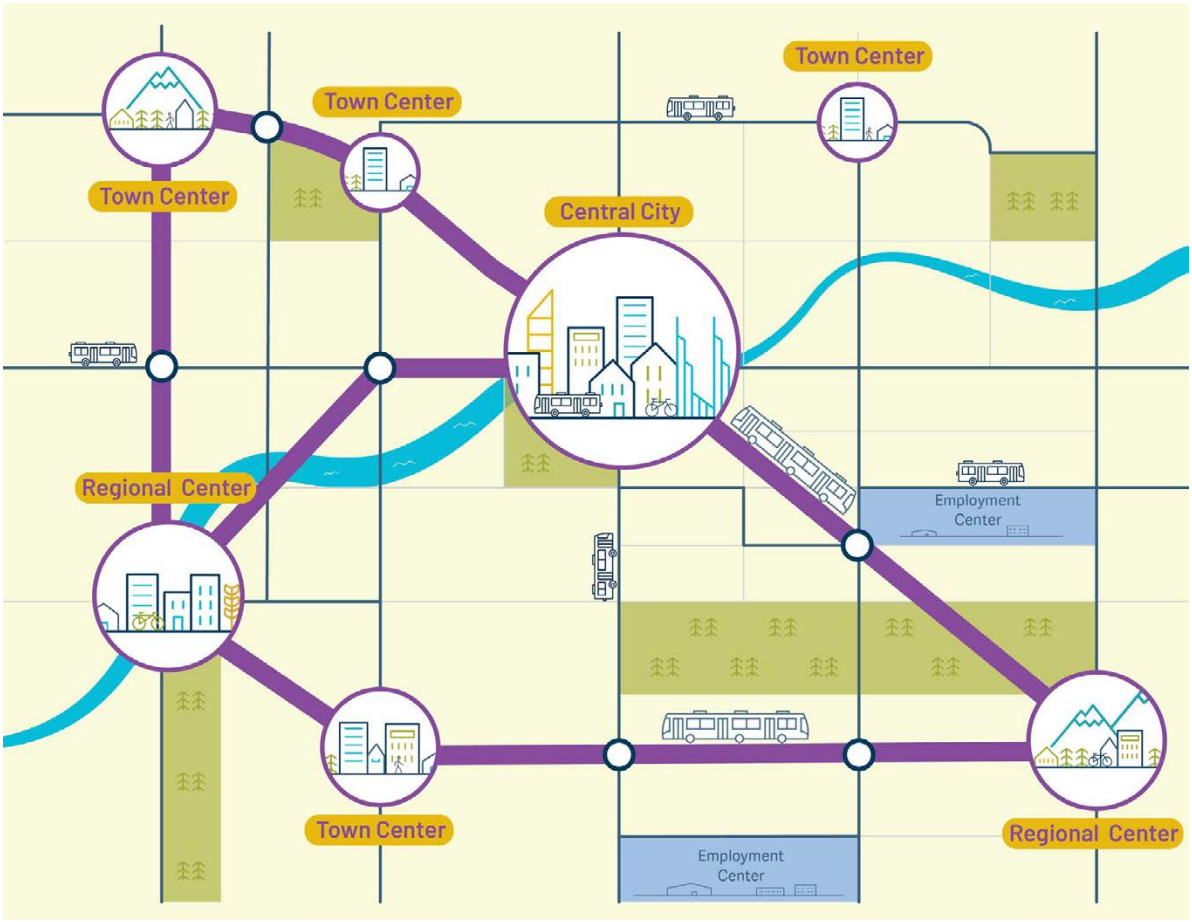
HCT DEFINITION AND POLICY GAP ANALYSIS

The HCT Policy Framework Analysis concludes with considerations for how High Capacity Transit is defined in our region as well as considerations for updating the eight Regional Transit Network policies. This analysis considers not only the review of local, regional, state, and federal policies, but also key findings from the peer regions, as discussed above.

High Capacity Transit Definition Considerations

The 2040 Growth Concept sets forth a vision for connecting the central city to regional centers like Gresham, Clackamas, and Hillsboro with fast and reliable high capacity transit (HCT), helping the region concentrate development and growth in its centers and corridors. High capacity transit carries high volumes of passengers quickly and efficiently, and serves a regional travel market with relatively long trip lengths to provide a viable alternative to the automobile in terms of convenience and travel time.

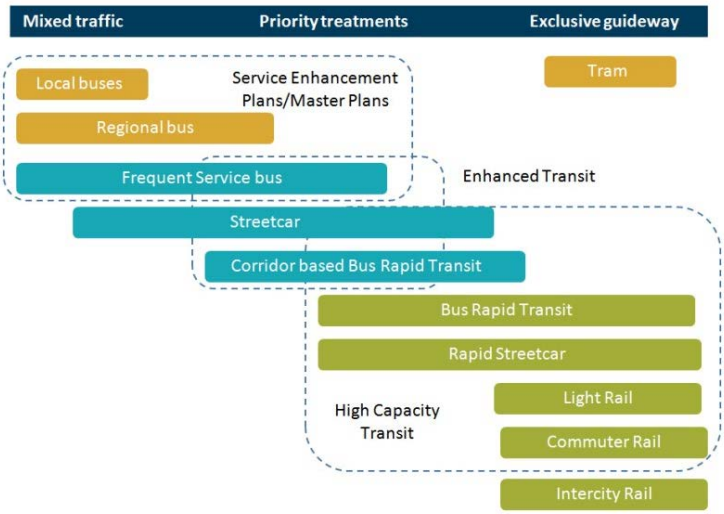
Figure 6 Regional Transit Network Concept



High capacity transit is defined in multiple places in the 2018 Regional Transportation Plan, including in the System Policies chapter (pages 3-77, 3-88), in Glossary of Terms (page G-4), and in the multiple sections of the separate Regional Transit Strategy. While there are minor differences in how HCT is defined, the following introductory paragraph is perhaps the most direct at defining HCT (from page 4-10 of the Regional Transit Strategy):

> **"Our high capacity transit (HCT) system operates with the majority or all of the service in exclusive guideway. The high capacity transit system is meant to connect to regional centers and carry more transit riders than the local, regional and frequent service transit lines. HCT could include rapid streetcar, corridor-based bus rapid transit, bus rapid transit, light rail or commuter rail."**

As illustrated in the following graphic (from page 4-6 of the Regional Transit Strategy), there is also some overlap between Enhanced Transit and HCT, where some streetcar or corridor-based Bus Rapid Transit applications could be considered either High Capacity Transit or Enhanced Transit. Other modes, including Commuter Rail, Light Rail, Rapid Streetcar and Bus Rapid Transit are exclusively defined as HCT. It is important to note that the term "corridor-based Bus Rapid Transit" is not fully defined in the 2018 RTP.



To clarify how we define High Capacity Transit, the following considerations are offered for this update of the High Capacity Transit Strategy:

- Consider leading with the *purpose* of HCT in the regional transit network, and to integrate equity into the definition by emphasizing that it connects *people* to regional centers
- Consider stating that HCT is *high-quality transit* (i.e., fast, frequent, safe, and reliable) before its physical attributes (operating with the majority or all of the service in exclusive guideway)

The first half of the HCT definition in **blue** could be updated as follows:

> **"The high capacity transit system is meant to serve as the backbone of the transportation network, connect people to**

> **regional centers *and major town centers* with high-quality service (fast, frequent, safe and reliable), and carry more transit riders more comfortably than the local, regional and frequent service transit lines. HCT operates in exclusive guideway, to the greatest extent possible, and could include light rail, commuter rail, rapid streetcar, streetcar, bus rapid transit, and corridor-based bus rapid transit"**

The last half of the definition in **green** emphasizes that HCT provides the needed capacity to serve the region's highest demand corridors with a variety of modes and levels of transit priority, ranging from light rail or BRT with "majority exclusive guideway" to corridor-based BRT or streetcar modes that have a mix of exclusive and shared right of way (such as the FX2-Division high capacity bus service).

Enhanced Transit Concept (ETC) / Better Bus

Another important part of defining High Capacity Transit and reviewing the Regional Transit Network policies related to HCT is clarifying the role of the Enhanced Transit Concept (ETC), now known as Better Bus. ETC was introduced in the 2018 Regional Transit Strategy and is defined as follows (from page 4-9 of the RTS):

> ***The purpose of ETC is to improve transit speed and reliability on our most congested existing and planned frequent service bus or streetcar lines.***

The RTP Glossary further clarifies that:

- "Enhanced transit is a set of street design, signal, and other improvements that improve transit capacity, reliability and travel time along major Frequent Service bus lines…" (RTS page G-9)
- "…Enhanced Transit encompasses a range of investments comprised of capital and operational treatments of moderate cost. It can be deployed relatively quickly in comparison to larger transit capital projects, such as building light rail." (RTS page G-9)

While no changes to how ETC is defined are suggested, several policy considerations are provided to strengthen and clarify the role of ETC in the Regional Transit System.

Transit Mode Characteristics and Relationships to Land Use

The graphic below identifies the transit modes that are part of the regional transit system, including their general service quality characteristics, and the land use density that is typically appropriate to warrant a capital investment in building a HCT project. The graphic identifies the characteristics of regional transit modes (both HCT and other modes serving the region) and shows which modes fall into the high-capacity transit category. It includes:

- **Transit Modes:**
  - HCT Modes: Commuter Rail, Light Rail, BRT, Corridor-Based BRT (e.g., RapidBus), Rapid Streetcar, and Streetcar; Streetcar may be considered HCT depending on the context
  - Non-HCT Bus Modes: Frequent Bus, Regional Bus
  - Other modes:
    - Aerial Tram, Intercity Rail
    - Vanpool, microtransit, etc. are included as potential modes to be considered in the future Metro Access to Transit Study.
- **Transit Characteristics:**
  - Level of Transit Prioritization (e.g., Speed & Reliability), Frequency, Market Demand, Passenger Capacity, Transit Access Shed, Stop/Station Amenities, Capital Cost (per passenger), Operating Cost (per passenger)

The following graphic illustrates the essential characteristics of high-capacity transit that work together to provide high-quality connections around the region, consistent with the HCT definition and vision.

Figure 6 What is High Capacity Transit?

