SE HAWTHORNE
PAVE AND PAINT

Alternatives evaluation - Draft: September 2020
From earlier community feedback and technical analysis, we developed three alternatives to take through a detailed evaluation.

SE Hawthorne Boulevard from 24th Ave to 50th Ave is due for maintenance paving in the summer of 2021. The SE Hawthorne Pave and Paint project was initiated to consider ways to leverage maintenance paving as an opportunity to improve safety, reduce transit delay, and make other changes to better serve people and businesses on Hawthorne.

Based on previous community feedback and analysis, three possible alternatives were developed for further evaluation. This summary describes the key differences and trade-offs among the alternatives and the process for selecting a cross section to move into design.
Summary of alternatives

Alternative 1 street configuration summary

Alternative 1 maintains the existing lane configurations, with four general travel lanes west of Cesar E Chavez Blvd and three general travel lanes east of Cesar E Chavez Blvd. This alternative also includes space for on-street parking on both sides of the street.

Alternative 2 street configuration summary

Alternative 2 extends the three-lane configuration currently in place east of Cesar E Chavez Blvd west to 22nd Ave, with right turn (except bus) lanes provided at Cesar E Chavez Blvd. This alternative also includes space for on-street parking on both sides of the street.
Alternative 3 street configuration summary

Alternative 3 reconfigures the street from 22nd Ave to 50th Ave to include two general travel lanes and two bike lanes, with no center turn lane. This alternative also includes space for on-street parking on both sides of the street, though a significant amount would have to be removed to accommodate bike lanes at crossings. Within Alternative 3, the project team is considering two sub-options:

- Alternative 3a maintains space for on-street parking at the curb, with buffered bike lanes between parking and the general travel lanes
- Alternative 3b considers the potential to shift the bike lane to the curb, creating “parking-protected bike lanes,” with a significant portion of the on-street parking removed to provide visibility.

One of the goals of the Hawthorne Pave and Paint Project is to take advantage of a planned street paving project to improve safety and address other needs along the corridor at the same time, saving the city money and businesses and residents disruption. We collected many street design suggestions from public outreach but the above alternatives were selected because they can be built within the project timeline and budget. However, the added complexity and material costs for Alternative 3b would likely require additional funding.

Our team evaluated the three alternatives, looking at the benefits and impacts related to these project goals:

- Improve safety
- Support Hawthorne’s Main Street function and help people get to destinations there
- Connect people to other parts of the city

The criteria used to analyze each goal were developed with input from the community during workshops held in early March 2020. Workshop attendees were asked to think about their top priorities for Hawthorne and vote for the criteria they felt were most important. The top evaluation criteria included number of safe crossing opportunities, ability to address vision zero crash types, top end speeding, spacing of enhanced crossings, and travel time for transit. In some cases, the alternatives have little variation between them. However, some key areas of difference stand out.

In addition to the project-related goals and criteria, PBOT’s citywide goals direct us to consider two questions with every action:

- Will it advance equity and address structural racism?
- Will it reduce carbon emissions?
## Alternatives Analysis Summary

### Benefit / Impact Scale

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<tr>
<th></th>
<th>Likely high impact</th>
<th>Likely moderate impact</th>
<th>Likely moderate benefit</th>
<th>Likely high benefit</th>
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<tbody>
<tr>
<td>Alternative 1</td>
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<td>Alternative 2</td>
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<td>Alternative 3a</td>
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<td>Alternative 3b</td>
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### 1. Improve Traffic Safety

#### Crashes

- **Alternative 2** is anticipated to have the most significant near-term reduction of crashes by providing a center turn lane, which helps address turning movement crashes and improves safety for pedestrians crossing the street.
- **Alternative 3** could also reduce crashes by reducing the number of vehicle lanes, but it does not offer the same crash reduction benefits of a center turn lane and could increase conflicts at intersections. **Alternative 1** is not expected to offer significant crash reduction benefits because it retains the current street design throughout the project area.

### 2. Support Hawthorne’s Main Street Function

- **Crossing spacing**
  - Ability to add new enhanced crossings for pedestrians and bicyclists

### 3. Connect People to and from Hawthorne

- **Pedestrian access**
  - Opportunities for improving pedestrian access along Hawthorne

### 4. Support Citywide Goals

- **Equity**
  - Opportunity to advance equity and address structural racism
- **Climate**
  - Potential to reduce carbon emissions

### Evaluation at a Glance

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Does it reduce crashes?</th>
<th>Is there opportunity for new crossing islands?</th>
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<tbody>
<tr>
<td><strong>Alternative 1</strong> Existing</td>
<td>No</td>
<td>Only east of Cesar E Chavez</td>
</tr>
<tr>
<td><strong>Alternative 2</strong> Three-Lane</td>
<td>Yes, all crash types</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Alternative 3a</strong> Buffered Bike</td>
<td>Yes, bicycle crashes only</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Alternative 3b</strong> Protected Bike</td>
<td>Yes, bicycle crashes only</td>
<td>Yes</td>
</tr>
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Speeding

Alternatives 2 and 3 are expected to reduce high-end speeding by reducing the number of general-purpose travel lanes in the same direction and adding median islands at some intersections. High-end speeding remains a problem in Alternative 1, since the street design would remain mostly unchanged.

