



The Value of Place

planning for walkability in the Tigard Triangle

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EXECUTIVE SUMMARY

The purpose of the Value of Place Project is to produce urban design recommendations that will improve the walkability, safety, comfort, and aesthetics of the built environment for those who live, work and do business in the Tigard Triangle. These recommendations will improve the performance of the built environment, reflect the value and priorities of the Tigard Triangle community, support future economic development, and forward the City of Tigard's vision to be the most walkable community in the Pacific Northwest.

Today, the Tigard Triangle is defined by the highways that frame the project area but this is only the most recent chapter of an area that is once again in transition. Even today on some of the under improved roads in the Triangle we can still see remnants of the rural lifestyle that characterized the area before the highway era brought the construction of state highways 99W and 217, and I-5. When talking to residents and visitors to the Triangle, we interviewed some that can still recall the barns and fields that used to stand where a new Wal Mart store recently opened.

While the regional connectivity the highways have provided to the Triangle has helped it grow into an important regional employer, the auto-oriented nature of the area has created some problems as well. Current development in the Triangle is characterized by large parking lots, under developed property, poor pedestrian connections, and limited choices of stores and amenities for employees that are spending their work week here and the area is lacking in parks and other recreational opportunities to serves the existing residents and attract new ones.

The Triangle is in need of new urban design solutions to correct these problems, meet the demands of a rapidly changing real estate market, prepare it for the arrival of high capacity transit and help it reach its full potential as a complete walkable community. With the *State of Place* analytic tools we confirmed that the existing built environment is not performing up to the level that the city aspires to. The Triangle is especially lacking in parks, public spaces, and destinations that are characteristic of walkable communities. It lacks a healthy mix and diversity of uses that put a variety of services within walkable proximity. Finally, an incomplete sidewalk network and under improved streets contribute to traffic conditions that are often uncomfortable or unsafe for pedestrians. 72nd Ave. north of Dartmouth St. has some of the worst performing segments due to the fact that it lacks sidewalks marked crosswalks or bike lanes.

Our public engagement findings were similar to the State of Place findings in many respects. Respondents to our survey indicated that sidewalk infill and providing more destinations by supporting small business were the two top priorities for making the Triangle more walkable. These findings were consistent with the State of Place findings that showed poor traffic safety conditions, lack of pedestrian amenities, and few walkable destinations.

Our community engagement findings also showed that 72nd Ave. is not only one of the most used streets in the Triangle by pedestrians, but also has a high concentration of walking hazards and barriers. The public communicated this to us by pointing out these problems through an interactive map that was part of our survey. They also shared with us the routes that they typically walk in the Triangle. This revealed that 72nd Ave. has more pedestrian activity than any other street in the Triangle.

Our findings led us to recommend two areas of the Triangle to prioritize improvements. In the short term, we recommend focusing on an area of 72nd Ave north of Dartmouth St based on a number of considerations:

- These segments are the weakest performing segments in the Triangle.
- These are the most heavily used segments in the Triangle
- It improves the segments that the public has indicated present the greatest barriers to walking in the Triangle.
- The area is already served by frequent transit on 99W.
- Property value analysis shows good potential for redevelopment in the area.

Specific recommendations for this area include:

- Crosswalks along 72nd Ave at Clinton and Baylor Streets
- Creating a pedestrian connection and pocket park at 70th Ave. and Clinton St.
- Construct a full street improvement on 72nd Ave. north of Dartmouth St.
- Focus new mixed-use development at 72nd Ave. and Atlanta St.
- Develop a new park north of Baylor St.

In the long term, we recommend shifting attention to the 69th Ave. corridor. These improvements would likely be implemented in conjunction with the arrival of high capacity transit. However, it may be include:

- Creating a food cart pod at 69th Ave. and Beveland St.
- Creating a new pedestrian connection and pocket park at 70th Ave. and Elmhurst St.
- Create a new park at 72nd Ave. and Elmhurst St.
- Prioritize pedestrians on 69th Ave. with new raised crosswalks and streetscape features consistent with the guidelines in the Draft Lean Code.
- Pursue new opportunity site for mixed use development near the corner of Dartmouth St. and 69th Ave.
- Create a new park on SW Franklin St.

Tigard Triangle Strategic Plan and the Draft Lean Code already provide a variety of recommendations to create a more walkable future for the Triangle. The Value of Place project has augmented these with some short term interventions not specifically addressed in these plans, some inexpensive interim actions that can be implemented with existing resources, and some more detailed guidance on prioritizing projects to achieve the greatest impact as additional resources become available.