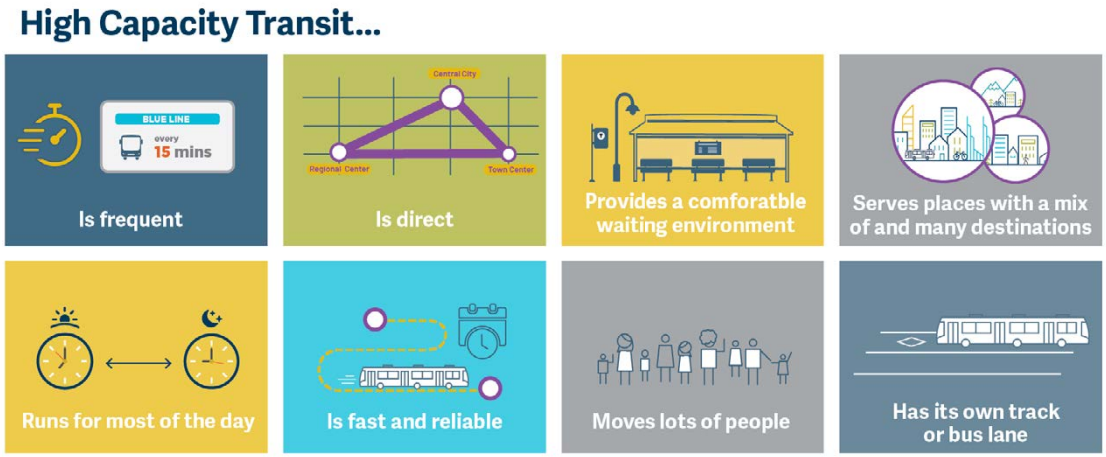


Figure 7 Characteristics of High-Capacity Transit

Mode	Aerial Tram	Intercity Rail	Commuter Rail HCT	Light Rail HCT	BRT HCT	Rapid Bus (Corridor-Based BRT) HCT	Rapid Streetcar HCT	Streetcar HCT [4]	Frequent Bus	Regional Bus	Vanpool, Microtransit, etc.
Level of Transit Prioritization	Full Priority Fully dedicated space where transit vehicles run/operate that is not shared with general traffic.	Full Priority	Full Priority	Full Priority	High Priority (>50% Exclusive Guideway)	High to Moderate Priority	Full to Majority Priority	Moderate to Low Priority	Moderate to Low Priority (Spot Treatments)	Limited to No Priority	
Frequency	Most Frequent < 10 mins	Varies	Frequent (Peak Hours) 15-30 mins	Most Frequent ~ 10 mins	Very Frequent ≤15 mins	Very Frequent ≤15 mins	Very Frequent ≤15 mins	Frequent 15 mins	Frequent 15 mins	Less Frequent (Varies)	Less Frequent (Varies)
Market Demand/Activity Density [1]	Serves major activity centers	35+ Connections between cities and regions	25+ Serves medium or higher volume corridors with commute-oriented demand	50+ Serves high volume corridors	25+ Serves medium-high volume corridors	25+ Serves medium-high volume corridors	25+ Serves medium-high volume corridors	25+ Serves dense urban areas	12.5 Serves medium volume corridors	Serves low to medium volume corridors	To be addressed in Metro Access to Transit Study (2024+)
Passenger Capacity [2]											
Transit Access Shed	1/2 Mile	> 1/2 Mile	1/2 Mile	1/2 Mile	1/2 Mile	1/2 Mile	1/2 Mile	1/3 Mile	1/4 Mile	1/4 Mile	
Stop/Station Amenities											
Capital Cost per Passenger [3]											
Operating Cost per Passenger [3]											

1.people per acre
2. based on vehicle capacity and frequency
3. per passenger capacity
4. depending on context

Regional Transit Network Policy Considerations

Based on the review of local, regional, state, and federal plans and policies, as well as the peer review and overview of key issues and trends, several areas have emerged as a focus of the Regional Transit Network policy updates:

- **System Quality and Equity.** Equity has long been a priority in making transportation planning decisions in the region and was one of the overarching policies included in the 2018 RTP. The 2023 RTP includes equity as one of the four desired outcomes and all network policies will be updated to further strengthen equity as a regional priority. The importance of dignified, high-quality service should also be emphasized to make transit work for everyone. As such, **Policy 1: Service Quality** is updated and clarified; **Policy 2: Equity** is updated and separated into a new policy.
- **Climate change.** While climate leadership is one of the overarching policies from the 2018 RTP, and one of the desired outcomes for the 2023 RTP update, there are no specific Regional Transit Network policies focused exclusively on sustainability and the environment. A new policy (**Policy 3: Climate Change**) is proposed focusing on how the Regional Transit Network should address climate change.
- **Maintenance and Resiliency.** Reliability is integrated into **Policy 4: Maintenance and Resiliency** to better integrate it as a key outcome of a system that is preserved and maintained in a state of good repair.
- **HCT and ETC.** The current **Policy 4: High Capacity Transit** (renumbered to Policy 5) includes both HCT and ETC in a single policy. To strengthen and clarify the role of both HCT and ETC in the regional transit network, creating **Policy 7: Reliable and Enhanced Transit** addresses the separate role of ETC as a tool for increasing reliability of the transit system.
- **Clear policy headlines.** All of the suggested modifications to the Regional Transit Network policies focus on a primary theme, so simple headlines are offered for each.

Figure 8 below lists each of the 2018 Regional Transit Network policies and provides suggested updates to the policies most related to high capacity transit.

Figure 8 Policy Framework Gap Analysis

Existing #	Revised #	Proposed Headline	Existing Policy Text	Gaps / Considerations Addressed	Updated Policy Text Considerations
1	1	**System Quality**	*Provide a seamless, integrated, affordable, safe and accessible transit network that serves people equitably, particularly communities of color and other historically marginalized communities, and people who depend on transit or lack travel options.*	▪ Separated existing Policy 1 into two policies ▪ Aligned with overarching Transportation Equity Policy 3 ▪ Integrated quality of service into policy language	Provide a high-quality, safe, and accessible system that makes transit a convenient and comfortable transportation choice for everyone to use.
	2	**Equity**			Ensure that the regional transit network equitably prioritizes service to those who rely on transit or lack travel options; makes service, amenities, and access safe and secure; improves quality of life (e.g., air quality); and proactively supports stability of vulnerable communities, particularly communities of color and other historically marginalized communities.[2]
N/A	3	**Climate Change**	*N/A*	▪ Strengthen policies to focus on transit's role in addressing climate change	Prioritize our investments to create a transit system that encourages people to ride transit rather than drive alone and to support transitioning to a clean fleet that aspires for net zero GhG emissions, enabling us to meet our state, regional, and local climate goals.
2	4	**Maintenance and Resiliency**	*Preserve and maintain the region's transit infrastructure in a manner that improves safety, security and resiliency while minimizing life-cycle cost and impact on the environment.*	▪ Incorporated reliability into State of Good Repair	Preserve and maintain the region's transit infrastructure in a manner that improves safety, reliability, and resiliency while minimizing life-cycle cost and impact on the environment.

[2] Historically marginalized communities are areas with high concentrations (compared to regional average) of people of color, people with low-incomes, people with limited English proficiency, older adults and/or young people.

Existing #	Revised #	Proposed Headline	Existing Policy Text	Gaps / Considerations Addressed	Updated Policy Text Considerations
4	**5**	**High Capacity Transit**	*Make transit more convenient by expanding high capacity transit; improving transit speed and reliability through the regional enhanced transit concept.*	▪ Align with equity and climate outcomes and HCT definition ▪ Reframe "convenient" around equity ▪ Revise description of capacity	Complete and strengthen a well-connected high capacity transit network to serve as the backbone of the transportation system. Corridors should generally be spaced at least one half-mile to one mile or more apart and serve mobility corridors with the highest travel demand. High capacity transit prioritizes transit speed and reliability to connect regional centers with the Central City, link regional centers with each other, and link regional centers to major town centers.[3]
3	**6**	**Coverage and Frequency**	*Make transit more reliable and frequent by expanding regional and local frequent service transit and improving local service transit options.*	▪ Moved reliability and the Enhanced Transit Concept to a new policy (see Policy 7)	Complete a well-connected network of local and regional transit on most arterial streets – prioritizing expanding all-day frequent service along mobility corridors and main streets linking town centers to each other and neighborhoods to centers.
3 and 4	**7**	**Reliability**	*See Policy #4*	▪ Created a separate policy focused on reliability that clarifies the role of ETC in the regional transit network	Through the Better Bus program, prioritize capital and traffic operational treatments identified in the Enhanced Transit Toolbox in key locations or corridors to improve transit speed and reliability for frequent service.
5	**8**	**Intercity / Inter-Regional Transit**	*Evaluate and support expanded commuter rail and intercity transit service to neighboring communities and other destinations outside the region.*	▪ No proposed changes	

[3] The regional "mobility corridor" concept refers to a network of integrated transportation corridors that moves people and goods between and within subareas of the region. These transportation corridors influence the development and function of the land uses they serve and are defined by the major centers set forth in the Region 2040 Growth Concept. High capacity transit, along with frequent bus service and pedestrian/bicycle connections to transit, play an important role in moving people in these corridors. (2018 Regional Transportation Plan, Section 3.4.1)

Existing #	Revised #	Proposed Headline	Existing Policy Text	Gaps / Considerations Addressed	Updated Policy Text Considerations
6	**9**	**Access to Transit**	*Make transit more accessible by improving pedestrian and bicycle access to and bicycle parking at transit stops and stations and using new mobility services to improve connections to high-frequency transit when walking, bicycling or local bus service is not an option.*	▪ No proposed changes	
7	**10**	**Mobility Technology**	*Use technology to provide better, more efficient transit service – focusing on meeting the needs of people for whom conventional transit is not an option.*	▪ No proposed changes	
8	**11**	**Affordability**	*Ensure that transit is affordable, especially for people who depend on transit.*	▪ No proposed changes	

Notes:

Green – proposed update or addition

Appendix D
Level 1
Screening

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DRAFT TECHNICAL MEMORANDUM

DATE:	August 23, 2022; Revised August 31, 2022 ; Revised September 7, 2022; Revised October 10, 2022
TO:	Ally Holmqvist, Metro
FROM:	Eddie Montejo, Parametrix Ryan Farncomb, Parametrix Kelly Betteridge, Parametrix Sam Erickson, Parametrix Oren Eshel, Nelson/Nygaard
SUBJECT:	Revised Corridor Evaluation Criteria
CC:	Project file
PROJECT NAME:	Metro High Capacity Transit (HCT) Strategy Update

1 INTRODUCTION

The High Capacity Transit (HCT) System Strategy Update (HCT Update) project is reviewing and updating the region's HCT network vision. The original HCT Plan was developed in 2009 and has been updated several times since then, with the most recent review of HCT corridors occurring in 2018 as part of the Regional Transit Strategy. This memorandum documents the existing regional HCT corridor vision and proposes potential additional corridors for inclusion. The project team proposes evaluation criteria forscreening candidate HCT corridors for inclusion in the regional HCT system vision as well as results of the initial screening.

1.1 Defining High Capacity Transit

For purposes of this project, "high capacity transit (HCT)" refers to the following modes and/or services:

- Bus Rapid Transit (BRT)
- Rapid Streetcar
- Light Rail Transit (LRT)
- Commuter Rail/Heavy Rail

Additionally, the HCT Update encompasses other high capacity or enhanced system elements including:

- Enhanced Transit Corridor (ETC) and "better bus" enhancements that enhance bus speed and reliability
- Frequent Service fixed route bus investments
- LRT operating improvements
- Other existing HCT corridor "state of good repair" investments

2 HCT CORRIDOR NETWORK UPDATE

The region's HCT system vision was established in 2009 in the original HCT System Plan. HCT corridor investments were identified and prioritized based on their readiness to proceed. This framework was updated as part of the 2018 Regional Transit Strategy. The HCT corridor investments identified in 2009 and updated in 2018 form the initial baseline of corridors that are considered as part of the 2023 HCT Strategy Update. The Strategy Update effort will retain corridors previously advanced, but will

- Update the "readiness" evaluation of each (see separate memorandum on readiness evaluation),
- Remove corridors from the Vision that have been constructed or are currently advancing, and
- Consider new corridors for inclusion in the Vision.

