



# SOUTH SALEM TRANSIT CENTER AND MOBILITY HUB

SCREENING AND SITE  
RECOMMENDATION  
REPORT



# Draft South Salem Transit Center and Mobility Hub Screening and Site Recommendation Report

*Prepared for*

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## CITATION

Parametrix. 2022. Draft South Salem Transit Center and  
Mobility Hub Screening and Site Recommendation Report.  
Prepared by Parametrix, Portland, Oregon.  
June 2022.



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## ACRONYMS AND ABBREVIATIONS

Board	Cherriots Board of Directors
CAC	Citizen Advisory Committee
CSA	Comprehensive Systems Analysis
DBH	diameter at breast height
GIS	geographic information systems
NEPA	National Environmental Policy Act
OOH	online open house
SBP	Strategic Business Plan
SSTCMH	South Salem Transit Center and Mobility Hub
TCMH	Transit Center and Mobility Hub
TOD	transit oriented development





## EXECUTIVE SUMMARY

In June 2022, Cherriots completed a study to site a new South Salem Transit Center and Mobility Hub (SSTCMH) with the goal of improving mobility for riders living within and traveling to south Salem. The study was launched to determine a suitable site for the future SSTCMH with the goal of improving the quality of service and mobility options for transit users traveling to, from, and through south Salem. Generally bounded by the Willamette River, Interstate 5 (I-5), Fairview Industrial Drive SE, and Delaney Road SE, the project study area represented the area where it is expected the SSTCMH will be sited.

The study was undertaken in two phases. The first phase focused on identification of potential transit network modifications that were then used to inform design and siting needs for the future SSTCMH, studied as part of Phase 2. The findings and recommendations from Phase 1 are summarized in the South Salem Transit Center and Mobility Hub Transit Market Technical Assessment and this report documents the screening process and recommendations resulting from the analysis conducted during Phase 2.

The efforts undertaken during Phase 2 focused on four primary tasks:

1. Preparation of prototypical designs for the SSTCMH and enhanced “super” stops
2. Development of screening criteria and analysis of potential site suitability in accordance with these criteria
3. Initial outreach and due diligence to determine the willingness of owners to sell their property and investigate the sites for critical areas, protected plant or animal species, and the presence of hazardous materials
4. Public engagement that focused on soliciting feedback in response to the conceptual designs as well as any additional issues for consideration.

Using feedback received from the public during Phase 1, as well as input from the Citizens Advisory Committee (CAC), Board of Directors (Board), and community, the prototypical designs for the SSTCMH incorporated estimated operational and passenger facilities needs including:

- Bus shelters
- Bicycle storage and repair amenities
- Space for micromobility facilities
- Customer restrooms
- Space for transit passenger pickup and drop off
- Bus bays, including operational space for paratransit and microtransit
- A multipurpose open space/plaza
- Electric bus charging facilities
- Operator facilities

These designs helped to illustrate how large a selected site for the SSTCMH needed to be, which was a key factor in the screening process. Should super stops be developed in lieu of the SSTCMH, they would likely be developed in small, proximate clusters located on-street at transit transfer location.

## Site Evaluation, Screening, and Due Diligence

Several sites were evaluated as potential locations for the SSTCMH through a two-step process. The first step, known as a “fatal flaw analysis”, was applied to more than 12,000 parcels in the study area to eliminate those with significant constraints from further consideration. For example, all parcels that are

zoned as single-family residential were removed from further consideration, as development of a transit center is not a permitted use in these zones.

Upon completion of the Fatal Flaw analysis, 9 sites remained within the study area. The project team performed a detailed evaluation of these sites to identify the following three candidate sites, shown in Figure ES-1, for final consideration.

- Site D, located at the southwest corner of Fabry Road SE and Commercial Street SE
- Site F, located at the northwest corner of Wiltsey Road SE and Commercial Street SE
- Site 8, located at the northeast corner of Wiltsey Road SE and Commercial Street SE

Metrics considered during this evaluation addressed land use, transit operations, customer benefit, nonmotorized access, impacts to surrounding properties, costs, and potential for acquisition. Conceptual designs and cost estimates were prepared to help the project team to understand how the key elements of the SSTCMH would be applied at each site, the likely ingress and egress points for purposes of understanding potential traffic impacts, and whether the candidate sites are likely to be of sufficient size to accommodate all desired SSTCMH features.

## Next Steps

The findings included in this report will be used to inform final selection of the preferred site for the SSTCMH. Once identified by the Board of Directors, Cherriots will proceed with negotiations with the site owner(s) to acquire the desired property(ies). Additional steps that will be performed to develop the SSTCMH include:

- Preliminary environmental investigations
- Site boundary survey
- Preliminary and final design
- Environmental review
- Construction

Public engagement will be undertaken throughout all remaining steps of the development process.

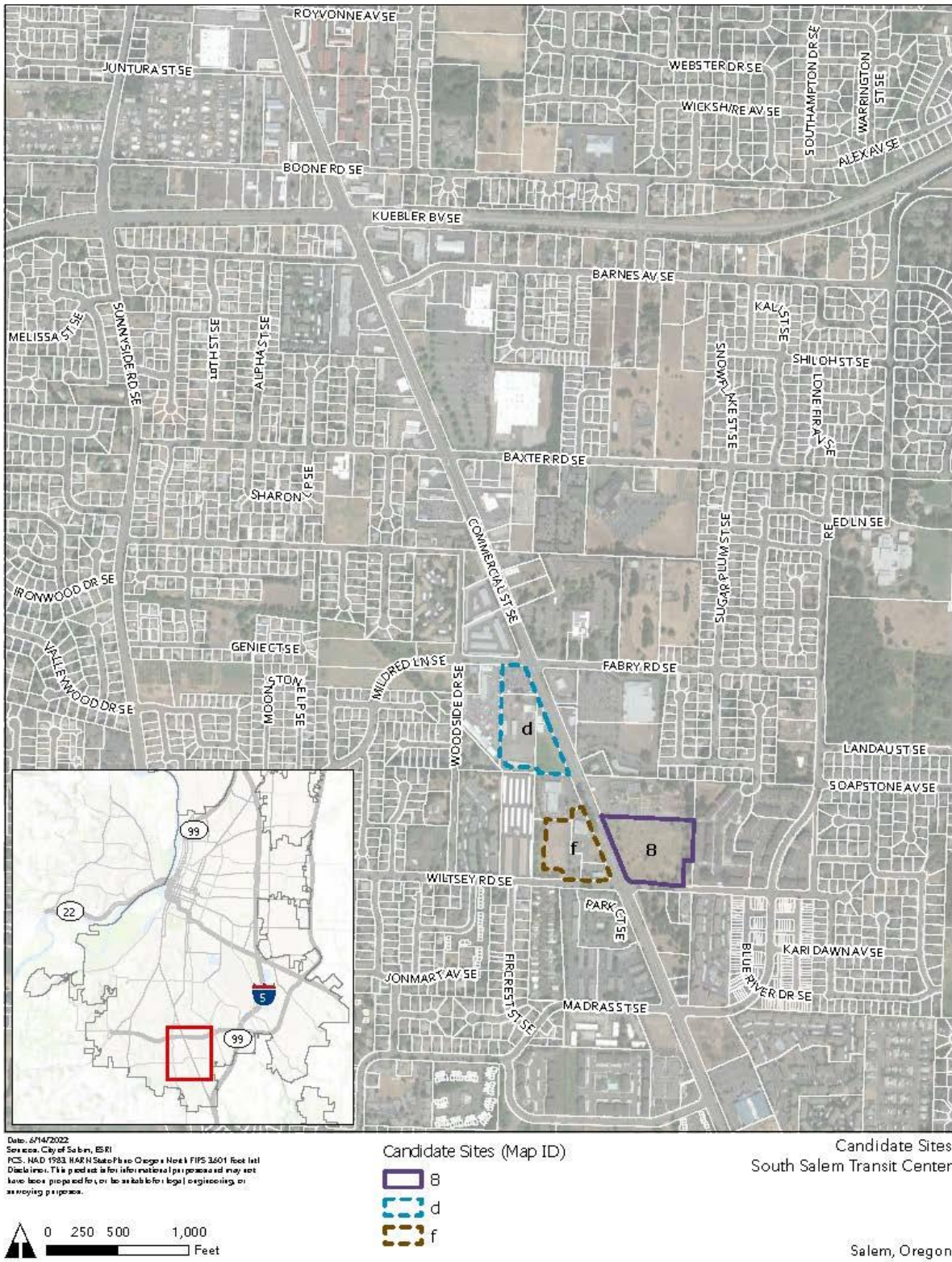


Figure ES-1. SSTCMH Candidate Sites



# 1. INTRODUCTION

## 1.1 Project Background and Purpose

As a public transit agency, Cherriots continuously strives to improve mobility for riders within its service area. To support people living within and traveling to and from south Salem, Cherriots is planning a new South Salem Transit Center and Mobility Hub (SSTCMH). This study was launched to identify and analyze potential transit network and service modifications, opportunities to improve access through new and emerging mobility options, and determine a suitable site for the future SSTCMH with the goal of improving the quality of service and mobility options for transit users.