ACKNOWLEDGEMENTS

City of Tigard, Oregon

Lloyd Purdy, Economic Development Manager
Cheryl Caines, Associate Planner
Susan Shanks, Senior Planner
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Space for Community Workshop and Tabling Event

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Credits

All photos courtesy of Delta Planning unless otherwise specified.
Map icons by Nicolas Mollet and the Maps Icons Collection, <https://mapicons.mapsmarker.com>.
Photos used in renderings are courtesy of flickr users Oasis Greenway Bertulis, T.A. (2013). Oasis greenways: a new model of urban park and bikeway within constrained street rights-of-way (Doctoral dissertation, NORTHEASTERN UNIVERSITY).
Protected Bike Lanes
Photos courtesy of People for Bikes
Commute and job flow data are courtesy of US Census Bureau



I. Introduction

I.1 Problem Statement

The Tigard Triangle is defined by highways and auto-oriented land uses with an incomplete street grid, under improved streets, and under developed property that does not represent the City of Tigard’s vision to be the most walkable community in the Pacific Northwest. The City needs new design solutions to ensure that new growth and development are consistent with this vision, prepares them for the arrival of high capacity transit, supports future economic development, and helps the Triangle realize its full potential as a complete and interconnected neighborhood.

I.2 Project Purpose and Process

The purpose of the Value of Place project is to produce urban design solutions that will improve the walkability, safety, comfort, and aesthetics of the built environment for those who live, work and do business in the Tigard Triangle. Delta Planning used the State of Place analytic tools to develop a profile of existing conditions for walking, collect public input to ascertain the priorities and values of the Tigard Triangle community, developed alternatives based on the opportunities identified in the community profile and public input, and tested those alternatives with the public to refine a set of final recommendations.



Figure I.1 Project study area existing conditions

1.3 Background

The Tigard Triangle is centrally located at the junctions of three major transportation corridors that define the Triangle: Interstate 5, state highway 217 and state highway 99W. These facilities provide excellent regional connectivity with Portland to the north, Wilsonville to the south, Beaverton and Hillsboro to the west, and Lake Oswego to the east. It shares a border with the City of Portland and some tenants in the Triangle are able to claim a Portland address without having to pay Portland rents. The Lake Oswego city limit is directly east of I-5, including Kruse Way, which is home to some of the most desired class A office space in the region. While the highways are a vital asset to the Triangle for regional connectivity, they have limited local access to the area. There are only six access points, three of these are major interchanges that serve grade separated highways which provide minimal service for cyclists and pedestrians. Construction of the highways in the in the 1960's and 1970's initiated an era of transition for the area from rural farmland to residential to the commercial uses that are common there today. Some evidence of the pre-highway history of the Triangle still exists in the residential areas where some of the streets are unpaved. These streets also lack sidewalks, gutters, street lighting and other basic infrastructure elements that are now commonly included with contemporary developments.