Impact to Neighborhood Greenways

Alternatives 1 and 2 would likely cause little to no diversion to nearby neighborhood greenways. While Alternative 3 would improve safety for bicyclists on SE Hawthorne Blvd itself, it is likely to divert car traffic onto nearby neighborhood greenways that currently serve most bicycle trips in the vicinity such as SE Salmon St, SE Ladd Ave, SE Harrison St, and SE Lincoln St.

Neighborhood greenways and local streets are intended to serve relatively low volumes of slower moving motor vehicle traffic. On the other hand, neighborhood greenways are classified as Major City Bikeways and are intended to serve high volumes and all types of bicyclists. Well-performing neighborhood greenways should have 85th percentile motor vehicle speeds no higher than 20 mph and average daily traffic of 1,000 motor vehicles or fewer. The map below shows the existing and planned neighborhood greenway network immediately surrounding Hawthorne, along with the motor vehicle volumes, where data is available. Portions of both the Lincoln-Harrison greenway and the Salmon-Taylor greenway exceed PBOT’s thresholds for motor vehicle volumes, while other areas are in an acceptable range. Between these two greenways, approximately 6,000 bicyclists per day travel east-west in the area.

Pedestrian safety at crossings

Alternative 2 provides significant safety benefits along the corridor as it provides the most opportunities for crossing islands and visibility. Even at unmarked crosswalks, safety would be improved because pedestrians would only have to cross one lane of traffic at a time. Alternative 3 also provides some benefits to pedestrians by reducing the number of lanes to cross, but it provides fewer gaps for pedestrians at unsignalized crossings, requires narrower refuge islands at marked crosswalks, and removes the ability to have two-stage crossings at unmarked crosswalks. Alternative 1 does not significantly improve safety for pedestrians as it retains two travel lanes in each direction and makes it too expensive to add or improve pedestrian crossings in the section west of Cesar E Chavez Blvd within the scope of this project. That said, crossings could still be added east of Cesar E Chavez Blvd in Alternative 1.
2. Support Hawthorne’s Main Street function and help people to get to destinations there

Hawthorne is one of Portland's iconic main streets, home to a thriving collection of local businesses and a destination for the surrounding neighborhoods, people from other parts of the city, and visitors to Portland. The Transportation System Plan reflects this by classifying Hawthorne Blvd as a Civic Main Street, meaning we should place a high priority on business access, curbside uses such as parking, loading, or seating, and aesthetic elements like landscaping and public spaces. As the selected alternative needs to support Hawthorne’s Civic Main Street function, the criteria used to evaluate this goal focused on providing access to destinations, supporting businesses’ customer access and loading needs, and providing opportunities for greening, landscaping, and placemaking.

Number of crossings for people walking and biking

Alternative 2 offers the greatest opportunity for crossing improvements, using pedestrian refuge islands within the 3-lane configuration throughout the project. Alternative 3 also provides the opportunity to add pedestrian refuge islands, though the islands would have to be narrower than preferred and on-street parking would have to be removed at those locations. Alternative 1 offers more limited opportunities for crossings, mainly east of Cesar E Chavez Blvd which has a 3-lane configuration. The segment west of Cesar E Chavez Blvd would require more significant crossing treatments (signals or flashing beacons) that are outside the scope of the project.

Parking for bikes, scooters, etc.

None of the alternatives under consideration would require removal of bike/ scooter parking or bike share stations from Hawthorne or the intersecting streets. Alternative 1 and 2 slightly reduce the curb zone space and maintain the most opportunities to convert on-street parking spaces to bike corrals or other types of uses supporting bikes and scooters. Alternative 3 reduces the curb zone space which results in fewer opportunities for bike and scooter parking.
Parking retention

Both Alternative 1 and 2 have little impact to the current space available on Hawthorne Blvd for on-street parking (removal of about 15 spaces). Alternative 3a would have 15 - 20% reduction in on-street parking supply (approximately 75 parking spaces), and 3b would reduce the parking supply by 50-60% (approximately 225 parking spaces). A significant reduction in the parking supply along Hawthorne would likely increase the occupancy rate—currently an average of 77%—making it more difficult for people visiting the Hawthorne Business District to find parking and creating spillover parking to nearby neighborhood streets. While some reduction in on-street parking supply could be mitigated through improved parking management practices to improve turnover, there could still be a significant impact to some main street businesses that rely on short-term vehicle access.