The project team then developed a comprehensive "universe" of potential HCT corridors that included the 2009 and 2018 corridors, as well as corridors identified as part of the T2020 regional ballot initiative. Finally, the universe of potential corridors also includes those proposed for future frequent bus service in the 2018 Regional Transit Strategy Vision. Frequent Service corridors operate at service levels of "15 minutes of better" much of the day and experience high transit travel demand. Frequent Service corridors represent natural corridors for considering HCT investments. Figure 1 shows TriMet's current Frequent Service network.

Figure 1. TriMet Frequent Service Network

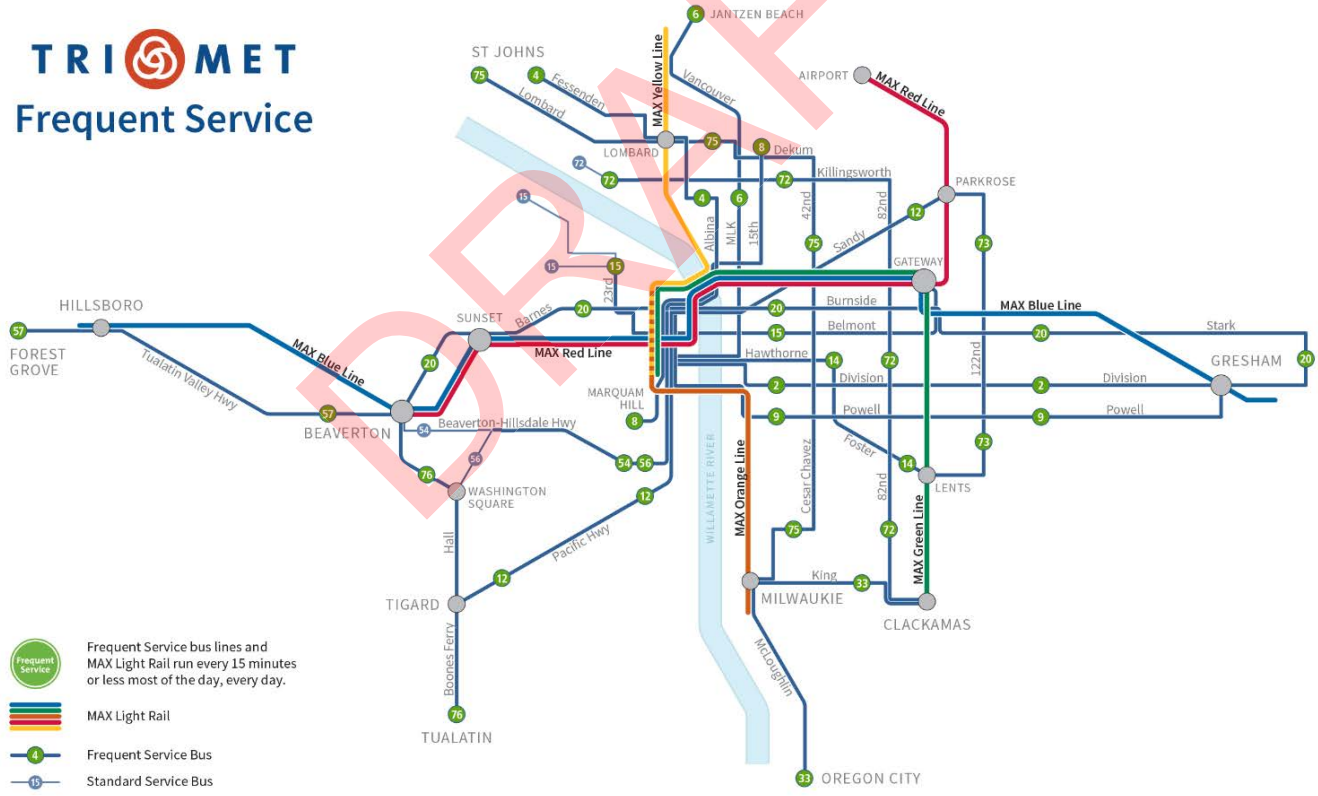

Figure 2 shows all potential HCT candidate corridors in the region. The corridors included in this figure represent the first draft of the HCT network vision that will be evaluated through the process described in this memorandum. In addition to the corridors shown in Figure 2, the project team will apply a standalone "big moves" analysis to identify additional corridors that should be considered for advancement.

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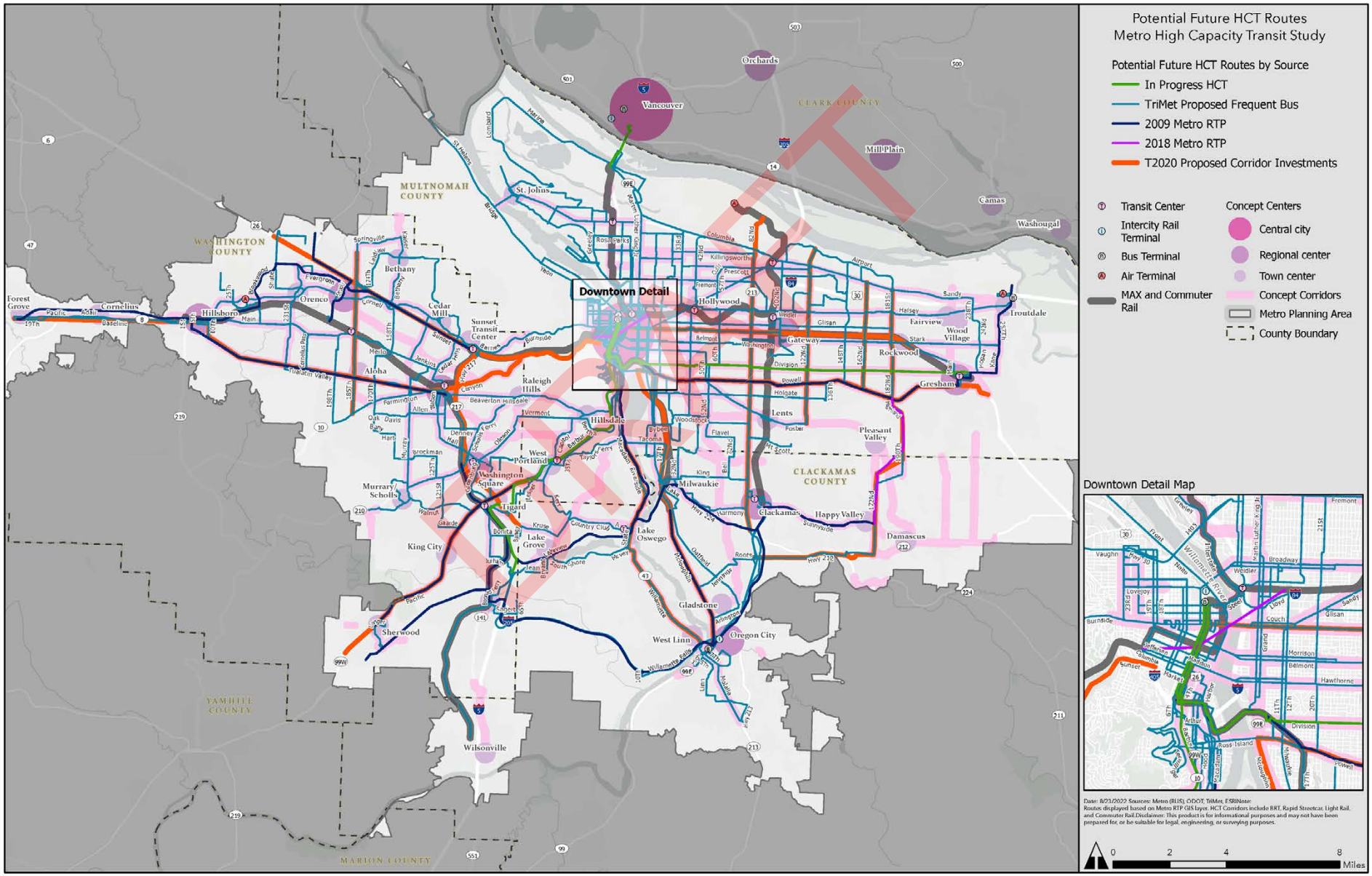
Figure 2. HCT Network - "Universe" of Corridors



3 APPROACH TO CORRIDOR EVALUATION

3.1 Draft Policy Framework

The corridor evaluation builds upon work completed to date for the Regional Transportation Plan (RTP) 2023 Update, which developed a draft updated policy framework based on a review of existing regional transit network policy as well as peer agency policies to identify gaps and priorities for HCT now and in the future. Building from this work, the corridor screening and evaluation criteria were developed to reflect the updated 2023 RTP policy framework to ensure that the analysis reflects current and future regional priorities and desired outcomes for HCT. Some of the key policy areas and drivers influencing the development of screening and evaluation criteria include focus on:

- **Developing specific policies to address equity and climate.** The screening and evaluation criteria evaluate corridor-level impacts to equity and climate based on the RTP draft policy framework. These equity and climate criteria will be used to prioritize investments in the HCT plan.
- **Connecting regional centers.** As part of the 2040 Metro Growth Concept, current RTP network policy focuses on HCT with a majority or all of the service in exclusive guideway connecting Regional Centers and City Centers. With the additional consideration of corridor-based HCT that includes many of the same elements, but without the majority exclusive guideway, an expansion of the network policy was proposed to connect Regional Town Centers to Regional Centers and the Central City. In that case, the evaluation criteria include a policy screen to ensure HCT investments connect Regional Town Centers to Regional Centers and the Central City.
- **Higher capacities.** The RTP currently defines HCT as carrying more transit riders than local, regional, and frequent transit lines. The screening and evaluation criteria consider a range of ridership and operational factors to identify corridors with the highest potential for needing greater transit capacity.
- **Frequency and reliability.** The draft policy framework is also focused on improving access to the regional network by making local transit more frequent, faster, and more reliable through the Enhanced Transit Concept (ETC). Although Enhanced Transit or "better bus" improvements may not always qualify as corridor-based HCT investments, ETC investments supports complimentary investments to HCT by improving access to regional transit, jobs, services, parks, and other essential destinations in the Metro area.

3.2 Two-Phase Corridor Evaluation Process

The HCT Plan update will replicate the two-phase analysis process done in the 2018 HCT Plan. Level 1 refers to a corridor screening process, which applies criteria to sort and organize the initial universe of potential HCT corridors. As a first step, the screening process is intended to refine the universe of potential HCT corridors by identifying the lowest-performing corridors. The remaining corridors will then be evaluated using the Level 2 criteria and readiness evaluation. The Level 2 criteria and readiness evaluation will prioritize corridors into "tiers" based on the technical analysis and corridor readiness criteria. The following subsections summarize the draft Level 1 criteria; Level 2 screening and readiness criteria are documented separately.