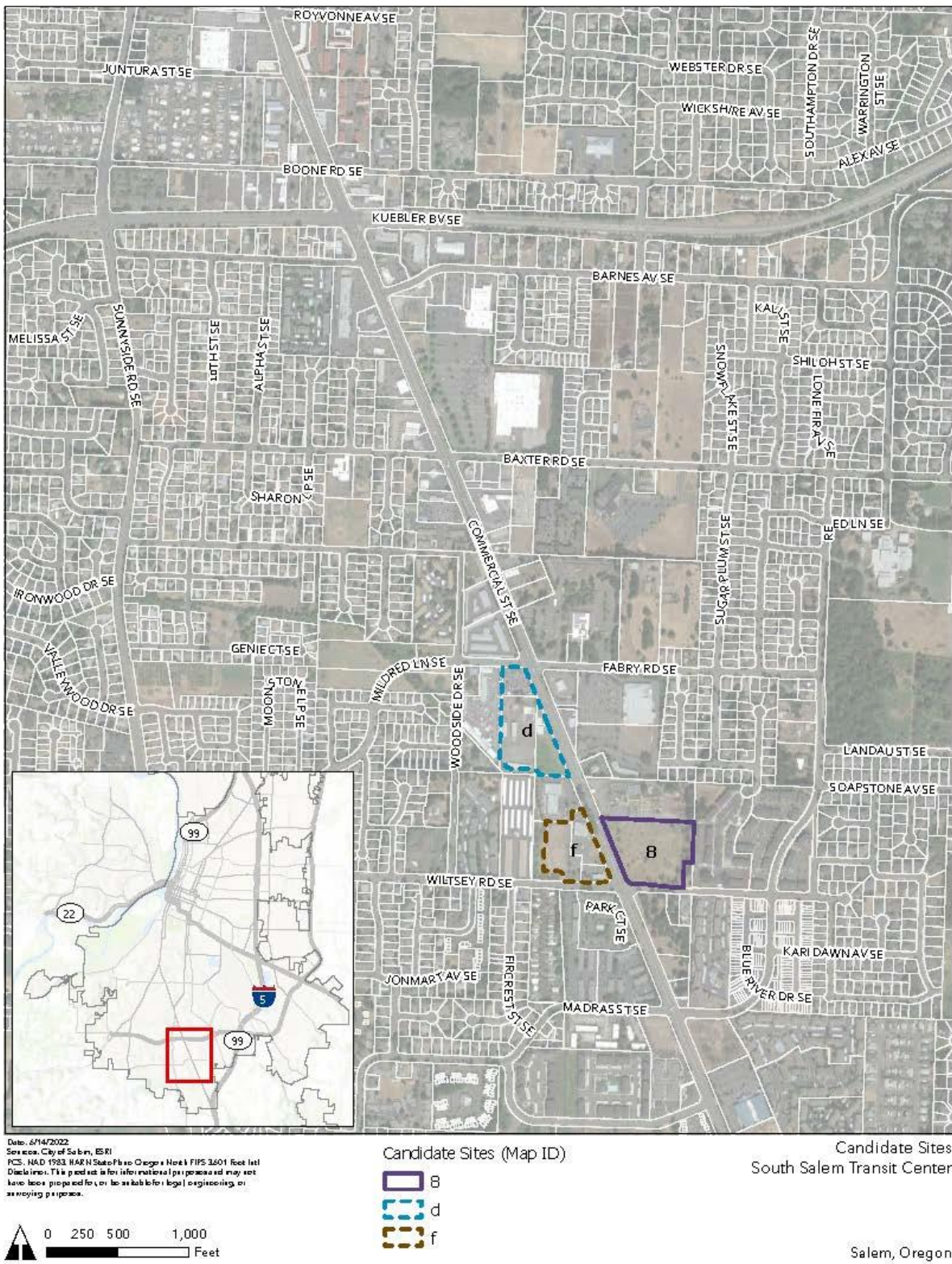
This study was undertaken during a period when transit and mobility are rapidly evolving. The COVID-19 pandemic changed assumptions about how, where, and when people will travel in the future, and the long-term effects of changes in travel patterns will be realized over the coming years. A new transit center and mobility hub in south Salem will provide opportunities to modify the transit network serving south Salem and accommodate new and emerging transportation options that can provide for seamless first- and last-mile options<sup>1</sup> for riders.

This study was undertaken in two phases, concluding with the recommendations in this report of three promising locations, listed below and shown in Figure 1-1, as well as conceptual designs, and cost estimates for a future transit center and mobility hub in south Salem.

- Site D, located at the southwest corner of Fabry Road SE and Commercial Street SE
- Site F, located at the northwest corner of Wiltsey Road SE and Commercial Street SE
- Site 8, located at the northeast corner of Wiltsey Road SE and Commercial Street SE

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<sup>1</sup> The distance between a traveler's origin/destination and a transit station/stop is commonly referred to as the first/last mile. <https://www.apta.com/research-technical-resources/mobility-innovation-hub/first-last-mile-solutions/>



**Figure 1-1. SSTCMH Candidate Sites**

The primary steps and key milestones associated with this study included:

- Phase 1 focused on assessment of the current and future transit market that informed development of a conceptual future transit network including routing as well as service frequency. These assumptions provided operational needs for site ingress and egress and the service frequency and service types were used to develop an appropriately sized prototypical design for the SSTCMH. The findings and recommendations from Phase 1 are detailed in the South Salem Transit Center and Mobility Hub Transit Market Technical Assessment. A Community Outreach Report was also prepared that summarizes the public engagement efforts undertaken and the feedback received during Phase 1.
- Phase 2 included the following four tasks:
  1. Development of a prototypical design for the SSTCMH. The prototypical design incorporated passenger amenities and the needed facilities to accommodate forecast bus volumes for all anticipated services based on the conceptual future transit network, as well as other mobility options such as shared micromobility<sup>2</sup>, parking, and charging.
  2. Development of siting criteria, assessment of potential locations, and identification of candidate sites for additional evaluation that incorporated the minimum site size informed by the prototypical design as well as the operational needs of the conceptual transit network.
  3. Initial outreach and due diligence to determine the willingness of owners to sell their property and investigate the sites for critical areas, protected plant or animal species, and the presence of hazardous materials. This task concluded with identification of recommended sites for potential future acquisition and development.
  4. Public engagement that focused on soliciting feedback in response to the conceptual designs as well as any additional issues for consideration

It is important to note that the final SSTCMH could be sited and developed in a variety of forms, including a single site that accommodates all needs or a series of enhanced “super” stops that collectively provide for the mobility needs in south Salem. Additionally, while this study resulted in both prototypical and conceptual designs for the facility, the exact facility features and amenities would be determined during a future phase of design work.

Both phases of the project were accompanied and informed by a robust public engagement process that engaged partner agencies, the citizen advisory committee (CAC), and the communities Cherriots serves.

### 1.1.1 Project History

Development of a transit center in south Salem has been an element of Cherriots’ planning efforts for many years. Beginning in 2004, the need for a transit center in south Salem was identified as part of Cherriots’ Strategic Business Plan (SBP). Upon adoption of the SBP, Cherriots began a site selection process for the South Salem Transit Center in parallel with the site selection process for the Keizer Transit Center. This effort concluded with recommendations for siting the South Salem Transit Center near Commercial Street SE and Madrona Street SE, and well as siting recommendations for the Keizer Transit Center.

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<sup>2</sup> Micromobility refers to a range of small, lightweight devices operating at speeds typically below 15 mph and that are ideal for trips up to about 6 miles. <https://www.itdp.org/multimedia/defining-micromobility/>

With these recommendations, Cherriots pursued grant funding for construction of the two transit centers. These efforts were successful for the Keizer Transit Center, which opened in 2013; however, funding was not secured for the South Salem Transit Center until 2015 via Connect Oregon V. This funding, along with the match provided through the Salem-Keizer Area Transportation Study, allowed Cherriots to complete the site selection process, identifying the property occupied by the south Salem Walmart as the preferred site for the South Salem Transit Center.

With this decision, Cherriots completed an existing conditions report, performed public outreach, and prepared a documented categorical exclusion report for compliance with the National Environmental Policy Act. Additional work included development of appraisals, site topographical surveys, and the preliminary design shown in Figure 1-2 to prepare for purchase of the property. Cherriots negotiated with the property owner for purchase of the property; however, the offer was not accepted, and the only remaining option to acquire the property was the condemnation process. This was expected to be a lengthy and costly process, and thus, Cherriots abandoned pursuit of this location for the South Salem Transit Center.

Additionally, Cherriots' operating environment has changed, similar to many other transit agencies who have shifted away from providing large capacity bus or rail services and toward a mix of services including fixed-route and on-demand services, as well as accommodations for microtransit<sup>3</sup> and micromobility options such as shared scooters or bicycles. This expanded accommodation of services will combine to create a hub for transit access in south Salem, improving mobility for all users.



**Figure 1-2. Preliminary Site Design for the South Salem Transit Center at the South Salem Walmart Property**

<sup>3</sup> Small-scale, on-demand public transit services that can offer fixed routes and schedules, as well as flexible routes and on-demand scheduling. <https://www.apta.com/research-technical-resources/mobility-innovation-hub/microtransit/>



## 1.2 Study Area

The south Salem study area was generally bounded by the Willamette River, Interstate 5 (I-5), Fairview Industrial Drive SE, and Delaney Road SE as shown in Figure 1-3. The study area represented the area where it is expected the SSTCMH will be sited to maximize the potential for mobility in south Salem. However, the study looked beyond these borders to the broader community served by Cherriots to fully address the transit needs of people traveling to, from, and within south Salem.



## 1.3 Public Outreach

Community engagement associated with Phase 2 comprised outreach to the community as well as presentations to the Citizen Advisory Committee (CAC) and Cherriots Board of Directors (Board).

Public outreach with the community was undertaken from September to October 2021. Engaging the entire community, including traditionally underserved populations, was a major priority of the engagement program. Initial demographic research revealed that there is a large Spanish-speaking population in the study area; as a result, the project team translated materials into Spanish.

The primary objective for the second phase was to report back to the community regarding:

- Findings from the community survey (conducted in spring 2021) and technical analysis
- How that information influenced design concepts
- Next steps in the study process

Phase 2 outreach activities included an update to the project landing page ([www.southsaalemTC.org](http://www.southsaalemTC.org)) developed during Phase 1 and the launch of an online open house (OOH). Landing page updates included a revised project timeline and the addition of study resources from the first phase of outreach. Updates were made in both English and Spanish. The English page was viewed almost 1,000 times by more than 580 unique visitors and the Spanish page was viewed 5 times by 5 unique visitors.

The OOH was developed in English and Spanish using the ArcGIS StoryMaps platform. Content included text, charts, and maps to walk the community through what Cherriots learned from the Phase 1 community survey and transit market technical assessment. The public could access the OOH through the study landing page between September 27 and October 18, 2021. Additionally, the OOH directed people to visit the landing page to learn more about the project.

The OOH was promoted using transit center and on-bus notifications, outreach emails, and social media posts. All notifications included content in both English and Spanish and referred interested community members to the project landing page where they could access the OOH.

In addition to the activities above, the project team conducted a statistically significant survey of south Salem residents to understand attitudes, needs, and habits with respect to transit. This survey provided important information about the community's preferences and desires for a future SSTCMH.

The Community Outreach Report summarizes the public engagement efforts undertaken and the feedback received during Phase 2.

Presentations to the CAC were made in September 2021 and April 2022 and the Board in November 2021.

## 1.4 Limitations of This Study

This study is based on current information, including existing conditions, available natural resources maps, and adopted plans and policies. Limited on-site evaluations were performed as part of the due diligence task. No critical areas delineations, land survey, or soils testing for hazardous material were performed. The findings and recommendations detailed in this report should not be construed as a commitment to develop the SSTCMH at any of the evaluated sites in south Salem.