Impact to loading and deliveries

Alternative 2 would widen the loading zones in curbside parking lanes and the center turn lane and would provide easier truck turning movements. Alternative 3a creates more spacious curbside loading zones but the overall curbside space available for loading and parking would be reduced. Removal of the existing turn lane east of Cesar E Chavez Blvd would require significant changes to delivery patterns and traffic operations. Alternative 3b has the most significant impact, as it would pull loading zones/parking away from the curb and reduce the overall amount of on-street space for deliveries. This would require drivers to deliver goods across the bike lane and/or change delivery patterns and traffic operations. Alternative 1 retains narrow travel and parking lanes for deliveries, particularly west of Cesar E Chavez Blvd.

Potential for landscaping and placemaking

Alternative 2 presents the most significant opportunities for landscaping and placemaking, with the center turn lane and curbside spaces providing opportunities for greenery, street seating, street trees, and other treatments including future sidewalk widening. Alternative 3a may provide the most comfortable option for street seating as the seating would be adjacent to the bicycle lane rather than a motor vehicle lane but would not allow for a planted median or future sidewalk widening. Alternative 3b would make street seating more challenging since it would be away from the sidewalk between the bike lane and travel lane and would not allow for planted medians or sidewalk widening without additional changes. Alternative 1 offers very few opportunities for landscaping or placemaking, especially west of Cesar E Chavez Blvd.
3. Connecting people to other parts of the city

Hawthorne is not just a main street, but also a major corridor for people traveling through the neighborhood or accessing it from other parts of the City. Hawthorne Blvd is classified as a Major Transit Priority Street and serves as the route for the frequent Line 14 bus connecting Downtown Portland at the west to the Lents neighborhood to the east. Hawthorne Blvd is also classified as a Major City Walkway, a City Bikeway, and a District Collector for traffic. Therefore, according to policy the street should put a high emphasis on pedestrian and transit mobility, and a medium emphasis on bicycle and traffic mobility. The criteria used for this evaluation were based on the context of the intended street classifications.

Pedestrian access along Hawthorne

Alternative 2 has the highest opportunity to improve pedestrian access along Hawthorne Blvd over time by providing the opportunity for continuous wider sidewalks and/or more curb extensions in the future. Alternative 3a and 3b would not allow for wider sidewalks in the future where pedestrian crossings are added unless the bike lanes and/or median islands are narrowed significantly. Alternative 1 does not offer any significant improvement to pedestrian movement along Hawthorne. Because Hawthorne Blvd is a Major City Walkway, this criterion is highly significant in selecting an alternative.
Transit speed and reliability

Alternative 2 offers the most benefit for bus travel time and reliability, resulting from bus priority improvements at Cesar E Chavez Blvd, stop optimization along the corridor, providing left-turning vehicles places to turn without blocking the bus, and significantly reducing mirror strikes by providing standard-width travel lanes. With these changes, we expect average transit travel time to remain largely consistent before and after the project, but with greatly improved reliability, reducing the variability in travel time that can be a major impact to transit riders, which may deter people from riding transit in the first place. Alternative 1 only offers limited potential travel time savings for buses, resulting from stop optimization alone, and would retain the narrow lanes and mirror strike risks that affect reliability. Alternative 3 is expected to add significant delay to bus travel time, increasing transit delay during peak hours by 50% (8 minutes) if we assume 25% of traffic diverts to other routes, or by 100% (16 minutes) if we assume only 15% traffic diversion. Modeling indicates 25% traffic diversion could be a reasonable assumption, though it would take some time for traffic to adjust, and these levels of diversion would impact adjacent local and collector streets. Alternative 3 could also significantly impact bus reliability, since turning vehicles would be blocking the through lane and would have difficulty finding gaps in oncoming traffic. Since Hawthorne Blvd is classified as a Major Transit Priority Street, this kind of travel time increase and reliability impact for the Line 14 would be very concerning.

Auto impacts

Alternative 1 would create no noticeable change to travel times for people driving, since it maintains the current capacity. Alternative 2 would likely cause traffic travel times between SE 12th Ave and SE 50th Ave to increase by approximately 2 minutes during the PM peak period eastbound, but is also likely to improve reliability of travel time by providing the left turn lane, resulting in largely unaffected travel time for most of the day. Alternative 3 would significantly increase traffic travel times during peak periods due to the two-lane configuration (especially the reduction in capacity at Cesar E Chavez Blvd) and delay caused by left-turning traffic. We expect travel time from 12th to 50th in the PM peak would double from 8 to 16 minutes if we assume 25% of traffic diverts to other routes, or would triple from 8 to 24 minutes if we assume only 15% traffic diversion. Modeling indicates that 25% traffic diversion to other routes during the peak is a reasonable assumption, but this may take some time to occur and will have an impact on those other streets, including other transit streets, neighborhood collectors, local streets, and neighborhood greenways. Because Hawthorne Blvd is a District Collector, this level of diversion onto lower-classified streets would be concerning since it does not align with City policy.