3.2.1 Level 1 Corridor Screening Criteria

The Level 1 Corridor Screening Criteria is intended as a broad analysis step for sorting and screening out potential HCT corridors based on key evaluation criteria. The Level 1 analysis intentionally uses few criteria to home in on the most important characteristics for successful HCT corridors according to the draft policy framework The Level

1 Screening also includes a "Policy Screen" that refers toqualitative determinations about where to invest in future HCT based on feedback from the Project Management team and Working Group. For example, the Policy Screen pulls out corridors that are already substantially underway (i.e., advanced design or environmental work underway) such as the I-5 Interstate Bridge Replacement Program and Division Transit Project. Table 1 below summarizes the proposed Level 1 Screening Criteria.

Table 1. HCT Level 1 Corridor Screening Criteria

Criteria	Approach to measurement	Data Source/Notes	Methodology
Existing Ridership	• Average Daily Boardings by Route (2019)[1]	• TriMet ridership data • Meets HCT Plan (2018) Core Criteria • Only applied to existing routes	• Assess TriMet Average Daily Boardings by TriMet Route IDs • Aggregate route-level boardings and classify using 20th percentile breaks
Future Ridership	• 2040 Person Productions + Attractions of TAZs within ½ mile of corridors • Average 2040 Person Productions + Attractions of TAZs within ½ mile of corridors[2]	• Metro Travel Model • Meets HCT Plan (2018) Core Criteria • Applied to existing and proposed routes • Person trips account for all modes • Productions + Attractions is a proxy measure for total activity	• Select TAZ boundaries within ½ mile of corridors as baseline geography for calculation • Sum existing 2040 Person Productions and 2040 Person Attractions for selected TAZs as a proxy for total future activity for corridors; • Calcualate the average of the sum of 2040 Person Productions and Attraction by TAZ to account for shorter corridors • Aggregate route-level future productions and attractings using 20th percentile breaks
Equity	• Metro Equity Focus Areas (EFAs) – EFAs within ½ mile of corridors	• Metro RTP Update (2022) • Meets HCT Plan (2018) Core Criteria • Metro Equity Focus Areas are measured at the Census Tract Level	• Select Census Tracts within ½ mile of potential HCT corridors • Identify Metro Equity Focus Areas (EFAs) within ½ mile of potential HCT corridors • Aggregate route-level EFAs based on 20th percentiles

[1] The Level 1 Corridor Screen will screen existing routes and planned/proposed routes separately to account for the fact that planned/proposed routes do not yet have ridership. Existing average weekday corridor ridership (2019) was only factored into the scoring for existing routes.

[2] Summing the *total* productions and attraction of all TAZs within a ½ mile of corridors accounts for longer corridors with higher potential demand for trips along the length of the route. Using the *average* of the sum of productions and attractions by TAZ within a ½ mile of corridors accounts for shorter corridors that may have concentrated activity but lower total person trips.

Criteria	Approach to measurement	Data Source/Notes	Methodology
Policy Screen (Qualitative)	• *Supports Metro Regional Concept:* Connects at least one (1) Town Center to a Regional Center/Central City. • *Remove Duplicity:* Remove corridors where HCT improvements are already planned such as Interstate Bridge Replacement Program and Southwest Corridor. • Remove C-TRAN routes, tram, and existing streetcar. Remove Division Transit since revenue service will start soon.	• Policy screens are conditional checks to qualify potential HCT routes from the starting universe of corridors.	• Qualitative assessment. Corridors are not scored based on the policy screen, but some candidate corridors will be eliminated based on the application of this criterion.

The "Big Moves" analysis complements the approach for screening candidate HCT corridors (HCT Screening) for inclusion in the regional HCT system vision. The HCT Screening process analyzed existing and planned frequent service corridors as well as corridors identified through the original HCT Plan in 2009. However, since the screening is primarily based on corridors aligned with the existing TriMet service network, it may not identify travel "desire lines" where the existing transit network does not provide a convenient connection that people would choose for their trip. Applying another lens allows for assessing additional connections that may not have been identified through the screening process:

- where current and future travel demand are strong and
- where the current transit system does not provide a high quality connection.

This approach is documented in a separate memorandum.

Appendix E
Level 2 and Readiness Evaluation

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TECHNICAL MEMORANDUM

DATE:	November 17, 2022
TO:	Ally Holmqvist, Metro
FROM:	Ryan Farncomb, Kirsten Pennington (KLP Consulting), Oren Eshel (Nelson\Nygaard)
SUBJECT:	Approach to assessing HCT corridor readiness, modes, and tiering
CC:	Metro High Capacity Transit (HCT) Strategy Update

This memorandum documents the proposed approach to determining high capacity transit (HCT) corridor "readiness," corridor ranking, and discussion of factors that will influence future mode choice in each corridor. Metro will use this assessment to shape the HCT Strategy update, including identifying which corridors are priorities for implementation. The approach in this memo builds on the evaluations conducted previously for the 2009 and 2018 iterations of the HCT Strategy.

CORRIDOR READINESS EVALUATION

The prior *Revised Corridor Evaluation Memorandum* describes the overall approach to identifying the preliminary vision of possible HCT corridors and evaluating them through a two-step process. Corridors that emerge from this "Levell 1" screening, including previously identified corridors from 2009 and 2018 HCT system planning work that have not yet advanced, will be evaluated with this Level 2 screening. The Level 1 evaluation identified the preliminary HCT vision corridors that are subject to furtherscreening and evaluation. Corridors with existing regional commitments – such as Southwest Corridor LRT, 82nd Avenue, and the Interstate Bridge Project, will not be evaluated further and are assumed to be included in the final vision as "Tier 1" corridors (see Corridor Ranking section below).

This memo describes the Level 2 screening which focuses on corridor "readiness;" meaning, whether the right conditions are in place to support advancing a given corridor for HCT investment. The Level 2 criteria are shown in Table 1. Attachment A shows an example evaluation using these criteria. These criteria are refined based on the 2018 evaluation and include criteria related to climate and equity, among other RTP policy priorities, and federal funding. The project team added these criteriato reflect regional policy priorities.

The federal funding criteria are based on the Federal Transit Administration's (FTA) Capital Investment Grants (CIG) program. This program is the most substantial non-local source for HCT funding in the Portland-Vancouver region and has funded many HCT investments, including much of the existing LRT system. Because of the outsize influence this program has on funding viability, the Level 2 screening criteria were revised to reflect the CIG program's criteria, thereby helping to ensure readiness of project corridors.

Table 1. Level 2 Corridor Evaluation Criteria

Criteria	Measure	Data Source/Notes	Methodology
Transit Travel Time Benefit	Ratio of personal vehicle travel time to transit travel time	HCT Plan (2018) Core Criteria Meets Section 5309 Capital Investments Grants (CIG) Small Starts Program "Mobility Improvements"	The team will compare the average travel time at 3:00 PM on a typical weekday for personal vehicles versus transit; the higher this ratio, the greater the opportunity to improve transit travel times.

Criteria	Measure	Data Source/Notes	Methodology
		Travel model data	
Productivity + Cost Effectiveness	Existing boardings per revenue hour in a given corridor Capital Cost per Rider (range to account for modal options)	HCT Plan (2018) Core Criteria Input to 5309 Capital Investments Grants (CIG) Program "Cost Effectiveness" measure	Boardings per revenue hour will be calculated based on 2019 and modeled 2040 boardings and transit revenue hours. Capital cost per rider will be presented as a range, based on average per-mile costs for two HCT modes (LRT and BRT).
Environmental Benefit	Change in GHG emissions associated with HCT investment in a given corridor.	"Reduction in emissions" meets HCT Plan (2018) Core Criteria VMT used as key performance measure in Metro 2021 TSMO Strategy	Using established transit elasticities, estimate the change in ridership that is likely occur in a given corridor by investing in HCT and the corresponding change in auto VMT that would be expected. Convert this change in VMT to GHG emissions using an average fleet emissions factor for year 2030.
Equity Benefit	Access to employment – Essential Jobs and Essential Services by Census Block within ½ mile of corridors Relative proportion of historically marginalized populations in each corridor, based on Metro's Focus Areas	TriMet and Metro Essential Destinations data. Remix Online Tool for Existing Routes Consider specific impact to in-person jobs in the region (data from TriMet *Forward Together* project)	The team will rely on data from TriMet's Forward Together program. Forward Together included location analysis of in-person jobs in the Metro region. The team will assess the relative number of in-person jobs within ½ mile of corridors using 20th percentiles. The relative proportion of historically marginalized populations within ½ mile of each corridor will be reported.
Land Use Supportiveness and Market Potential	2040 Population Density by TAZ within ½ mile of corridors 2040 Employment Density by TAZ within ½ mile of corridors Presence of higher education institutions, multi-family and affordable housing	Metro Travel Model HCT Plan (2018) Core Criteria "Land Use Supportiveness and Market Potential" Meets Section 5309 Capital Investments Grants (CIG) Small Starts Program "Land Use" and "Economic Development" criteria	Using existing 2040 Metro travel model data, the team will develop population densities within ½ mile of each corridor and rank by 20th percentiles. The project team will also provide for purposes of comparison the average density within 1/2 mile of (1) the average existing frequent service bus line and (2) average light rail line. The same approach will be applied for total employment within ½ mile of the corridors. The presence of multi-family and affordable housing, and higher education institutions will be applied as an additional land use check.

Jurisdictional Readiness Evaluation

After screening the corridor with the quantitative criteria, the project team will conduct a "jurisdictional readiness" evaluation to provide additional context. This next evaluation will be conducted on those corridors that score highly on the quantitative evaluation. This evaluation will be qualitative and based on the following factors:

- **Documented community support**, as determined by inclusion of a given corridor in local plans, supportive language in local Comprehensive Plans, etc.
- **Political support,** as determined by an identified jurisdictional "champion" for a given corridor. HCT corridors require strong political support and usually a local agency(s) that is strongly supportive of the project and that will maintain that support over the longterm.
- **Transit-supportive local policies**, such as those encouraging multifamily housing, minimum land use densities, mixed uses, affordable housing, employment, and other areas.
- **Local anti-displacement strategies or policies**
- **Identified local funding** for implementation (either as match or as a locally-funded project).
- **Physical conditions in the corridor,** looking at the likely availability of ROW broadly within a given HCT corridor or the need for mobility solutions that could require additional ROW within a high travel and constrained corridor; known environmental constraints, and presence of sidewalks and cycling facilities. Corridors with major physical constraints would score lower relative to this criterion. However, a major influx of funding could influence the readiness of corridors with major physical constraints.
- **Assessment of work conducted to-date,** meaning, the level and amount of planning, design, environmental, or other work that has been completed to define and advance the HCT investment in a given corridor.

CORRIDOR RANKING

After both evaluation steps have been completed, the project team will conduct an initial sort of corridors into one of four tiers based on their performance. These tiers are based on the original 2009 HCT System Plan Report:

- **Tier 1 – Regional Priority Corridors**: these include corridors with an adopted Locally Preferred Alternative (LPA) under the National Environmental Policy Act (NEPA), or those where determination of the LPA is already underway (such as 82nd Avenue). These corridors are likely to score well with respect to the Federal Transit Administration's (FTA) Capital Investment Grant (CIG) program. These corridors already have regional consensus and so were not evaluated with the Level 2/readiness criteria described above.
- **Tier 2 – Emerging Regional Priority Corridors**: Tier 2 includes corridors that score highest based on the quantitative and qualitative assessment where additional policy or planning actions may elevate the corridor to advance within the next five years. With steps taken to advance regional discussion on these corridors and/or some changes in the corridor itself, Tier 2 corridors may score well with respect to the Federal Transit Administration's (FTA) Capital Investment Grant (CIG) program.
- **Tier 3 – Developing Corridors**: corridors that scored in the middle relative to others based on the quantitative evaluation and where the qualitative assessment shows multiple issues or needs that must be addressed, or where land use or employment and population density is marginal for HCT investment. These corridors likely require more time before advancing.
- **Tier 4 – Future Corridors**: these corridors score lowest on the quantitative and qualitative evaluation and lack policy or land use conditions that warrant near-term HCT investments.