The conceptual transit network developed during Phase 1 served as a basis for many of the assumptions employed in this study. Portions of the analysis describe the potential for redesign of some Cherriots

routes. Potential route modifications described in this report should not be construed as a commitment by Cherriots to modify service.

It is important to note that this study has a limited scope and therefore does not evaluate or document environmental impacts pursuant to the National Environmental Policy Act (NEPA). The conceptual designs included in this report are meant to represent potential transit passenger facility layouts for each site. They should not be construed as preferred or final designs for any of the sites.

## 1.5 Report Organization

This report is organized into the following four chapters:

Chapter 1, Introduction, describes the project background and purpose, the study area, public outreach and the limitations of the study.

Chapter 2, Project Context and Analysis Assumptions, details the assumed transit network and associated operations, the existing and planned transportation services and facilities within the study area, and prototypical design developed for the SSTCMH.

Chapter 3, Evaluation Screening, describes the steps used to evaluate sites within the study area for siting of the future SSTCMH. It details the criteria used to objectively analyze the viability of each site. This section includes the results of the evaluation screens that narrowed the potential sites for consideration. The conceptual designs and cost estimates for the recommended sites are included in this section.

Chapter 4, Recommendations and Next Steps, describes the recommendations based on the results of this analysis.

## 2. PROJECT CONTEXT AND ANALYSIS ASSUMPTIONS

### 2.1 Assumed Transit Network and Operations

The key findings of the Transit Market Technical Assessment contributed to development of assumed future network changes that were used to analyze and screen potential sites for the SSTCMH.

Considerations that contributed to the recommendation are summarized in Table 2-1 and included:

- Findings from previous Cherriots studies
- Existing and planned land use changes
- Service to traditionally transit-dependent populations served by the Cherriots network
- The presence of sidewalks and bicycle facilities are in the study area
- Employment and population growth
- Public input received in response to a survey performed for this project
- Current and future travel patterns

Because the network would differ based on the location of the SSTCMH, the following service changes were assumed as applicable to the site:

- The Kuebler Link would be implemented, with connections at Commercial Street SE near the intersection with Kuebler Boulevard.
- Routes 6, 8/18, and 21 would be modified to serve the SSTCMH, with it serving as a stop along the route or a new terminus
- Service frequencies for Routes 6, 8/18, and 21 would remain constant with current levels

It is important to note while these are all important considerations for the network in this area, that does not necessarily mean that solving these challenges would be a priority for Cherriots in the context of other needs elsewhere.

**Table 2-1. Recommended Network Revisions in South Salem**

<b>Factor/Consideration</b>	<b>Potential Strategies</b>	<b>Related Plans</b>	<b>Cost Impact</b>	<b>Role of SSTCMH</b>	<b>Land Use Factors</b>
Access to downtown from Fairview Industrial Dr/ Route 6.	Increase frequency of Route 6.	2017 Needs Assessment Report, A Better Cherrriots	Expansion	Potential layover for future 30 -minute Route 6. This probably requires splitting the route or creating a short line.	
Access to employment areas apart from downtown from areas away from Commercial St SE.	Increase frequency on Routes 6, 8, and 18, create an east-west Kuebler Link, or extend Route 11.	Ongoing Kuebler Link planning	Expansion; providing bus stops along Kuebler Blvd could be costly	Potential terminus for future service connecting south Salem to Lancaster Drive via Kuebler Blvd.  Consider development of a “super stop” near WinCo Foods on Rickey St SE to facilitate transfers between Routes 4 and 11 and potential Kuebler Blvd service or, alternatively, a super stop at location of existing southern Route 11 terminus at the Marion County Jail.	
East-west access within south Salem connecting areas on either side of Commercial St SE.	Extend routes such as 6, 8, or 18 into opposite area. This may not be practical given runtime constraints with downtown pulse.  Improve coordination of transfers (timing, walk connection) between Routes 6, 8, and 18.	2017 Needs Assessment Report	Possibly no or low cost, depending upon location of future SSTCMH	Timed transfer point for connections between routes. A new facility would create space for vehicles to hold together and greatly reduce walk required for transfer.	Most significant employment growth opportunities are located east of Commercial St SE.  Residential growth is projected along and near Liberty Rd S.
Connection to the Salem-Albany route.	If the Intercity Service alternative is selected, provide a connection between local routes and the Salem-Albany route at the future SSTCMH.	Salem-Albany Corridor Feasibility Study	Possibly no or low cost, depending upon location of future SSTCMH	Timed transfer point for connections between routes.	

Factor/Consideration	Potential Strategies	Related Plans	Cost Impact	Role of SSTCMH	Land Use Factors
More recently developed areas such as those south of Mildred Ln and the south end of Sunnyside are far from existing transit services and have poor job access.	New coverage services.	2017 Needs Assessment Report	Expansion	Potential coordination point for coverage feeders.	Growth in these areas has predominantly been characterized by owner-occupied, single-family attached (townhome) and detached residential. Multifamily (senior, affordable, and market-rate) generally locate along Commercial St SE and, to a lesser extent, Liberty Rd S.
Relatively few zones in Salem code allow “ground transportation facilities.”	Provide transit service along corridors where adjacent zoning would allow for development of the SSTCMH or prepare for variance or rezoning process. Track comprehensive plan update.	Comprehensive plan update; Salem Municipal Code			The SSTCMH should be compatible with most or all Commercial and Employment Zones. Work with City to guide comprehensive plan update.
Evidence of one-way commute patterns from south Salem (e.g., to downtown).				Serve as connector to downtown and NE.	Almost two-thirds of the land use acreage in the study area is residential.
Employment growth is projected/expected in currently underserved locations.	Expand transit service to southeast Salem (Mill Creek Employment Center) from south Salem.	2014 CSA; Comprehensive Plan	Expansion	Potential connection to broaden reach of transit service from south Salem to east and southeast Salem.	New and proposed developments (including Amazon) will increase demand for transit service. Southeast Salem was not previously projected for significant growth.
Limited availability of developable land on main arterials, likely resulting in slower growth and limited change in existing land use patterns that are relatively low density.	Target transit service at current and expected activity nodes.	2014 CSA; Comprehensive Plan	Increase likely	Highlights importance of local area mobility hub(s) and/or on-demand transit service.	The economics of development in south Salem are unlikely to warrant redevelopment of existing property. Zoning changes to Mixed-Use along Commercial St SE will improve prospects.

Factor/Consideration	Potential Strategies	Related Plans	Cost Impact	Role of SSTCMH	Land Use Factors
No direct connection between south Salem and job centers in East Salem, Lancaster Corridor, or Mill Creek Industrial Center.	Extend or alter Route 11, initiate Kuebler Link service, or other service changes.		Increase; providing bus stops along Kuebler Blvd could be costly	Increases importance of crossing point of Route 11/Kuebler Link and Route 21. Consider development of a “super stop” near WinCo Foods on Rickey St SE to facilitate transfers between Routes 4 and 11 and Kuebler Link route or at the existing Route 11 terminus at the Marion County Correctional Facility.	Outside of downtown, east Salem/Lancaster corridor is one of Salem’s largest employment centers and a significant destination for south Salem workers. Jobs are planned for Mill Creek Industrial Center, but evidence of job growth is limited. Kuebler Blvd functions as a limited-access highway for portions of its length through the study area and east toward I-5/Lancaster Drive, with high traffic speeds and infrequent opportunities for pedestrian crossings. Developing transit stops in this environment presents challenges due to long walk distances and potentially uncomfortable stop-waiting conditions.

CSA = Comprehensive Systems Analysis



## 2.2 Existing and Planned Transportation Services and Facilities

The Salem CIP identifies many projects that would improve the transportation environment in the study area, with focus on intersection improvements, signalization, and a buffered bicycle lane along portions of Commercial Street SE.

Funded capital improvement projects within the study area are shown on Figure 2-1 and include:

- Intersection improvement with signal upgrade at Commercial Street SE and Hilfiker Lane SE
- Buffered bicycle lanes along Commercial Street SE from Oxford Street SE to Winding Way SE
- Signal improvements along Commercial Street SE from Fairway Avenue SE/Robins Lane SE to Madrona Avenue
- Traffic signal improvements along Hawthorne Avenue, Kuebler Boulevard, Lancaster Drive, and Market Street
- Multimodal safety crossings on Jones Road SE adjacent to Judson Middle School
- Pedestrian crossing at Liberty Road S adjacent to Liberty Elementary School
- Traffic signal improvements at the intersection of Sunnyside Road SE and Mildred Lane SE
- Traffic signal improvements at the intersection of Liberty Road S and Cunningham Lane S
- Traffic signal improvements at the intersection of Liberty Road S and Browning Avenue S
- Traffic signal improvements at the intersection of Pringle Road SE and Madrona Avenue S
- New streetlight installation along Boone Road SE between Sunnyside Road SE and Commercial Street SE
- Streetlight pole rehabilitation along portions of Sugar Plum Street SE, Sylvan Avenue SE, and Sunland Street SE

South Salem Transit Center  
 Site Screening and Selection Recommendation  
 Cherris