MODELED TRAVEL TIMES FOR CARS AND TRANSIT

Travel time for cars and transit between SE 12th and 50th aves

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ALTERNATIVES EVALUATION | DRAFT
4. Equity and Climate

In addition to the project-related goals and criteria, PBOT’s citywide goals direct us to consider two questions with every action: Will it advance equity and address structural racism? Will it reduce carbon emissions?

How will these alternatives advance equity and address structural racism?

While it would be difficult for a single transportation project of this scale to significantly address our equity needs, we can still apply an equity lens to our decision-making to ensure we are not unduly impacting communities that have too often been left out of planning considerations. One way that structural racism has been present in the planning profession has been the tendency to focus on aggregate benefits and impacts rather than looking at disparate benefits and impacts for different races. We also have not always considered the effect on lower-income households who may be forced to live further out from a corridor study area but do travel through it. Using the PBOT Equity Matrix, we can see that the areas immediately surrounding the Hawthorne Blvd project area have higher-income households and lower-percentage people of color than the city as a whole. Given the need to invest in areas with lower incomes and more people of color, this supports our overall approach of limiting the cost of this safety project and leveraging the paving project as much as possible, to preserve more discretionary funding for projects in areas of greater equity need.

We can also apply this lens to the decision of whether to prioritize transit (Alternative 2) or bike lanes (Alternative 3). Our analysis shows that Alternative 3 would have a significant negative impact on transit speed and reliability for the Line 14 bus, which serves the Foster and Lents areas and is classified as a Low Income Line by TriMet. The PBOT Equity Matrix shows that Foster and Lents have very high concentrations of low-income households and people of color compared to the city as a whole, and we know from surveys and census data that these households are more likely to ride transit and more likely to experience long commutes. We have also analyzed the impact on access to jobs by transit for people living in the Lents and Foster areas if Alternative 3 were implemented. This analysis found a significant impact to that access, particularly to service jobs in the Hawthorne main street area and light industrial jobs in the Central Eastside, due to the increased transit travel times. While Alternative 3 would add bike lanes, it is likely that the bike lanes would offer a mostly localized benefit to access destinations on the corridor rather than benefiting people further away in the Foster and Lents areas. Therefore, our conclusion is that Alternative 2 is more consistent with the goal of advancing equity and addressing structural racism with this project.
How will these alternatives reduce carbon emissions?

There is no easy way to fully assess the relative carbon emission reduction impacts of the various alternatives, but there are some conclusions we can draw from applying a climate lens to this evaluation.

- Alternative 1 would do the least to reduce carbon emissions, since it leaves intact the current capacity levels for single-occupant vehicle commuting and does not do much to encourage use of other modes.

- Alternative 2, on the other hand, would reduce automobile capacity somewhat while also improving transit speed and reliability, changing the relative incentives and presumably leading to higher transit use.

- Alternative 3 would also affect mode share by improving the bicycle network, though it would come at the expense of significantly impacting transit travel time and reliability.

To help us assess the relative climate benefits of Alternatives 2 and 3, we consulted the Metro Climate Smart Strategy, which evaluated the relative climate benefits of different strategies. According to this report, the "make biking and walking safe and convenient" strategy is considered to have a relatively good climate benefit (3 out of 5 stars), much higher than focusing on highways (1 out of 5 stars), but the "make transit convenient, frequent, accessible, and affordable" strategy has a much higher climate benefit (5 out of 5 stars). This seems especially true in this situation, since adding one stretch of bike lane in an area of Portland with among the highest bicycle mode shares in the city is likely to have less marginal benefit than improving one of the most frequent and highest-ridership bus lines in the area. More importantly, the highly negative impact on bus travel time and reliability from Alternative 3 would likely more than cancel out the climate benefit of the added bike lanes. Based on this analysis, Alternative 2 appears to be more beneficial when seen through a carbon emission reduction lens.

NEXT STEPS

We are interested in hearing your thoughts about this alternatives evaluation. In the coming months, we will be rolling out an online survey, targeted business outreach, and virtual presentations to the public and various stakeholder groups, including Hawthorne Boulevard Business Association (HBBA), Neighborhood Associations, the PBOT Bicycle and Pedestrian Advisory Committees, Inner SE Action, and SE Uplift.

The feedback we receive in the survey and at these meetings will help inform the decision on which alternative is advanced for construction as part of the Hawthorne Pave and Paint project. A recommendation on the final alternative will be made in fall 2020. The paving is anticipated to begin in the summer of 2021. Please visit the project website to learn more, sign-up for email updates, and contact the project team.