Funding considerations will be an important "lens" applied to the initial tiering that emerges from this assessment. Available funding is fundamental to the number of corridors the region is able to advance in the

near-term and as such is an important final screen on the initial tiering. The project team will also conduct a final "policy check" to ensure the corridors that emerge from the analysis align with the HCT policy framework and the intended regional outcomes. The final funding and policy check reviews are qualitative in nature; limited modifications, additions, removals, or changes in assigned Tier may result.

Finally, the project team will describe conditions that are likely to influence future discussions on the appropriate HCT mode for each corridor. A specific mode may not be assigned to corridors, given that further study and evaluation is required to determine the appropriate mode in each corridor, as well as the final corridor routing, as part of further studies outside of this process. The team will review the following factors that contribute toward mode selection, including:

- Existing corridor ridership.
- The personal vehicle to transit travel time ratio, determined for each corridor previously (Table 1). The greater this ratio, the greater the need for corridor investment in transit priority or other interventions (e.g., stop consolidation) to improve travel times.
- Existing roadway capacity and available right-of-way: this qualitative assessment will look at the likely availability of ROW broadly within a given HCT corridor or the need for mobility solutions that could require additional ROW within a high travel and constrained corridor. This assessment aims to understand the relative difficulty of implementing HCT.

These criteria will be used to determine if they likely require <50% priority or >50% priority.

However, the project team will assign a **representative corridor and mode** for purposes of modeling corridors only to understand the high-level impacts of HCT investments on regional transit ridership and mode split. The project team will determine these representative modes based on ridership and connections to the existing HCT system. Future corridor refinement studies will make alignment and mode determinations.

AREAS SUBJECT TO FURTHER REFINEMENT

This evaluation will result in high-level information useful for confirming the vision for HCT and ranking corridors based on readiness to advance. However, identifying and tiering corridors is the first step toward advancing HCT. Detailed study and public involvement is required to advance corridors through the various phases of project development, design, construction, and implementation. An **important early step** in advancing corridors is a detailed look at alignments, potential termini, and segmentation to further define the corridor and project; it may be that only part of a corridor is ready to proceed, or that segmenting a given corridor is the preferred approach to move forward. Additional work that would occur outside of the HCT Strategy Update process and would define elements of the project further includes:

- Mode and vehicle type
- Exact alignment and termini
- Level of transit priority needed
- Station locations
- Roadway design
- Pedestrian and bicycle facilities
- Integration with the broader transportation system, including first/last mile considerations, park and rides, traffic impacts, etc.

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DRAFT TECHNICAL MEMORANDUM

DATE: November 17, 2022

TO: Ally Holmqvist, Metro
Metro HCT Strategy Update PMT

FROM: Chad Tinsley, Parametrix
Ryan Farncomb, Parametrix
Kelly Betteridge, Parametrix
Oren Eshel, Nelson/Nygaard
Tomoko Delatorre, Nelson/Nygaard
Paul Lutey, Nelson/Nygaard

SUBJECT: HCT Corridor Analysis Approach to Identify "Big Moves"

CC: Project file

PROJECT NAME: Metro High Capacity Transit (HCT) Strategy Update

1 INTRODUCTION

This memo describes an approach to identify "Big Moves" as part of the corridor identification and screening process for the High Capacity Transit (HCT) System Strategy Update (HCT Update) project. This analysis would complement the Level 1 screening to identify candidate HCT corridors (HCT Screening) for inclusion in the regional HCT system vision, as described in previous memos. The HCT "Level 1" Screening process analyzed existing and planned frequent service corridors as well as corridors identified through the original HCT Plan in 2009 to help identify the universe of corridors to consider in the HCT Evaluation. However, since the screening is primarily based on corridors aligned with the existing TriMet service network, it may not identify travel "desire lines" where the existing transit network does not provide a convenient connection that people would choose for their trip. The project team is proposing an approach to help confirm needs identified through the screening process and assess additional connections that may not have been identified through the screening process:

1. Where current and future travel demand are strong
2. Where the current transit system does not provide a connection or a high quality connection

Connections with strong demand and lower-quality transit may be high priorities to evaluate for HCT, or other types of transit service (HCT may not be the most suitable mode for all areas). This analysis could confirm the need for corridors already identified through the screening process as well as suggest additional connections that should be evaluated as part of the HCT Strategy Update. Connections with strong demand and a low-quality transit connection could suggest additional corridors to evaluate for HCT. HCT projects could also be identified to strengthen existing parts of the HCT system that are only of moderate quality.

2 "BIG MOVES" CORRIDOR IDENTIFICATION APPROACH

2.1 Travel Demand Analysis Zones

Analysis zones were developed based on the following approach:

- Start with Metro Concept Analysis Center (2040) geographies
- Include City of Portland Town Center designations, based on the City of Portland Centers GIS layer and/or the map in Chapter 3 of the Comprehensive Plan (page 30): Belmont-Hawthorne-Division, Interstate/Killingsworth, Midway, and Northwest District
- Select Transportation Analysis Zones (TAZs) overlapping with the above geographies
- Identify additional TAZs as either additions to the above geographies or as additional geographies, including:
  - Major institutions (major hospitals, universities, etc.), such as OHSU.
  - Major employment areas, based on Longitudinal Household Employment Dynamics (LEHD) data and Metro model 2040 projections, using a threshold of 4,000 jobs in a TAZ and grouping adjacent TAZs with employment at or close to the threshold.
- Portland Central City Zones were disaggregated as follows for initial analysis, given the high concentration of trips, but could be reaggregated at a later stage of the processor for representation purposes.
  - Downtown – South, Central, and North
  - West of Downtown (west of I-405, north of Burnside)
  - Northwest Portland – Northwest District (corresponding to the City of Portland Town Center), Outer Northwest, and Northwest Industrial area
  - South Waterfront (with the OHSU Marquam Hill Campus as a separate geography)
  - Central Eastside – South and North
  - Rose Quarter/Albina West
  - Lloyd District
  - Albina East

Figure 1 shows the analysis zones.

2.2 Travel Demand

Travel demand data was aggregated to the above centers-based travel demand zone structure. The data was normalized using the area of the zones to account for the varying geographic size (and density of travel demand) of each area.

The primary travel demand measure used was future travel demand from the Metro model:

- Future (2040) Person Trips, both directions, Total and Normalized for area of the zone (per square mile)

Secondary travel demand measures were used to provide an understanding of more recent changes to travel demand, including effects of the pandemic.

- Fall 2021 person trips from Replica data,[1] both directions, Total and Normalized for area of the zone (per square mile), including trips by people earning less than 200% of the federal poverty level and estimate transit person trips
- Fall 2019 person trips for comparison with current (baseline) person trips from the Metro model

Travel demand measures were classified into five categories.

2.3 Service Quality

For purposes of this analysis, travel time was used as a proxy for service quality. Transit travel time was compared to auto travel times to understand the relative convenience of making a particular trip by transit versus driving.

- A representative point was selected for each analysis zone. If existing high capacity transit service was present, a HCT station was selected so that access time to/from destinations was not considered in evaluating how well a geography is generally served by the HCT system.
- Google Maps was used (via an automated query) to determine: 1. Auto travel time and 2. Transit travel time for each zone-to-zone connection. A trip time of 3 pm on a weekday (Wednesday) was specified. Analysis was run in both directions and the highest ratio used
- A ratio of the transit travel time to the auto travel time was calculated. A ratio of 2.0 would mean that a transit trip takes twice as long as a trip made by driving.

The transit to auto travel time ratio was classified into five categories using the following breakpoints:

- Up to 1.1 (Transit competitive with auto)
- > 1.1 to 1.5
- > 1.5 to 2.4
- 2.5 to 3.9
- 4.0 or more (Transit takes significantly longer than driving)

[1] Replica is an activity-based transportation model in which travel demand is derived from people's daily activity patterns, including de-identified mobile location and demographic data sources.