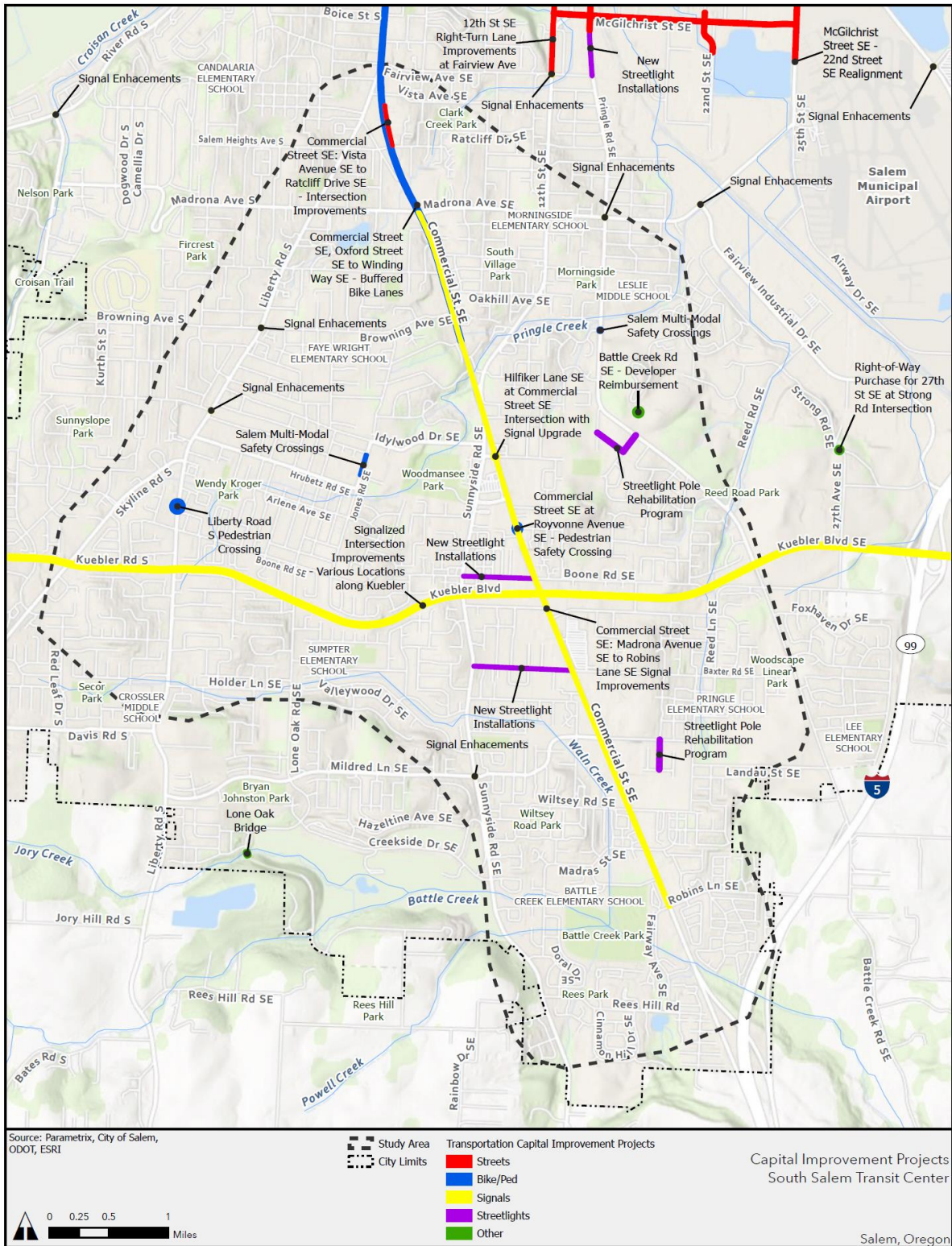


Figure 2-1. Funded Capital Improvement Projects

## 2.3 Prototypical Design

Prior to beginning the screening process, prototypical designs for both the SSTCMH and a super stop were prepared. These designs served as a starting point for selecting potential sites, as they helped to illustrate how large a site needed to be to accommodate all operational and passenger facilities needs which would in turn inform where in South Salem a transit center is most feasible. The features included in the conceptual designs, shown in Figure 2-2 through Figure 2-5, were based on conversations with staff as well as feedback from the CAC, Board, and community.

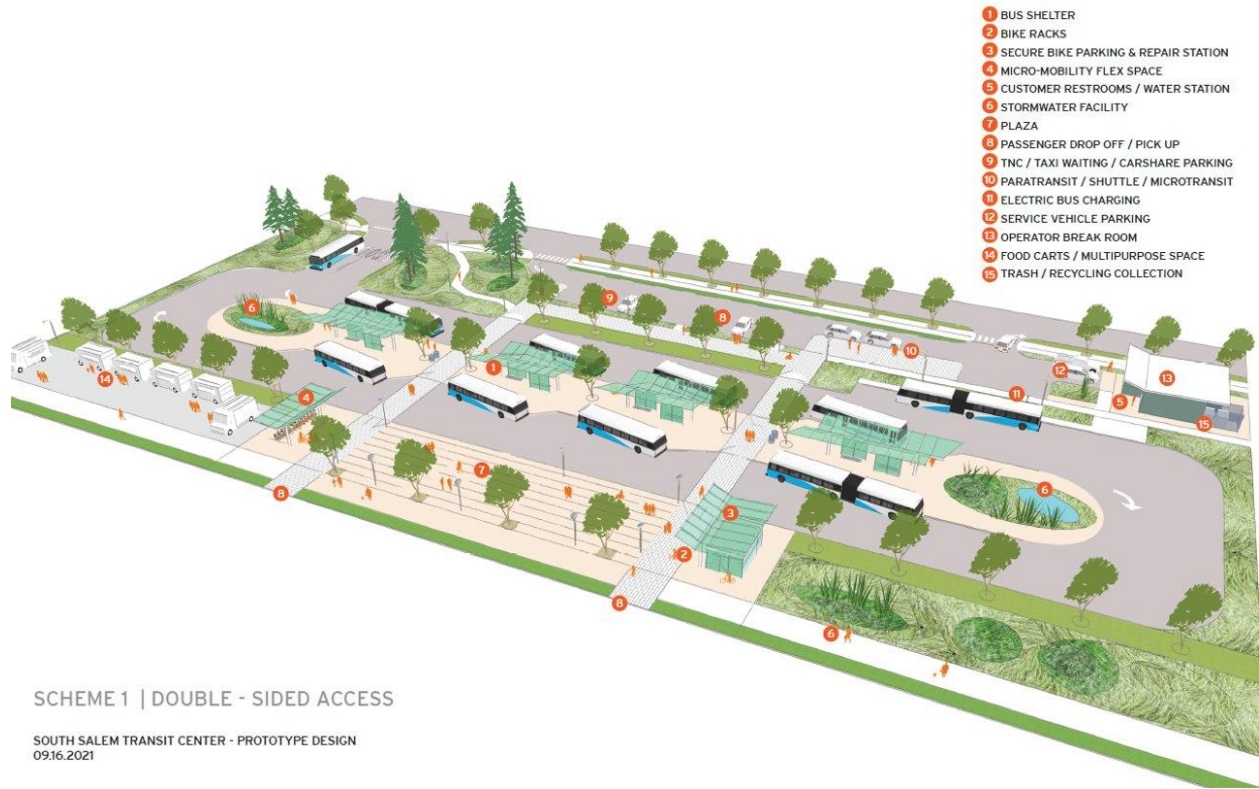
Features of the SSTCMC prototypical design include:

- Bus shelters
- Bicycle storage and repair amenities
- Space for micromobility facilities
- Customer restrooms
- Space for transit passenger pickup and drop off
- Bus bays, including operational space for paratransit and microtransit
- A multipurpose open space/plaza
- Electric bus charging facilities<sup>4</sup>
- Operator facilities

Because they are smaller in scale than a transit center, the super stop prototypical design includes fewer features and amenities. In lieu of a transit center or mobility hub, super stops would likely be developed in small, proximate clusters located on-street at transit transfer locations.

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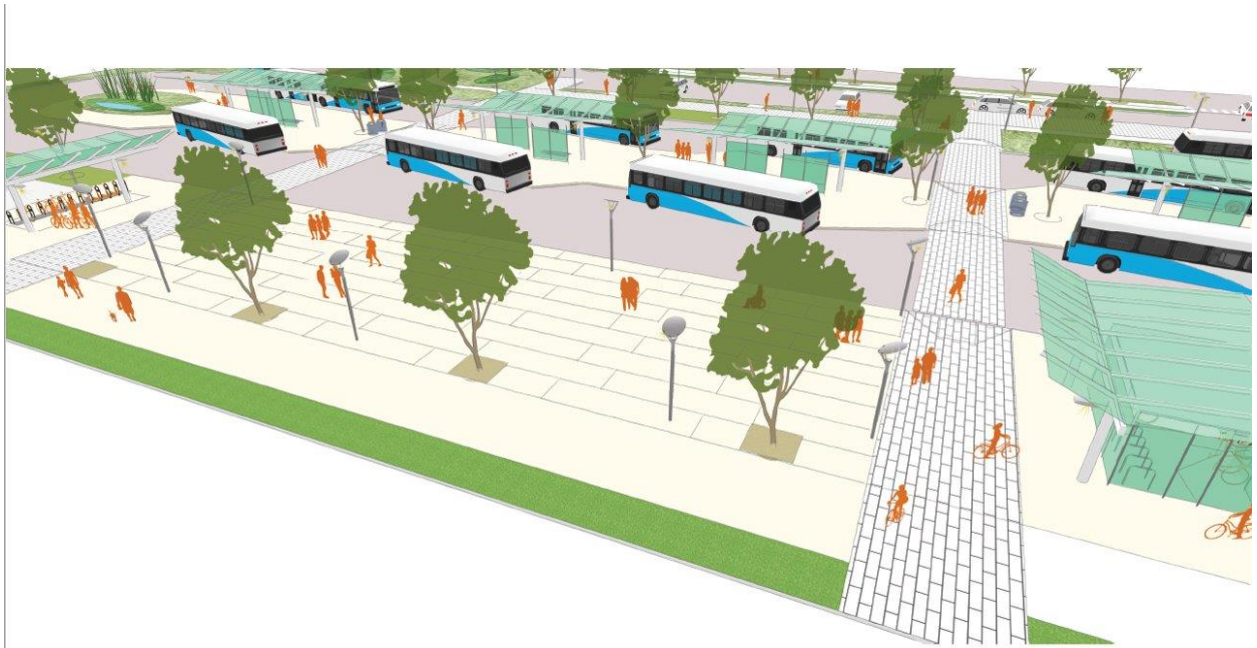
<sup>4</sup> Cherriots plans to convert its existing bus fleet for all fixed route service to electric buses by 2040.



SCHEME 1 | DOUBLE - SIDED ACCESS

SOUTH SALEM TRANSIT CENTER - PROTOTYPE DESIGN  
 09.16.2021

Figure 2-2. SSTCMH Prototypical Design – View 1



SCHEME 1 | DOUBLE - SIDED ACCESS, DETAIL

SOUTH SALEM TRANSIT CENTER - PROTOTYPE DESIGN  
09.16.2021

Figure 2-3, SSTCMH Prototypical Design – View 2

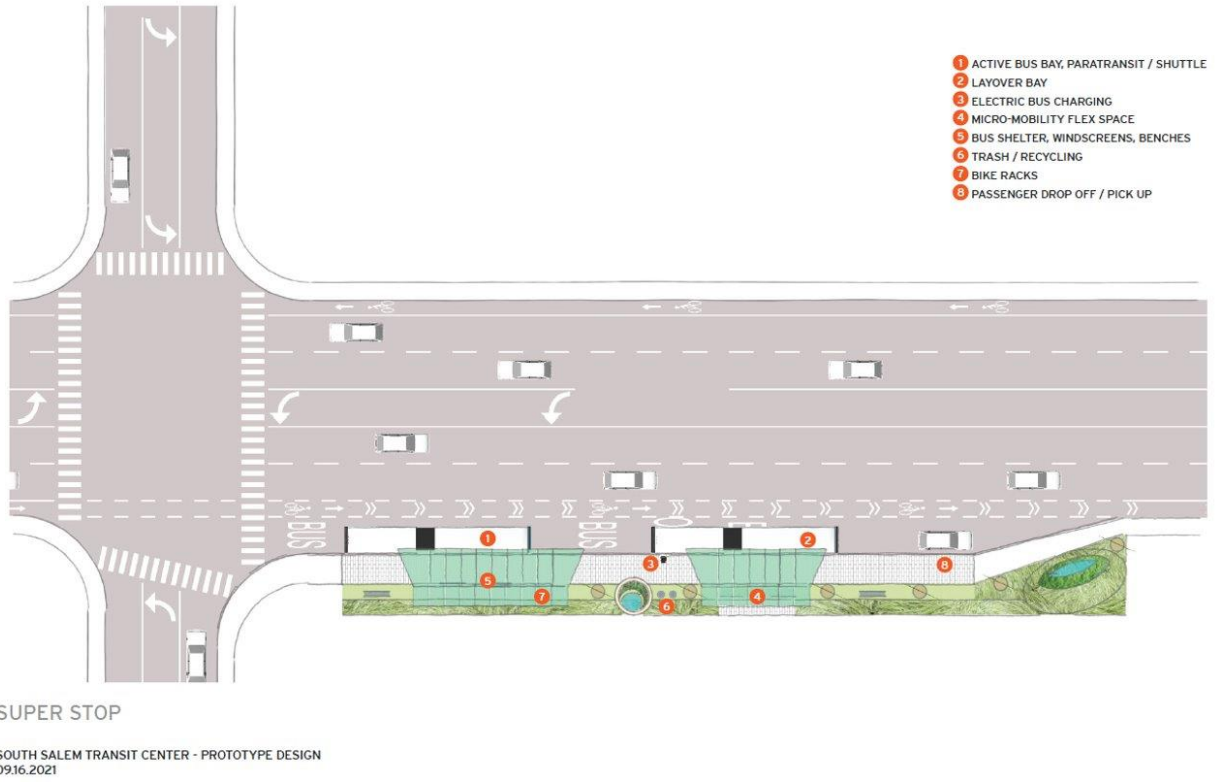


Figure 2-4. South Salem “Super Stop” Prototypical Design – View 1

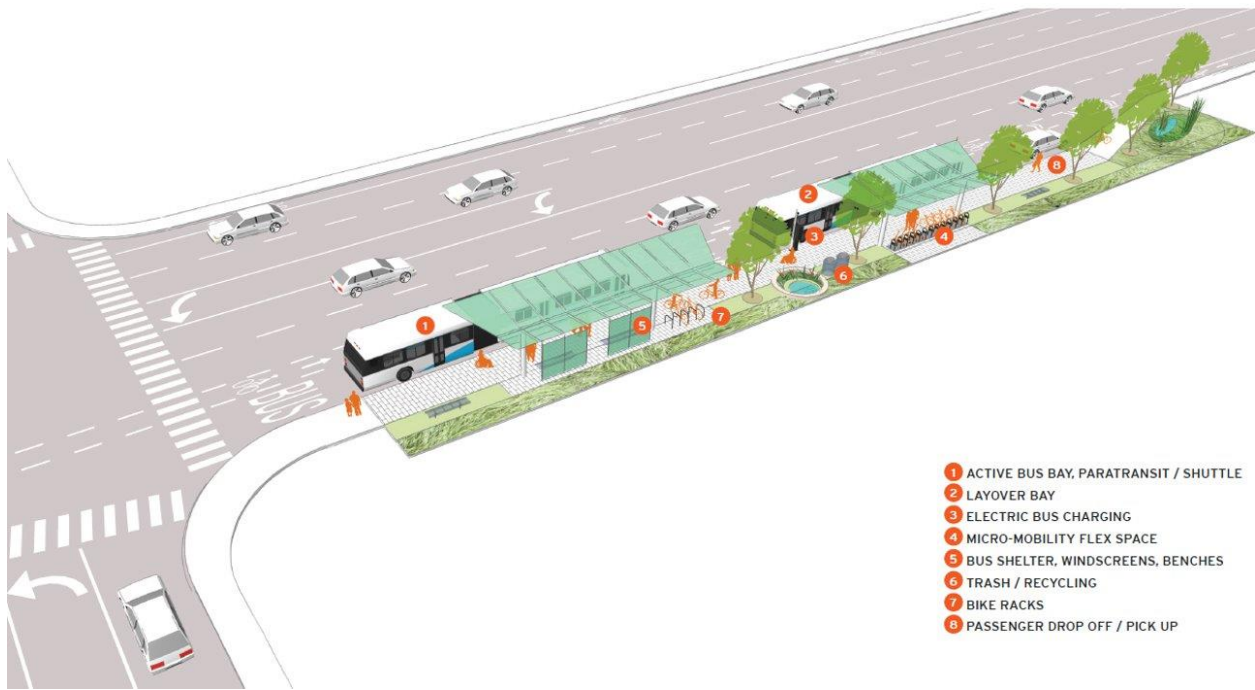


Figure 2-5. South Salem Super Stop Prototypical Design – View 2





### 3. EVALUATION SCREENING

Sites were evaluated as potential locations for the SSTCMH through a two-step process. Each step was designed to reduce the total number of sites for evaluation, based on criteria developed to identify a location that achieved the project goals. Upon completion of each step, the results were reviewed and verified with Cherriots staff.

#### 3.1 Fatal Flaw Analysis

The Fatal Flaw analysis process was applied to all parcels within the study area to eliminate those with significant constraints from further consideration. For each objective, a parcel was scored as “yes” or “no.” Sites scored as “no” for Criteria 1 through 5 were removed from further consideration, while those scored as “yes” advanced to the initial screening. For Criterion 6, sites for which acquisitions had been previously unsuccessful were eliminated from consideration unless ownership had changes. Table 3-1 lists the Fatal Flaw analysis criteria.

**Table 3-1. Fatal Flaw Analysis Criteria**

Objective	Evaluation Criteria
1. Consistent with land use regulations	Does the existing/planned zoning allow transit center/mobility hub as a permitted or conditional use?
2. Proximate to transit service	Is the site located within a ½ mile driveshed of an assumed bus route, with travel path along arterial streets?
3. Meets minimum size and dimension requirements	Is the site at least 3.25 acres in size (minimum size could be attained through parcel assemblage) with dimensions that can accommodate the SSTCMH?
4. Avoid impacts to critical areas	Is the site sufficiently free of critical areas such that the site has the minimum required developable area to accommodate the SSTCMH?
5. Site Value	Is the site valued at less than \$5 million?
6. Has potential for acquisition	Is the site a location with previous unsuccessful efforts to negotiate an acquisition? If so, has there has been a change in ownership?

The Fatal Flaw process was conducted as a process of elimination using geographic information systems (GIS). The study area included more than 12,000 parcels, and GIS served as a useful tool to manage the large data set. The criteria were analyzed in the following order, with parcels eliminated accordingly, resulting in a smaller data set for each subsequent criterion. In some instances, parcels were analyzed in a manner that allowed for potential assemblage to create a development site.

1. **Does the existing/planned zoning allow transit center/mobility hub as a permitted or conditional use?** If the zoning of a parcel prohibited development of a transit center, it was removed from further consideration. Parcels with zoning that allows a transit center as a permitted use or with a conditional use permit were advanced in the analysis. This criterion eliminated the majority of parcels in the study area from further consideration, as most are zoned single family residential.
2. **Is the site located within a ½ mile driveshed of an assumed bus route, with travel path along arterial streets?** The purpose of this criterion was to ensure that access to the SSTCMH would not require a long diversion from existing or planned transit service routes. The driveshed was

measured using existing roadways. All parcels beyond a half-mile drive were eliminated. Remaining parcels predominantly clustered around Liberty Road S, Commercial Street SE, Madrona Avenue SE, and Kuebler Boulevard SE.

3. **Is the site at least 3.25 acres in size (minimum size could be attained through parcel assemblage) with dimensions that can accommodate the SSTCMH?** Only sites with critical areas that were expansive enough to preclude development were removed from consideration.
4. **Is the site sufficiently free of critical areas such that the site has the minimum required developable area to accommodate the SSTCMH?** The remaining parcels were evaluated to determine if they were large enough to accommodate the minimum facility needs. If not, they were evaluated to determine if they could be combined with an adjacent parcel(s) to create a site that met the minimum size and shape requirements.
5. **Is the site valued at less than \$5 million?** Sites with an assessed value of more than \$5 million were eliminated from consideration.
6. **Is the site a location with previous unsuccessful efforts to negotiate an acquisition? If so, has there been a change in ownership?** Sites that were previously identified for the SSTCMH and for which negotiations were unsuccessful were development as a park & ride. As noted in Section 1.1.1, Cherriots' previous attempts to secure property at the Walmart site in south Salem were unsuccessful. Since the site is still under the same ownership, it was believed future attempts to secure the site would be unsuccessful as well and this location was removed from consideration.

Upon completion of the Fatal Flaw analysis, 9 sites remained within the study area. Figure 3-1 identifies these sites, which were advanced to the Initial Screen evaluation. Of these nine sites, only Site 8 is entirely vacant, with no structures or commercial activity underway on the site. Additionally, during the Fatal Flaw analysis, several possible assemblages of parcels were not considered. These sites were generally composed of parcels that were evaluated. These supplemental assemblages are shown in Figure 3-1 and labeled with letters.