Figure 1 Map of Analysis Zones

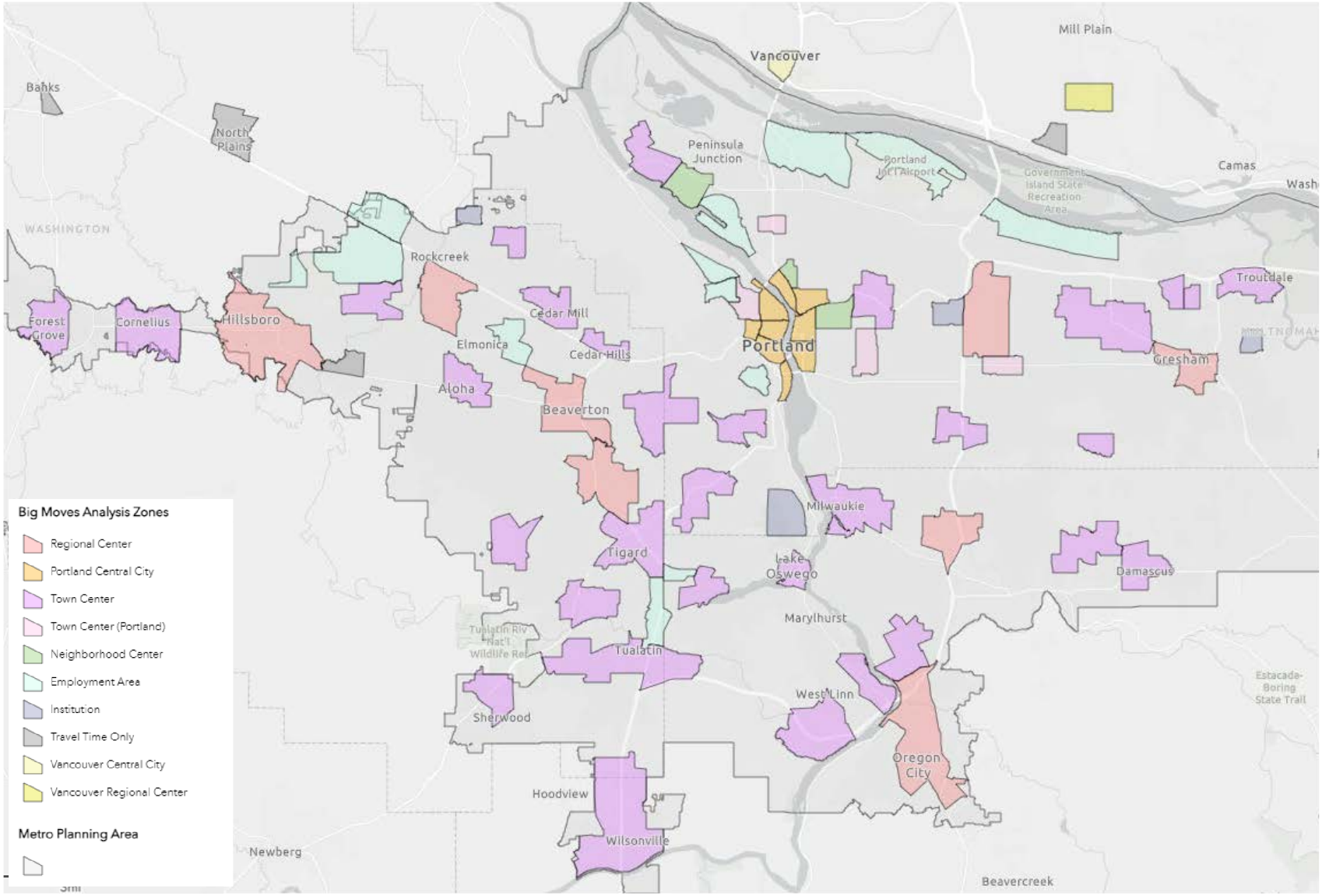
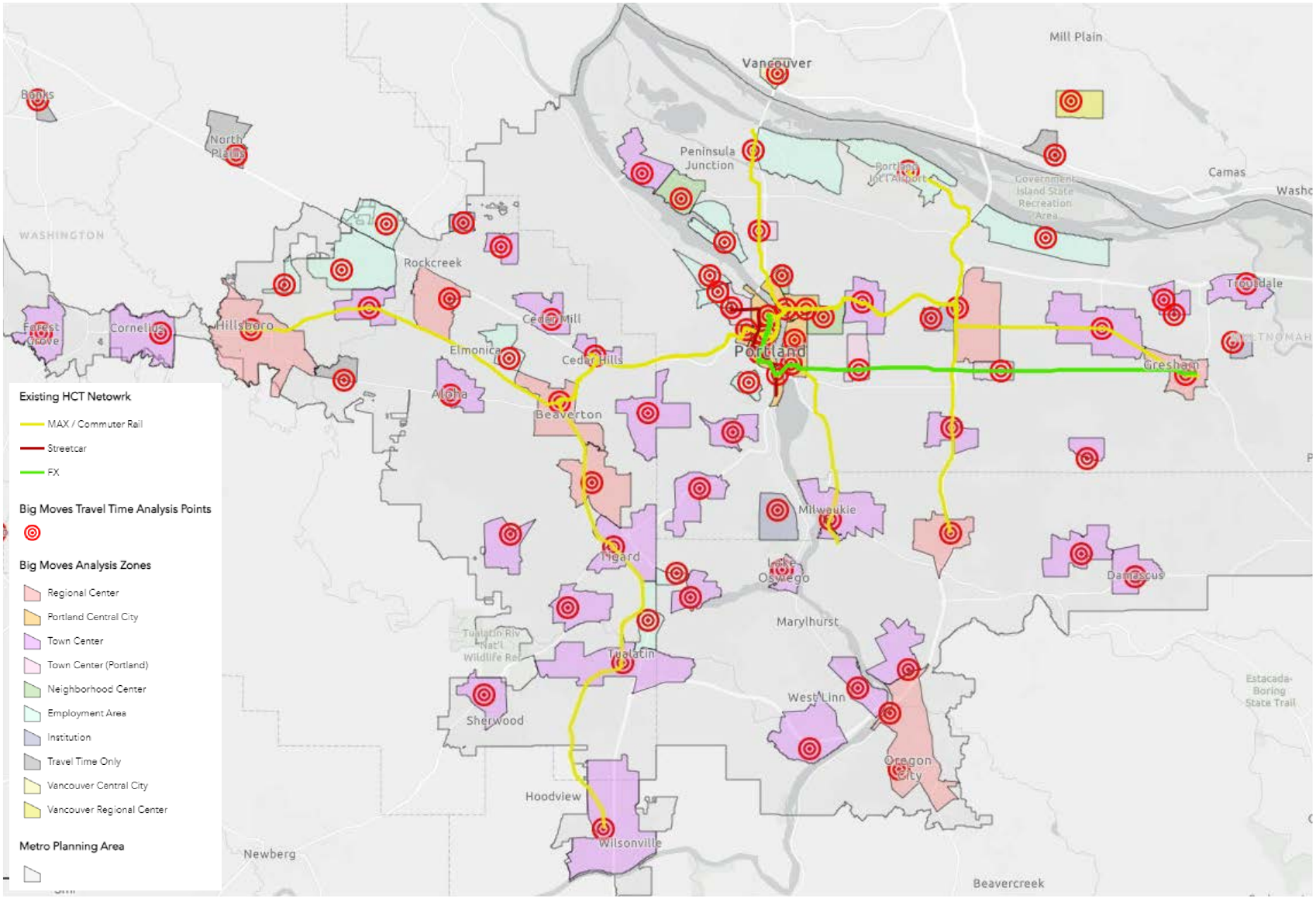


Figure 2 Map of Analysis Zones, Travel Time Analysis Points, and Existing HCT Network



3 ANALYSIS RESULTS

3.1 Analysis Results

The analysis was utilized as a tool to further explore and understand possible additional connections identified through the Level 1 Screening analysis and identify additional connections to consider in the next phases of the evaluation (e.g., Level 2 and Readiness Evaluation). **Figure 3** illustrates travel demand and the transit to auto travel time ratios for a representative set of connections between regional and town centers, including the additional employment and major activity centers included in the analysis. Line color illustrates the travel time ratio. Line weight illustrates travel demand. Travel demand in this schematic representation reflects only the demand between the specific centers connected, not the total travel demand between multiple centers that might utilize a particular connection (aggregating that demand was beyond the scope of this analysis). This analysis also did not consider demand outside of these centers.

- Connections shown in dark or lighter blue have a transit travel time that is competitive with driving. These include many parts of the existing light rail network, such as:
  - Between Gresham, Gateway, Hollywood, and Lloyd District
  - Between Clackamas and Gateway
  - Between Downtown Portland, Beaverton, and Hillsboro

  They also include some centers connected by bus links today.
- Connections shown in yellow, orange, and red range from moderately less competitive by transit to significantly longer.

The regional high capacity transit system is intended to be the backbone of the transit system. As such, this analysis focuses on longer-distance connections between regional centers, major town centers, and central cities with the highest travel demand and person capacity needs, that have gaps in service quality identified through this analysis. Focusing on these types of connections, this analysis identified the potential to improve transit travel times for corridors such as the following:

- Between multiple town and regional centers in a generally southeast to northwest arc through the Hwy 217 corridor between south and north/northwest Washington County, including connections from southwest Clackamas County. Since WES commuter rail operates between Wilsonville, Tualatin, Tigard, and Beaverton, but only during AM and PM peak hours, there is a gap in HCT service quality.
- The Tualatin Valley (TV) Highway corridor, between Beaverton, Hillsboro, Cornelius, and Forest Grove. There is an active planning project in this corridor (TV Hwy BRT).
- The Beaverton-Hillsdale (BH) Highway corridor, between Beaverton, Raleigh Hills and Hillsdale
- The Hwy 99W corridor, including Tigard, Tualatin, and Southwest Portland
- In South Clackamas County, between Oregon City and Clackamas Town Center (CTC) as well as along the Hwy 99E and Hwy 43 corridors, and between CTC and both Milwaukie and Happy Valley
- Town centers in East Multnomah County, including Troutdale, Fairview, and Wood Village, both east-west and north-south
- Across the Columbia River to/from Clark County

- Between St. Johns and various parts of Multnomah County

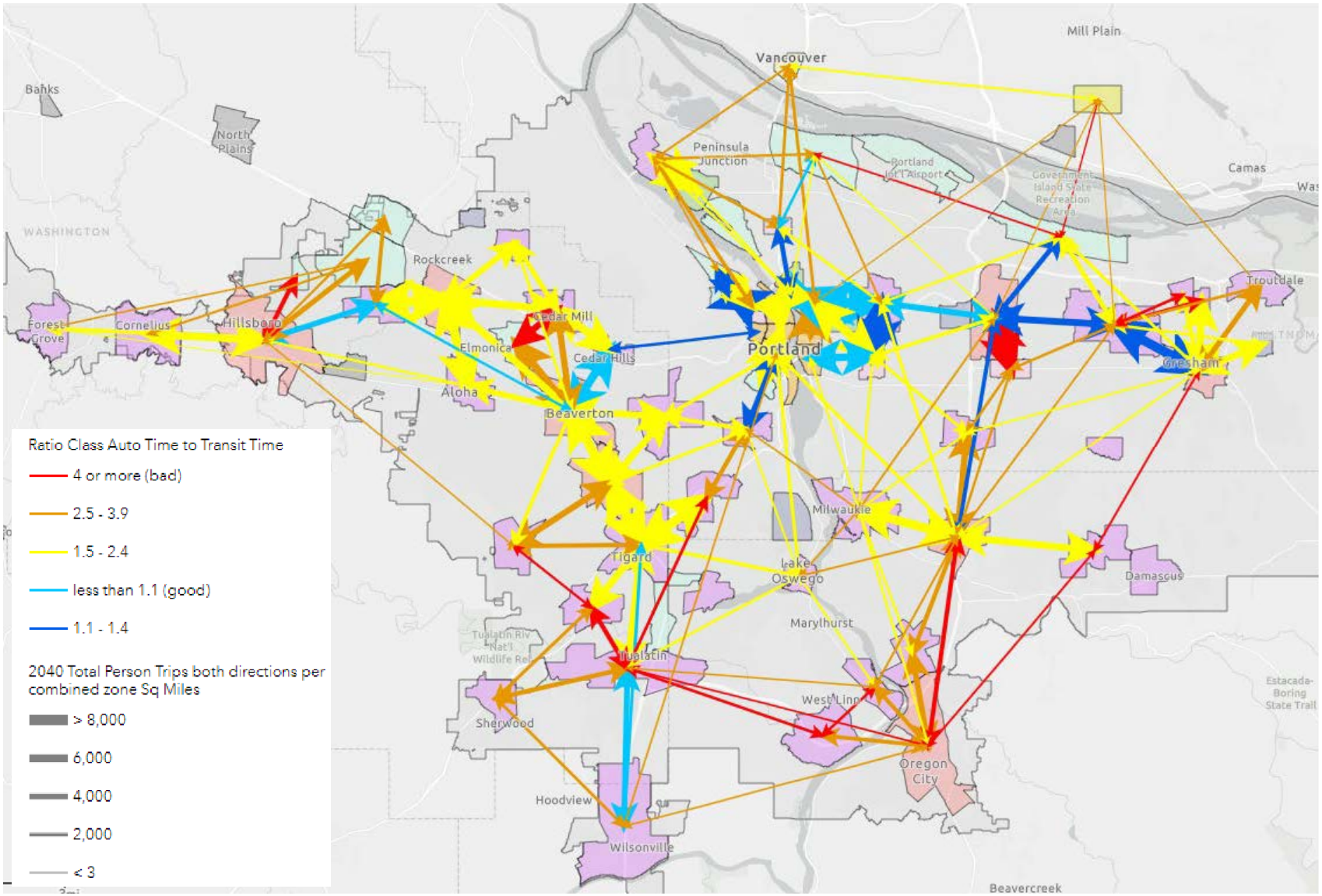
Figure 4 summarizes the connections identified above, along with existing HCT in these corridors, existing HCT priorities that were identified (in the 2009 HCT Plan/RTP or 2018 RTP), and active HCT planning efforts.