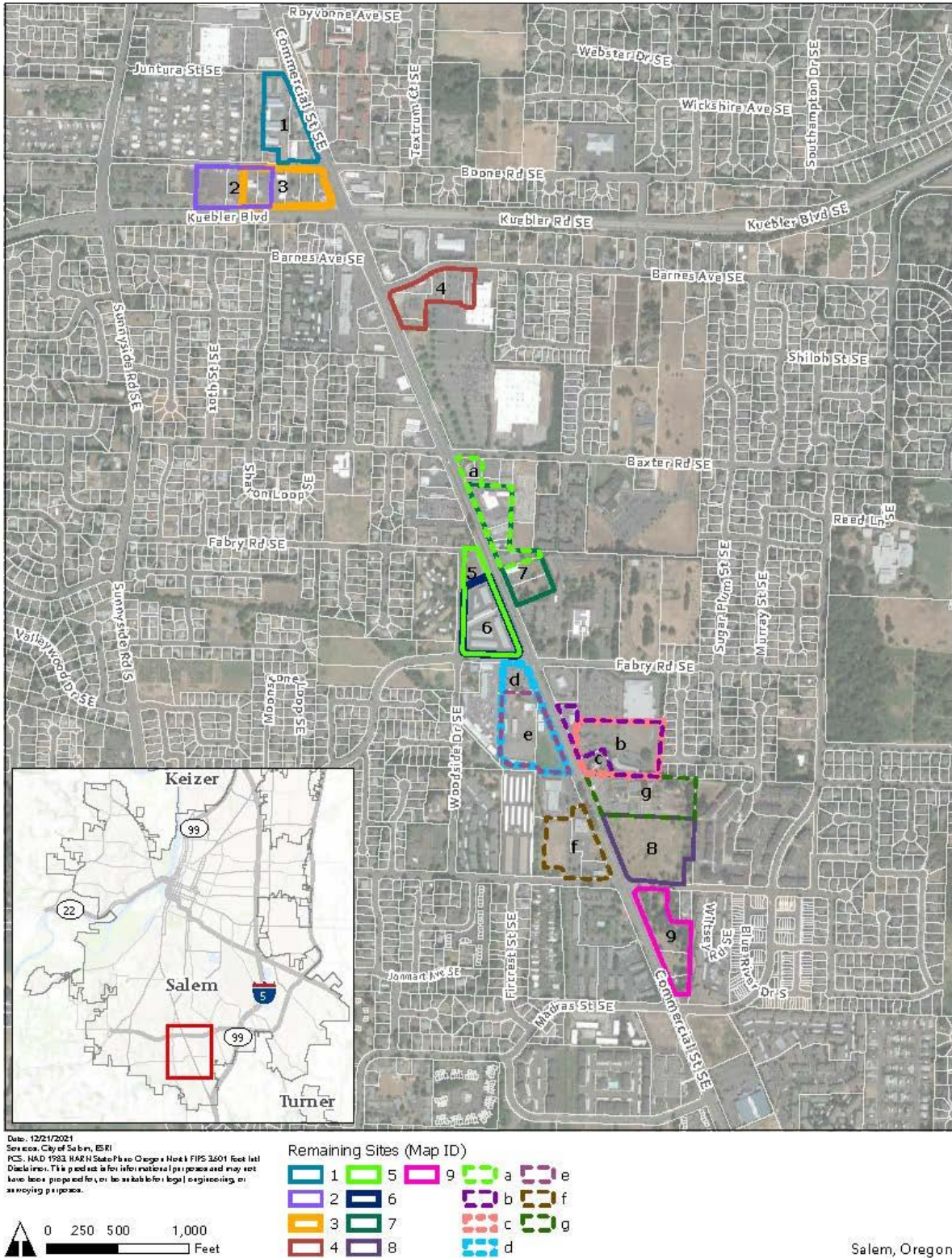


Figure 3-1. Sites Advanced to Initial Screen

## 3.2 Initial Screen Evaluation

The Initial Screen evaluation continued the process to reduce the number of potential sites for consideration. Metrics addressed land use, transit operations, customer benefit, nonmotorized access, impacts to surrounding properties, costs, and potential for acquisition. Table 3-2 lists the criteria used in the Initial Screen evaluation and identifies whether measures were analyzed qualitatively or quantitatively.

**Table 3-2. Initial Screen Evaluation Criteria**

Objective	Evaluation Criteria
Current land uses	How densely developed is the area near the site?
Opportunities for transit oriented development (TOD)	How well do the Comprehensive Plan and zoning of the site and surrounding properties support development of TOD?
Efficient transit operations	How efficiently can buses access the site? Would a signal be needed to facilitate efficient ingress and egress? If so, does a traffic signal exist or is development of a traffic signal feasible to improve transit and vehicular access to/from the site?
Minimize travel time	How much out of direction travel/deadhead time would be required to access the site?
Access to jobs	How well would the site location facilitate access to jobs?
Ridership potential	How would ridership change based on the site location?
Impacts to traffic operations	Is there potential for the TCMH to impact existing and forecast traffic operations?
Accessibility for nonmotorized users	How accessible is the site by cyclists and pedestrians via existing or planned dedicated non-motorized facilities (e.g. sidewalks, trails, bicycle lanes)?
Potential to expand to include a park & ride in the future	Is the site large enough to accommodate development of a parking facility in the future?
Noise	Would sensitive noise receptors (hospitals, hotels) be negatively impacted by placement and operation of the TCMH?
Hazardous materials	Is remediation likely to be needed based on existing or past uses at the site?
Impacts to existing residents and/or commercial spaces	Would existing residents and/or businesses need to be relocated?
Development costs	Is the site free of challenging topography or other critical areas that would increase construction costs on the site (e.g., there are no steep slopes or no retaining walls/other infrastructure is required)?
Ease of acquisition	Is the site actively being offered for sale? Has the site been mentioned as one that could be for sale by market participants/brokers in the area? Is the site vacant or underdeveloped in a manner that could result in acquisition negotiations that are less complicated than those for developed properties (e.g. residential or business relocation is not required)?
Acquisition costs	How much would it cost to acquire the property, including estimated property acquisition, relocation, and reestablishment costs?
Qualitative Assessment	
Quantitative Assessment	

The Initial Screen evaluation was performed with all criteria equally weighted. Sites were ranked on a scale of 1 to 5 for each criterion relative to other sites and the maximum possible score for a site was 70. **Error! Not a valid bookmark self-reference.** summarizes the results of the Initial Screen evaluation with no weighting. Notes accompanying this evaluation are provided in Appendix A. As noted previously, several possible assemblages of parcels were not considered during the Fatal Flaw analysis. These sites were generally composed of parcels that were evaluated during the Initial Screening and thus would have presented comparable results to sites with similar parcel makeup or in close proximity. These additional sites were not evaluated independently analyzed during Initial Screening. These sites were assigned identification letters, as shown in Figure 3-1.

Key findings associated with the Initial Screen results with no weighting included:

- Sites located in the southern portion of the study area (Sites 7, 8, and 9) presented the best opportunities for efficient access, as they are not subject to the higher degrees of traffic congested experienced closer to the intersection with Kuebler Boulevard SE. Existing traffic signals could be used to facilitate efficient access to these sites.
- Sites located in the northern portion of the study area near Kuebler Boulevard (Sites 1 through 4) SE presented the best opportunities to minimize travel time, including deadhead time, to access them. However, these sites also presented significant challenges associated with ingress and egress to and from Commercial Street SE and Kuebler Boulevard. There would be limited, if any, options for installation of new traffic signals that could facilitate transit operations, likely resulting in circuitous routing where left turns were not possible.
- Access to jobs and ridership potential were effectively synonymous with each other, as the likelihood of ridership was strongly tied to transit access to areas of employment.
- Sites 2, 8, and 9 presented the greatest ease of acquisition, as they are either vacant (Site 8) or were underutilized.
- Many sites are currently developed with multiple structures and businesses and/or had multiple owners, which could influence the ease of acquisition and the need for business relocations.
- Site 8 presented the highest composite score (60). Site 9 presented the second highest score (55) and Sites 3 and 4 each presented the third highest score (49).

A second Initial Screen evaluation was performed with the following criteria provided double weighting:

- Criterion 3 – Efficient Transit Operations
- Criterion 4 – Minimize Travel Time
- Criterion 5 – Access to Jobs
- Criterion 12 – Ease of Acquisition
- Criterion 13 – Acquisition Costs

With the weighting, the maximum possible score for a site was 90. Table 3-4 summarizes the results of the Initial Screen evaluation with this weighting applied. With the weighting applied, the relative performance remained the same, with the same 4 sites exhibiting the highest scores in the same order.

Upon completion of the Initial Screen evaluation, the project team assessed any unique factors among the sites.

- It was determined that sites in close proximity to Kuebler Boulevard (Sites 1 through 3) would likely present too many challenges associated with ingress and egress.
- The presence of the Portland General Electric facility on Site 4 would likely present a significant expense for relocation and it was removed from further consideration.
- Site 9 includes many large Oregon white oak trees. The City of Salem Unified Development Code includes provisions that designate Oregon white oak trees with a diameter at breast height (dbh) of 20 inches or greater as significant trees, subject to supplemental conservation and permitting requirements. The size and quantity of trees on Site 9 would present considerable challenges associated with development and it was removed from further consideration.
- Given its high screening score, vacant status, and location adjacent to the traffic signal at Wiltsey Road SE to facilitate ingress and egress, Site 8 was identified for further consideration.
- As noted previously, several possible assemblages of parcels were not considered during the Fatal Flaw analysis. These sites were generally composed of parcels that were evaluated during the Initial Screening and thus would have presented comparable results to sites with similar parcel makeup or in close proximity. These additional sites were not evaluated independently analyzed during Initial Screening and were subsequently assigned identification letters.
- Although not initially screened, Site F was expected to perform similar to Site 8 and was also advanced for further consideration.
- Site D was advanced for further consideration given their proximity to Fabry Road SE and the limited number of businesses that could be impacted by acquisition.

**Table 3-3. Initial Screen Evaluation Results with Composite Scores – No Weighting**

Criterion	Description	Site Score								
		1	2	3	4	5	6	7	8	9
<b>1. Current land uses</b>	How densely developed is the area near the site?	3	4	4	4	1	4	4	5	5
<b>2. Opportunities for transit oriented development (TOD)</b>	How well do the Comprehensive Plan and zoning of the site and surrounding properties support development of TOD?	3	1	3	4	5	2	1	5	4
<b>3. Efficient transit operations</b>	How efficiently can buses access the site? Would a signal be needed to facilitate efficient ingress and egress? If so, does a traffic signal exist or is development of a traffic signal feasible to improve transit and vehicular access to/from the site?	2	3	3	3	2	2	4	4	5
<b>4. Minimize travel time</b>	How much out of direction travel/deadhead time would be required to access the site?	5	5	5	5	2	2	2	1	1
<b>5. Access to jobs</b>	How well would the site location facilitate access to jobs?	3	3	3	3	4	4	4	5	5
<b>6. Ridership potential</b>	How would ridership change based on the site location?	3	3	3	3	4	4	4	5	5
<b>7. Impacts to traffic operations</b>	Is there potential for the TCMH to impact existing and forecast traffic operations?	0	0	0	0	0	0	0	0	0
<b>8. Accessibility for nonmotorized users</b>	How accessible is the site by cyclists and pedestrians via existing or planned dedicated non-motorized facilities (e.g. sidewalks, trails, bicycle lanes)?	3	3	5	5	5	5	3	5	5
<b>9. Potential to expand to include a park &amp; ride in the future</b>	Is the site large enough to accommodate development of a parking facility in the future?	2	1	2	1	4	2	4	5	1
<b>10. Noise</b>	Would sensitive noise receptors (hospitals, hotels) be negatively impacted by placement and operation of the TCMH?	1	3	5	5	3	1	1	1	1
<b>11. Hazardous materials</b>	Is remediation likely to be needed based on existing or past uses at the site?	5	4	4	4	3	5	4	5	5
<b>12. Impacts to existing residents and/or commercial spaces</b>	Would existing residents and/or businesses need to be relocated?	1	4	3	3	2	3	3	5	4
<b>13. Development costs</b>	Is the site free of challenging topography or other critical areas that would increase construction costs on the site (e.g., there are no steep slopes or no retaining walls/other infrastructure is required)?	5	5	5	5	5	5	5	5	5
<b>14. Ease of acquisition</b>	Is the site actively being offered for sale? Has the site been mentioned as one that could be for sale by market participants/brokers in the area? Is the site vacant or underdeveloped in a manner that could result in acquisition negotiations that are less complicated than those for developed properties (e.g. residential or business relocation is not required)?	2	4	2	2	2	2	3	5	4
<b>15. Acquisition costs</b>	How much would it cost to acquire the property, including estimated property acquisition, relocation, and reestablishment costs?	3	5	2	2	2	1	2	4	5
	<b>Total</b>	<b>41</b>	<b>48</b>	<b>49</b>	<b>49</b>	<b>44</b>	<b>42</b>	<b>44</b>	<b>60</b>	<b>55</b>
	<b>Percent of total possible score</b>	<b>59%</b>	<b>69%</b>	<b>70%</b>	<b>70%</b>	<b>63%</b>	<b>60%</b>	<b>63%</b>	<b>86%</b>	<b>79%</b>

**Table 3-4. Initial Screen Evaluation Results with Composite Scores – Select Criteria Weighting**

Criterion	Description	Site Score								
		1	2	3	4	5	6	7	8	9
<b>1. Current land uses</b>	How densely developed is the area near the site?	3	4	4	4	1	4	4	5	5
<b>2. Opportunities for transit oriented development (TOD)</b>	How well do the Comprehensive Plan and zoning of the site and surrounding properties support development of TOD?	3	1	3	4	5	2	1	5	4
<b>3. Efficient transit operations</b>	How efficiently can buses access the site? Would a signal be needed to facilitate efficient ingress and egress? If so, does a traffic signal exist or is development of a traffic signal feasible to improve transit and vehicular access to/from the site?	4	6	6	6	4	4	8	8	10
<b>4. Minimize travel time</b>	How much out of direction travel/deadhead time would be required to access the site?	10	10	10	10	4	4	4	2	2
<b>5. Access to jobs</b>	How well would the site location facilitate access to jobs?	6	6	6	6	8	8	8	10	10
<b>6. Accessibility for nonmotorized users</b>	How accessible is the site by cyclists and pedestrians via existing or planned dedicated non-motorized facilities (e.g. sidewalks, trails, bicycle lanes)?	3	3	5	5	5	5	3	5	5
<b>7. Potential to expand to include a park &amp; ride in the future</b>	Is the site large enough to accommodate development of a parking facility in the future?	2	1	2	1	4	2	4	5	1
<b>8. Noise</b>	Would sensitive noise receptors (hospitals, hotels) be negatively impacted by placement and operation of the TCMH?	1	3	5	5	3	1	1	1	1
<b>9. Hazardous materials</b>	Is remediation likely to be needed based on existing or past uses at the site?	5	4	4	4	3	5	4	5	5
<b>10. Impacts to existing residents and/or commercial spaces</b>	Would existing residents and/or businesses need to be relocated?	1	4	3	3	2	3	3	5	4
<b>11. Development costs</b>	Is the site free of challenging topography or other critical areas that would increase construction costs on the site (e.g., there are no steep slopes or no retaining walls/other infrastructure is required)?	5	5	5	5	5	5	5	5	5
<b>12. Ease of acquisition</b>	Is the site actively being offered for sale? Has the site been mentioned as one that could be for sale by market participants/brokers in the area? Is the site vacant or underdeveloped in a manner that could result in acquisition negotiations that are less complicated than those for developed properties (e.g. residential or business relocation is not required)?	4	8	4	4	4	4	6	10	8
<b>13. Acquisition costs</b>	How much would it cost to acquire the property, including estimated property acquisition, relocation, and reestablishment costs?	6	10	4	4	4	2	4	8	10
<b>Total</b>		<b>53</b>	<b>65</b>	<b>61</b>	<b>61</b>	<b>52</b>	<b>49</b>	<b>55</b>	<b>74</b>	<b>70</b>
<b>Percent of total possible score</b>		<b>59%</b>	<b>72%</b>	<b>68%</b>	<b>68%</b>	<b>58%</b>	<b>54%</b>	<b>61%</b>	<b>82%</b>	<b>78%</b>



### 3.3 Acquisition Inquiries

As initial screening was underway, the project team made attempts to contact the owners of the sites under consideration to gauge their interest in selling their property(ies). Although Cherriots has eminent domain authority to acquire property for the SSTCMH, there is a strong preference in pursuing sites for which the owners are interested in selling.

### 3.4 Due Diligence Findings

The project team performed site inspections for Sites 8, D/E, and F on May 12, 2022. Site observations are provided in the following sections.

#### 3.4.1 Site 8 Observations

The property owner provided a right of entry, allowing the project team to perform observations on site.

- Oregon white oaks are scattered on the property, including three that are larger than 20 inches dbh and several others that are approximately 14-16 inches in dbh.
- There is an excavated channel in mid north of the site. The approximate location of this channel is shown in Figure 3-2. Google Earth shows that this channel has existed since 2021. At the time of the site visit, the channel contained standing water up to 15 inches deep. Algae and wetland vegetation were present around the channel, as well as what appeared to be hydric soils. Water was not moving and the source of the water could not be determined. The amount of algae indicates that duration of this inundation is potentially sufficient to support wetland conditions. Wetland delineation and classification will be needed to inform future designs for site development.
- There is also a roadside ditch along Commercial Street SE. It is unclear if there is a connection between this ditch and Waln Creek.
- A series of pipes and a buried detention structure were observed along the northern property line. It was unclear where the pipe structure began or its purpose.
- Vegetation grows on top of imported and leveled fill across the site. There is a large pile of concrete, concrete path, and also few concrete plates that are not readily visible in Figure 3-2 because they are covered with moss and grasses.



**Figure 3-2. Approximate Location of Excavated Channel on Site 8**

### 3.4.2 Site D Observations

Site D is currently developed with multiple buildings and associated parking lots. The northern area of Site D, adjacent to Fabry Road SE, is developed as a parking lot that houses several food trucks. Multiple businesses are located on the site. Site D has approximately 150 feet of frontage along Fabry Road SE, however, this is not sufficient distance to accommodate ingress and egress for buses. Site D has frontage along Commercial Street SE. In order to accommodate left turns for transit into and out of the site, a new traffic signal would likely be needed. The project team also observed new construction underway at this site. All site observations were performed from the right-of-way.

### 3.4.3 Site F Observations

The eastern side of Site F is currently developed with a multi-use building, a fast food restaurant at the southeast corner, and the associated parking lots. The western and south sides of the property are undeveloped. Within the undeveloped area, the primary observation for Site F was the presence of Waln Creek and any potential wetland fringe along the bank. The creek is located along the western and southern property lines. Additional site observations would be needed to determine the exact location of the creek and the presence of any wetlands. All observations for Site F were performed from the right-of-way.

## 3.5 Candidate Site Conceptual Designs and Cost Estimates

Following selection of candidate sites, the project team developed conceptual designs for each site. This design work helped the project team to understand:

- how the key elements of the SSTCMH would be applied at each site,
- the likely ingress and egress points for purposes of understanding potential traffic impacts,
- whether the candidate sites are likely to be of sufficient size to accommodate all desired SSTCMH features, and
- serve as the basis for planning-level cost estimates



Cost estimates were prepared for each conceptual design shown in Figure 3-2 through