The analysis also highlights additional connections that are shorter in length or affect smaller or more isolated town centers. Examples of these types of gaps include:

- Employment areas north of Hillsboro, including along Evergreen Pkwy and Cornelius Pass Road.
- Town Centers in Washington County that are not along major travel corridors, such as Bethany, Murray/Scholls, and Sherwood.
- Columbia Corridor Employment Area in Multnomah County
- Between Midway and Gateway

However, these connections may bebetter addressed through other transit investments, such as frequent service fixed route, Better Bus enhancements,or enhanced connections to existing HCT service,and/or first and last mile improvements. These connections are likely outside the primary focus of the HCT system in con necting regional and major town centers and creating the backbone of the transit network.

Figure 3 Illustration of Travel Demand and Travel Time Ratio for Regional Zone-to-Zone Connections



3.2 Summary of Potential System Gaps and Previous/Active HCT Planning

Figure 4 Summary of Identified Major HCT Service Quality Gaps and Previous/Active HCT Planning

Major Travel Corridor / Connections	Counties	Existing HCT	Previously Identified HCT Priorities	Active HCT Planning
OR 217 Corridor (SW Clackamas Cty and SE Washington County – N/NW Washington County)	Washington, Clackamas	WES Commuter Rail (Peak Hours Only)	• Upgrades to WES, Wilsonville-Beaverton • Clackamas Town Center to Washington Square • Oregon City to Washington Square	-
TV Hwy Corridor	Washington	-	• TV Hwy BRT	TV Hwy BRT Study
US 26 Corridor (Sunset TC – Hillsboro)	Washington	-	• US 26 Corridor, Sunset TC – Hillsboro	-
BH Hwy Corridor	Washington, Multnomah	-	• 2010 Mobility Corridors Atlas	-
Hwy 99W / I-5 Corridor	Washington, Clackamas, Multnomah		• Southwest Corridor LRT • Sherwood – King City – Tigard	Southwest Corridor LRT Project
Hwy 43 Corridor	Clackamas, Multnomah		• Lake Owego – Portland (Rapid Streetcar)	-
Hwy 99E Corridor	Clackamas	MAX Orange Line (north of Park Ave)	• Milwaukie – Oregon City (Extension)	-
I-205 Corridor	Clackamas		• CTC – Oregon City – Washington Square	-
Hwy 224/Sunnyside Road Corridor	Clackamas	-	• CTC- Milwaukie – Washington Square • CTC – Happy Valley	-
East Multnomah County (Troutdale / Fairview / Wood Village)	Multnomah	MAX Blue Line (south of identified communities)	• LRT Extension, Gresham – Troutdale	-
St. Johns	Multnomah	-	• 2010 Mobility Corridors Atlas	-
I-5 (Interstate Bridge)	Multnomah, Clark	-	• Interstate Bridge	Interstate Bridge Replacement Project
I-205 Corridor	Multnomah, Clark	-	• 2010 Mobility Corridors Atlas	-

3.3 Portland Central City Analysis Results

Although the focus of this analysis is trips around the region, regional transit trips are affected by service quality through downtown Portland. **Figure 5** illustrates travel demand and the transit to auto travel time ratios for a representative set of connections within the Portland Central City. Although the transit is relatively time competitive for some trips, HCT system speed into and through the Central City is slow, which affects travel time competitiveness both for transit trips into downtown and for transit trips that cross the region through downtown Portland. **Figure 6** summarizes these connections along with existing HCT lines, existing HCT priorities that have been identified (in the 2009 HCT Plan/RTP or 2018 RTP), and active HCT planning efforts.

Figure 5 **Illustration of Travel Demand and Travel Time Ratio for Portland Central City**

Figure 6 Summary of Identified Major HCT Service Quality Gaps and Previous/Active HCT Planning – Portland Central City

Major Travel Corridor / Connections	Counties	Existing HCT	Previously Identified HCT Priorities	Active HCT Planning
MAX into downtown and through Portland Central City	Multnomah	MAX	• Central City Tunnel Study	
Central Eastside (north-south and between Downtown)	Multnomah	Streetcar	• 2010 Mobility Corridors Atlas	-
Northwest Portland and parts of Downtown	Multnomah	Streetcar	• 2010 Mobility Corridors Atlas	-

3.4 Next Steps

This analysis provides additional information about the potential HCT connections identified in the Level 1 HCT Screening and helps identify additional gaps in regional transit connections and/or service quality (travel time). This analysis was used to shape the set of HCT corridors that will be considered in the Readiness step of the HCT Evaluation.

12/8/22 Revised DRAFT Level 2 and Readiness Assessment Addendum

The following provides more details on the analysis conducted as part of the Level 2/Readiness Assessment for the HCT Strategy Update. This addendum is subject to revision as the evaluation approach and results are refined based on agency and stakeholder feedback.

Level 2 Evaluation

Metric	Approach
Transit-Auto Travel Time Ratio	Results represent the estimated ratio of transit travel time to personal car travel time in a given corridor. This ratio is calculated using Google Maps travel times during the same hour for all corridors (trip departing at approximately 3:00 PM on a Wednesday), average of both directions, including transfer time (if applicable). Corridors were scored relative to each other based on quartiles.

Productivity and Cost Effectiveness	• **Boardings per revenue hour:** calculated based on 2019 fall quarter average ridership and revenue hours on TriMet lines associated with each corridor. For those corridors where no transit line exists today, the team used the following assumptions:
	  ○ Corridor 14, Central City Tunnel: productivity estimated using combined MAX Red and Blue line boardings and revenue hours. This project would affect corridor-wide travel times, and therefore the team used the corridor-wide ridership for this factor.
	  ○ Corridor 8, Parkrose to Clark County: the team was not able to develop a ridership estimate for this route.
	• **Capital cost per rider:** this metric was estimated similarly to how it would be estimated as part of the FTA CIG program evaluation. It represents the *annualized federal capital cost per rider*. Because the HCT Strategy Update is not going to assign a specific mode to most corridors, the team developed a range of capital cost estimates based on BRT and LRT costs to feed into this metric. A low and high capital cost was generated for each corridor as follows:
	  ○ Low: using the per-mile capital cost for the Division BRT project, multiplied by the representative corridor length to yield a total corridor cost.
	  ○ High: using the per-mile capital cost for the SW Corridor LRT project, multiplied by the representative corridor length to yield a total corridor cost.
	To align with CIG criteria, the cost was then annualized based on an average annualization factor of 30 years and 50 years for the low-end and high-end, respectively. These factors represent the average lifespan of all of the capital elements of a representative BRT and LRT project; some elements have shorter life spans (e.g., vehicles) while others have longer life spans (e.g.,

Metric	Approach
	trackway). Finally, the project team assumed that each corridor would receive 50% federal funding, such that effectively half of the capital cost for each corridor contributes to the federalized share. This annualized federal cost share was then divided by the number of annual riders on transit in each corridor, based on 2019 ridership data. Exceptions to the above methodology include: ○ Corridor 14- Central City Tunnel: assumed a single capital cost based on the capital cost developed as part of Metro's Central City Transit Capacity Analysis project (2019). ○ Corridor 18W- Montgomery Park to Hollywood: this corridor is assumed to be "streetcar." The project team used the per-mile cost of the eastside streetcar project (from 2011), inflated using the construction cost index to 2022 dollars. ○ Corridor 6- Beaverton to Oregon City: no existing service on this line. Used the estimate of new riders that was modeled as part of the TriMet Express and Limited Stop Study (2020) for this corridor. ○ Corridors 3, 9, 10, 27 were assigned LRT as representative mode based on prior planning (2009 HCT Strategy) for purposes of scoring capital cost.
Environmental Benefit	**GHG reduction benefit:** the methodology uses an assumed change in transit headways and research on transit elasticities to result in an estimated change in ridership based on implementing HCT, a corresponding reduction in VMT based on this increase in ridership, and in turn a reduction in GHG emissions on an annual basis in metric tons. No ridership modeling was conducted for this assessment, so the team used headway elasticities to generate a high-level estimate of change in ridership from implementing HCT in each corridor. Research shows that headway improvements are responsible for a substantial share of the ridership impact of HCT; however, the project team recognizes that this does not account for the other elements of BRT (such as improved stations, etc.) that also contribute to ridership increases. Additional assumptions for the GHG calculation are as follows: • Used existing weekday transit ridership, average trip length, and average headways for each corridor based on 2019 TriMet data • Assumed that corridors improved to an average of 12-minute headways all day, based on Division Transit headways. • Headway elasticity is estimated at 0.5 per Victoria Transport Policy Institute (VTPI), meaning every 10% improvement in headway results in a 5% increase in ridership. For some corridors, an estimate of future ridership already exists (e.g., Central City Tunnel) and was used in place of the headway elasticity method. • The assumed increase in ridership was multiplied by the average transit trip length to generate an average increase in transit person miles travelled (PMT). • The increased transit PMT was assumed to result in a corresponding decrease in personal vehicle VMT; however, this VMT change was discounted by 50% to account for induced demand (based on research findings). When people