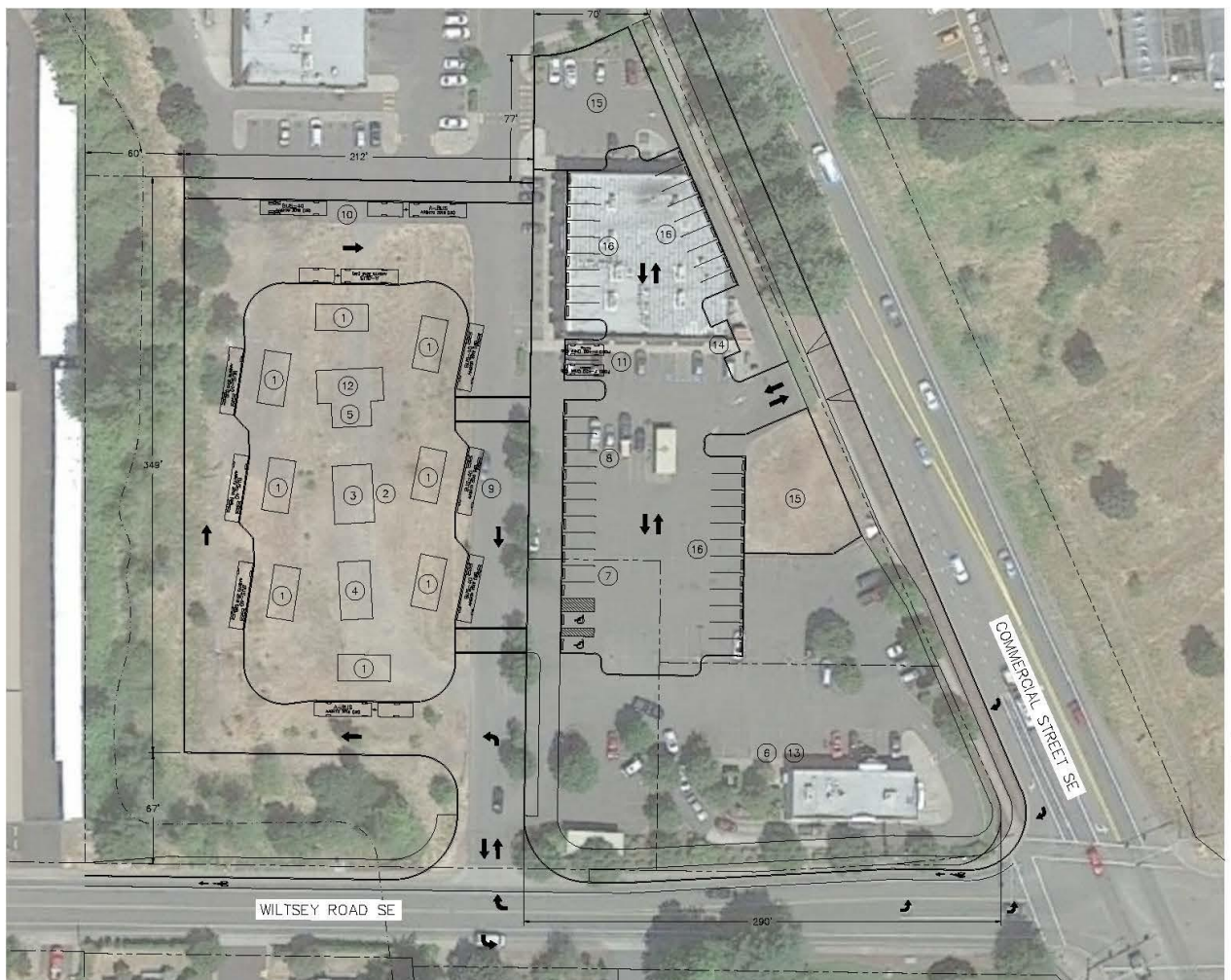


Figure 3-5. These estimates reflect the anticipated costs associated with planning, design, permitting, environmental review, and construction of each site. They assume all improvements shown on the design drawings including SSTCMH features, roadway modifications, sidewalks, and new traffic signals. The estimates, summarized in Table 3-5, do not include any costs associated with property acquisition or relocation or reestablishment for impacted businesses at each site.

**Table 3-5. Cost Estimates for Candidate Site Development**

Site	Estimated Cost
8	Cost estimate under development
D	Cost estimate under development
F	Cost estimate under development



Figure 3-3. Site 8 Conceptual Design

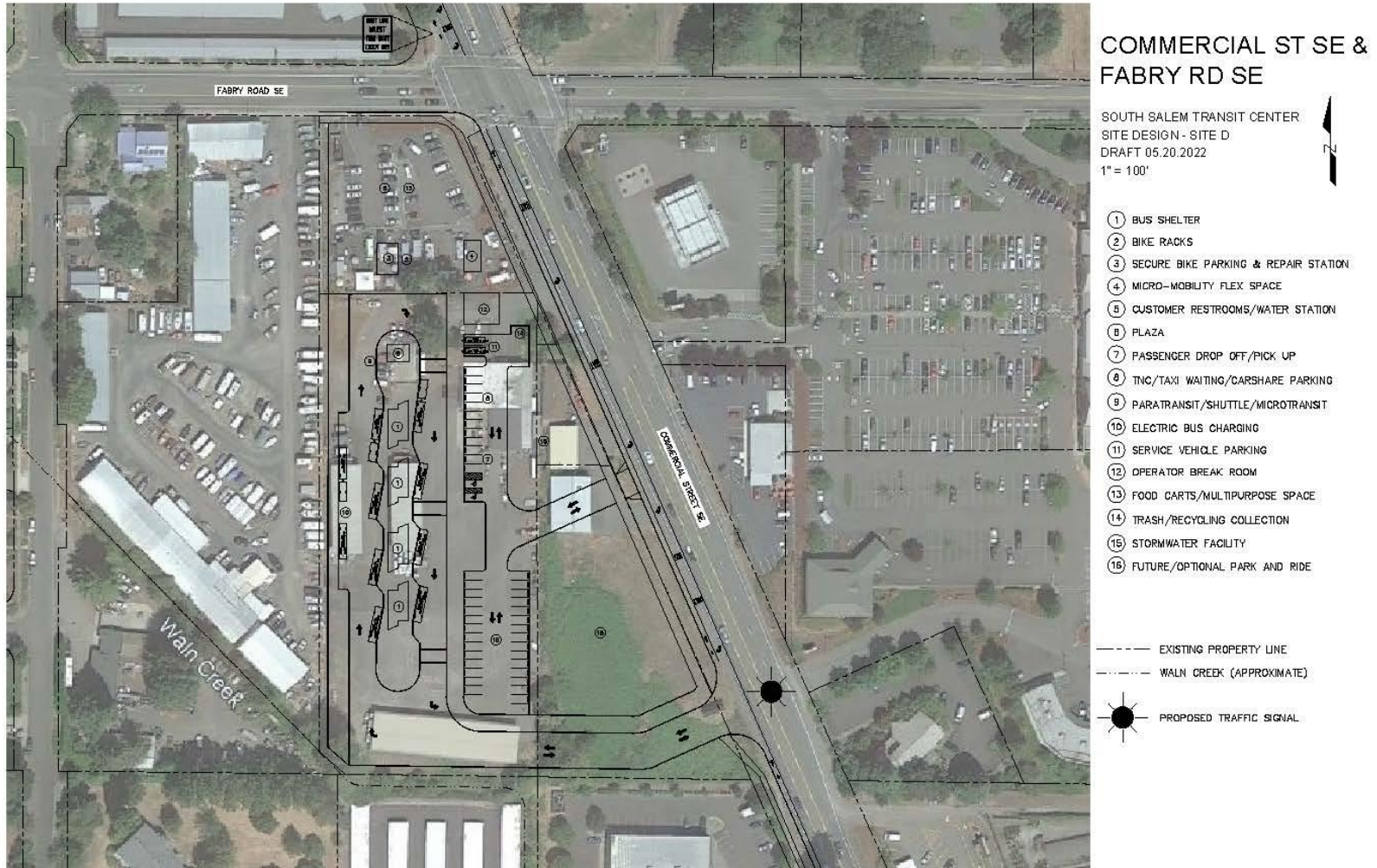


Figure 3-4. Site D Conceptual Design

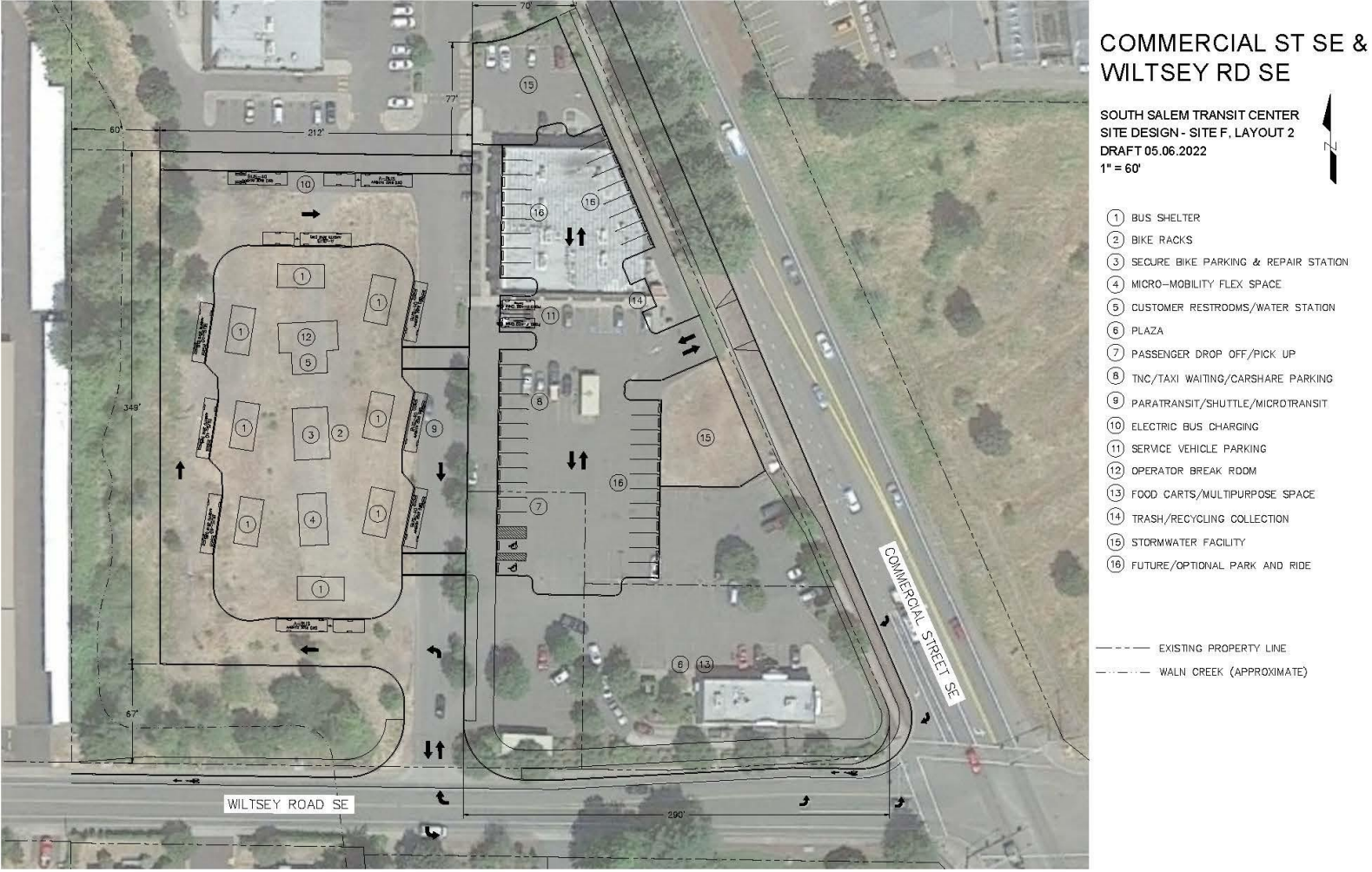


Figure 3-5. Site F Conceptual Design





## 4. RECOMMENDATIONS AND NEXT STEPS

Based on the results of the analysis, the project team recommends further evaluation of the three candidate sites listed below to determine which is most suitable as the location of the future SSTCMH.

- Site D, located at the southwest corner of Fabry Road SE and Commercial Street SE
- Site F, located at the northwest corner of Wiltsey Road SE and Commercial Street SE
- Site 8, located at the northeast corner of Wiltsey Road SE and Commercial Street SE

The findings included in this report will be used to inform final selection of the preferred site for the SSTCMH. Once identified by the Board of Directors, Cherriots will proceed with negotiations with the site owner(s) to acquire the desired property(ies). Additional steps that will be performed to develop the SSTCMH include:

- Preliminary environmental investigations
- Site boundary survey
- Preliminary and final design
- Environmental review
- Construction

Public engagement will be undertaken throughout all remaining steps of the development process.