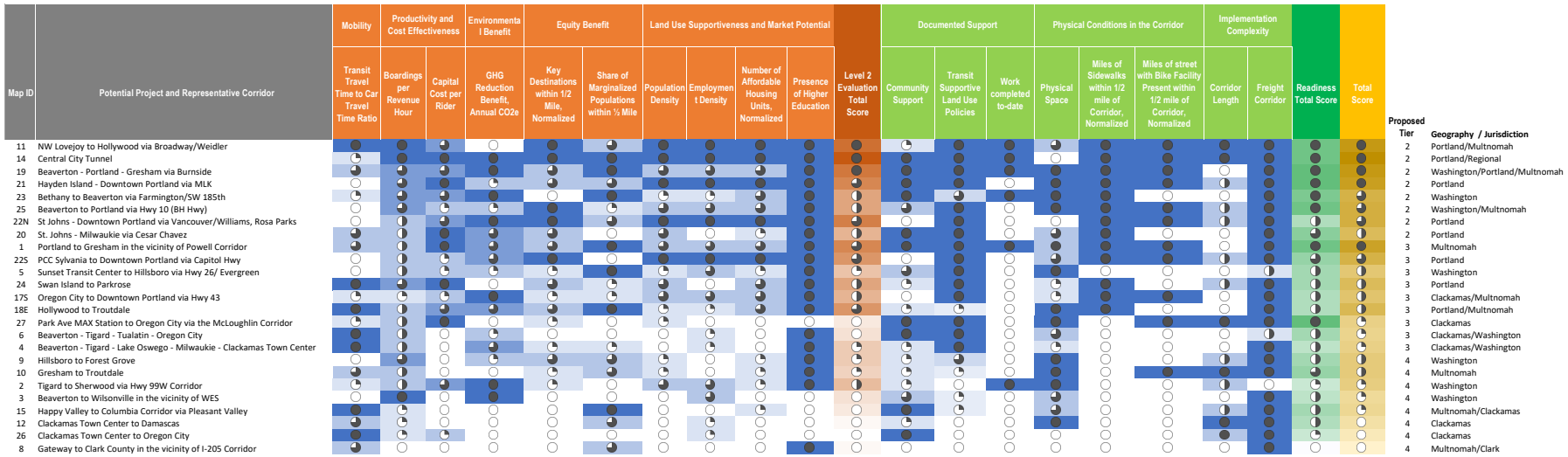
Metric	Approach
	shift to transit from driving, some increase in driving occurs as a result of newly freed up roadway space. • The reduction in VMT was then converted to a reduction in GHG, based on the average fleet efficiency (23 miles per gallon) and average GHG content of gasoline (9 kg/gallon) in 2020 to yield an annual reduction in GHG emissions.
Equity Benefit	• **Key destinations within a ½ mile of each corridor**: this metric looks at the average number of key destinations within ½ mile of each corridor. Key destinations include city halls, community centers, hospitals, libraries, and schools. The total was normalized using corridor length. • **Share of marginalized populations within ½ mile of each corridor:** this metric uses Metro equity focus areas based on Census tracts to report the percentage of the population that are marginalized populations in each corridor. Equity focus areas are Census tracts that represent communities where the rate of Black, Indigenous, or People of Color (BIPOC), people with limited English proficiency (LEP), or people with low income (LI) is greater than the regional average. Additionally, the density (persons per acre) of one or more of these populations must be double the regional average.
Land Use Supportiveness	• **Population density:** population density, per square mile, within ½ mile of each corridor based on 2040 projections from the Metro model by TAZ. Corridors with a population density above 7,000 persons per square mile are considered most supportive of HCT. • **Employment density:** number of jobs, per square mile, within ½ mile of corridor based on 2040 projections from the Metro model by TAZ. • **Number of affordable housing units:** number of units, per linear mile of corridor, within ½ mile of each corridor. • **Presence of higher education:** scored based on the presence of one or more higher education institutions within ½ mile of each corridor.

Readiness Criteria

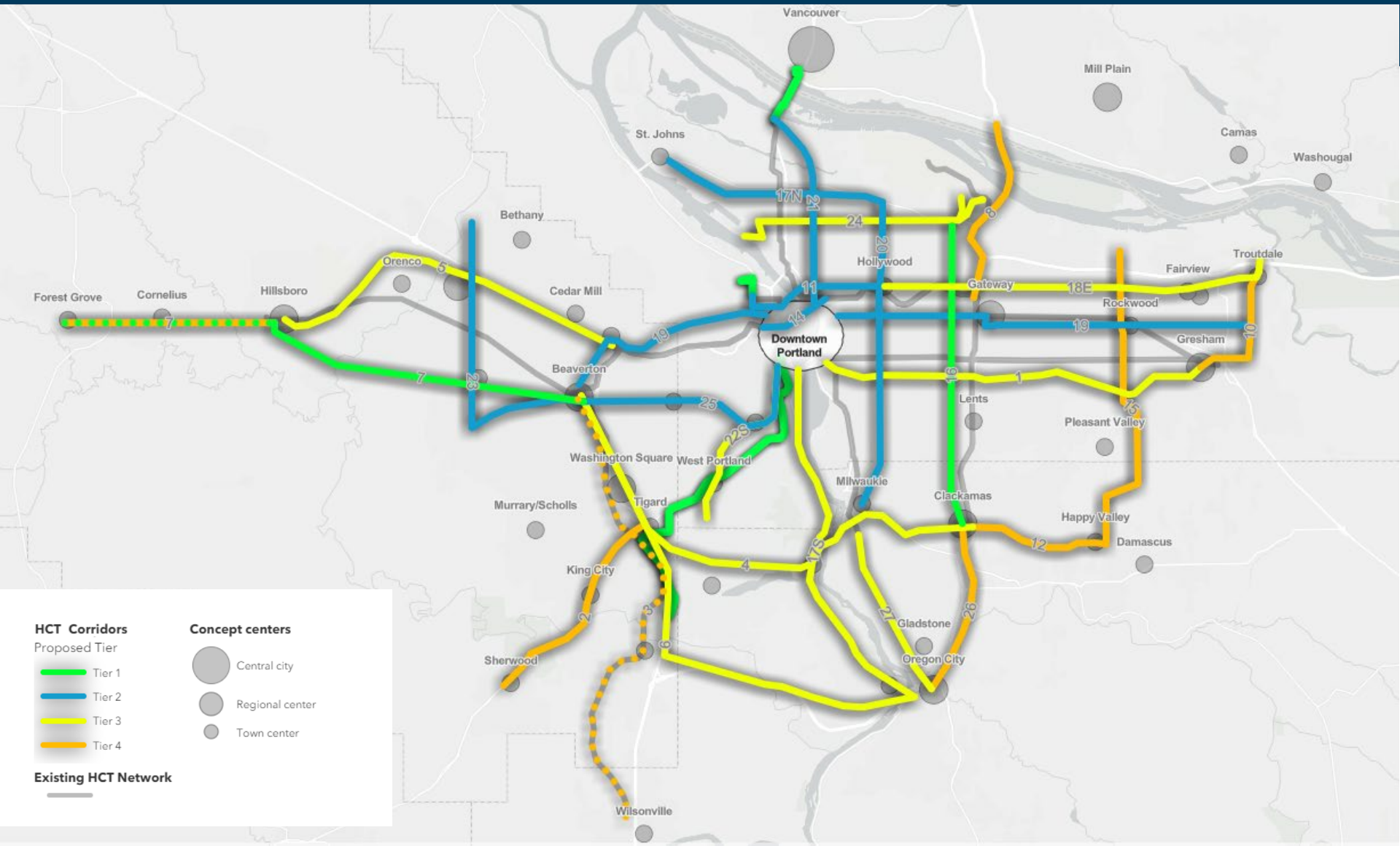
Metric	Approach

Documented Support	• **Community support:** this was scored based on whether HCT or similar investment capital project is identified in local TSPs or related documents.
	• **Local champion/local funding:** *this criterion requires further discussion and is not scored at this time.*
	• **Transit-Supportive Policies:** this criterion looks at local jurisdiction policies that support HCT and align with the types of policies identified through the CIG program:
	  ○ Local jurisdiction anti-displacement policies
	  ○ Local jurisdiction policies that align with CIG funding criteria, including transit-supportive population and employment policies, housing policies, etc.

	• **Work completed to-date:** scored based on whether local jurisdictions and partners have performed work to advance a given corridor, beyond inclusion in long-range plans. This may include additional studies, projects, investments, or recent planning work supportive of advancing a given corridor. • **Tolling:** *this measure requires further discussion and is not scored at this time. The intent of this measure is to identify HCT corridors that overlap with tolling corridors.*
Physical Conditions in the Corridor	• **"Physical space":** the project team determined the share of each representative corridor that is less than or equal to three lanes or greater than three lanes (four or more lanes), in addition to the share of the corridor that is railroad ROW. This criterion provides a high level understanding of how constrained a given corridor is; corridors that are predominantly along roads that are less than three lanes would likely require greater capital investments and/or ROW acquisition in order to achieve transit priority lanes or separate guideways, and in turn, may have more complex planning and design processes that require more time. Corridors that are predominantly along roads that are four or more lanes wide potentially have more opportunity to re-purpose existing roadway space for transit priority lanes/separate guideways, and in turn, may require less complex planning and design processes to advance. • **Miles of sidewalks and miles of bicycle facility within ½ mile of each corridor:** these metrics look at the density of the existing cycling and walking networks as a way of understanding the robustness of the first-/last-mile network in each corridor. These metrics are normalized by the length of each corridor. Corridors were scored based on whether they are higher or lower than the median across all corridors.
Implementation Complexity	• **Length of corridor:** based on TriMet experience, lengthier HCT corridors become more complex and take more time to implement. Shorter corridors were assigned a higher score. • **Freight corridor**: this criterion assigns a score based on whether a corridor is a designated freight corridor or not. Corridors having a freight designation are scored lower, the need maintain freight mobility can present obstacles to developing HCT.


Mobility
Productivity and Cost Effectiveness
Environmental Benefit
Equity Benefit
Land Use Supportiveness and Market Potential
Documented Support
Physical Conditions in the Corridor
Implementation Complexity
Map ID
Potential Project and Representative Corridor
Transit Travel Time to Car Travel Time Ratio
Boardings per Revenue Hour
Capital Cost per Rider
GHG Reduction Benefit, Annual CO2e
Key Destinations within 1/2 Mile, Normalized
Share of Marginalized Populations within ½ Mile
Population Density
Employment Density
Number of Affordable Housing Units, Normalized
Presence of Higher Education
Level 2 Evaluation Total Score
Community Support
Transit Supportive Land Use Policies
Work completed to-date
Physical Space
Miles of Sidewalks within 1/2 mile of Corridor, Normalized
Miles of street with Bike Facility Present within 1/2 mile of Corridor, Normalized
Corridor Length
Freight Corridor
Readiness Total Score
Total Score
Proposed Tier
Geography / Jurisdiction
11 NW Lovejoy to Hollywood via Broadway/Weidler 2 Portland/Multnomah
14 Central City Tunnel 2 Portland/Regional
19 Beaverton - Portland - Gresham via Burnside 2 Washington/Portland/Multnomah
21 Hayden Island - Downtown Portland via MLK 2 Portland
23 Bethany to Beaverton via Farmington/SW 185th 2 Washington
25 Beaverton to Portland via Hwy 10 (BH Hwy) 2 Washington/Multnomah
22N St Johns - Downtown Portland via Vancouver/Williams, Rosa Parks 2 Portland
20 St. Johns - Milwaukie via Cesar Chavez 2 Portland
1 Portland to Gresham in the vicinity of Powell Corridor 3 Multnomah
22S PCC Sylvania to Downtown Portland via Capitol Hwy 3 Portland
5 Sunset Transit Center to Hillsboro via Hwy 26/ Evergreen 3 Washington
24 Swan Island to Parkrose 3 Portland
17S Oregon City to Downtown Portland via Hwy 43 3 Clackamas/Multnomah
18E Hollywood to Troutdale 3 Portland/Multnomah
27 Park Ave MAX Station to Oregon City via the McLoughlin Corridor 3 Clackamas
6 Beaverton - Tigard - Tualatin - Oregon City 3 Clackamas/Washington
4 Beaverton - Tigard - Lake Oswego - Milwaukie - Clackamas Town Center 3 Clackamas/Washington
9 Hillsboro to Forest Grove 4 Washington
10 Gresham to Troutdale 4 Multnomah
2 Tigard to Sherwood via Hwy 99W Corridor 4 Washington
3 Beaverton to Wilsonville in the vicinity of WES 4 Washington
15 Happy Valley to Columbia Corridor via Pleasant Valley 4 Multnomah/Clackamas
12 Clackamas Town Center to Damascas 4 Clackamas
26 Clackamas Town Center to Oregon City 4 Clackamas
8 Gateway to Clark County in the vicinity of I-205 Corridor 4 Multnomah/Clark
Legend
High
Low

Corridor Tiers



Appendix F
Corridor-level Needs Matrix

In development, forthcoming...