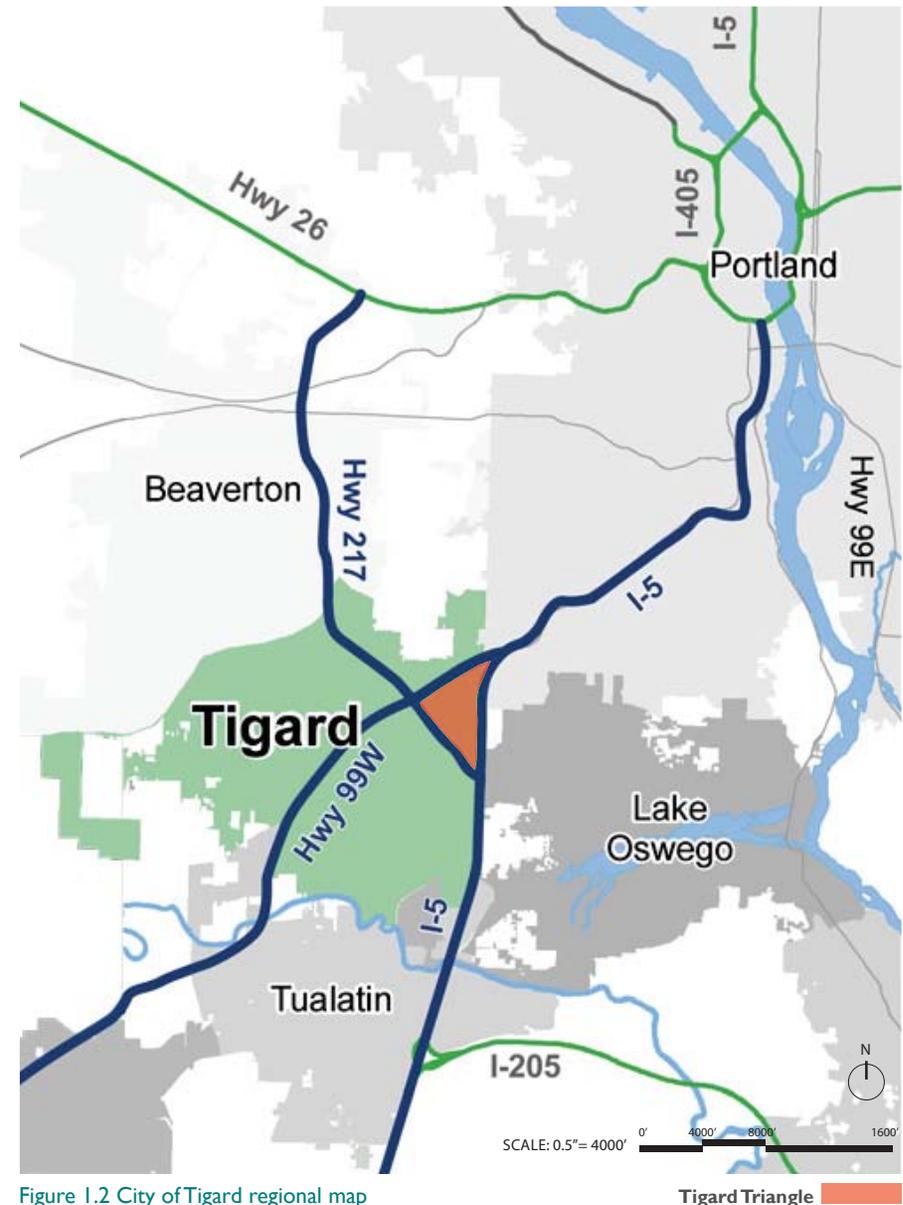


Figure 1.2 City of Tigard regional map

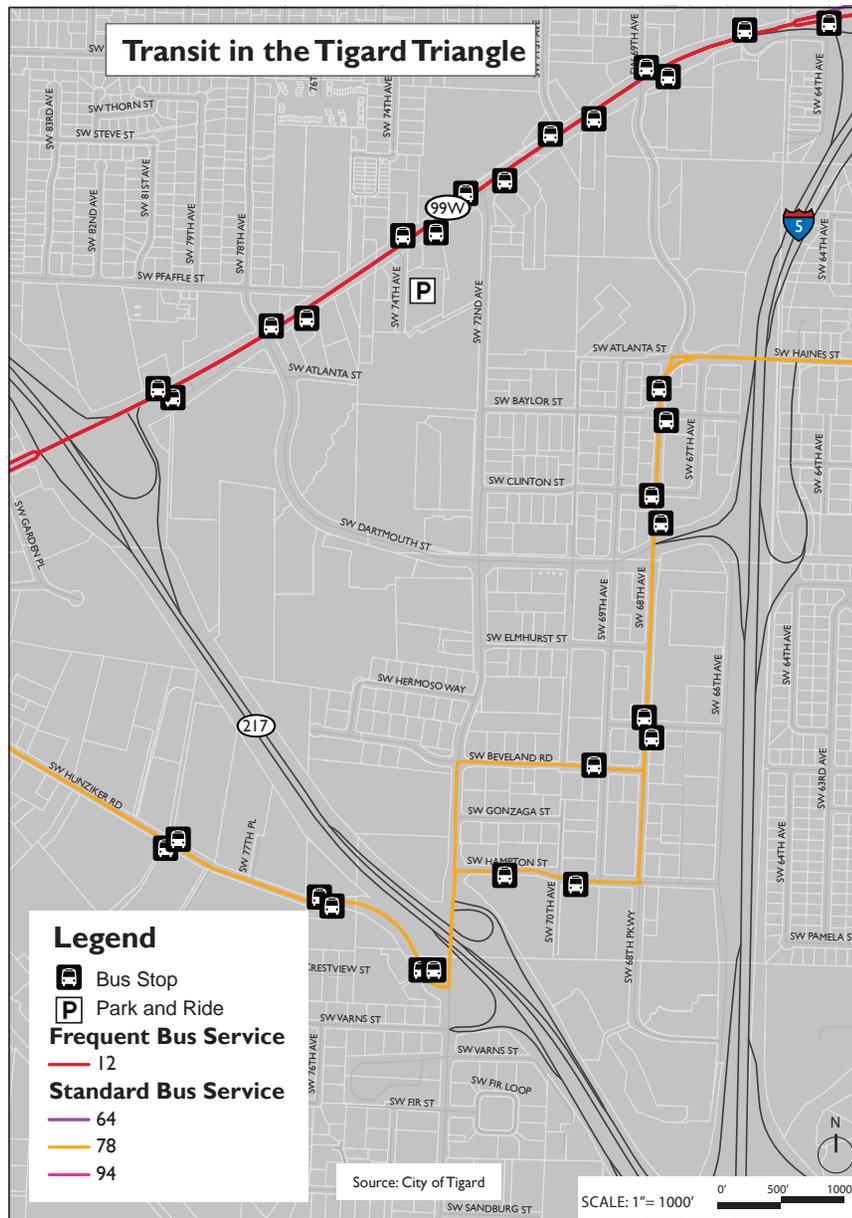


Figure 1.3 Tigrad Triangle transit map

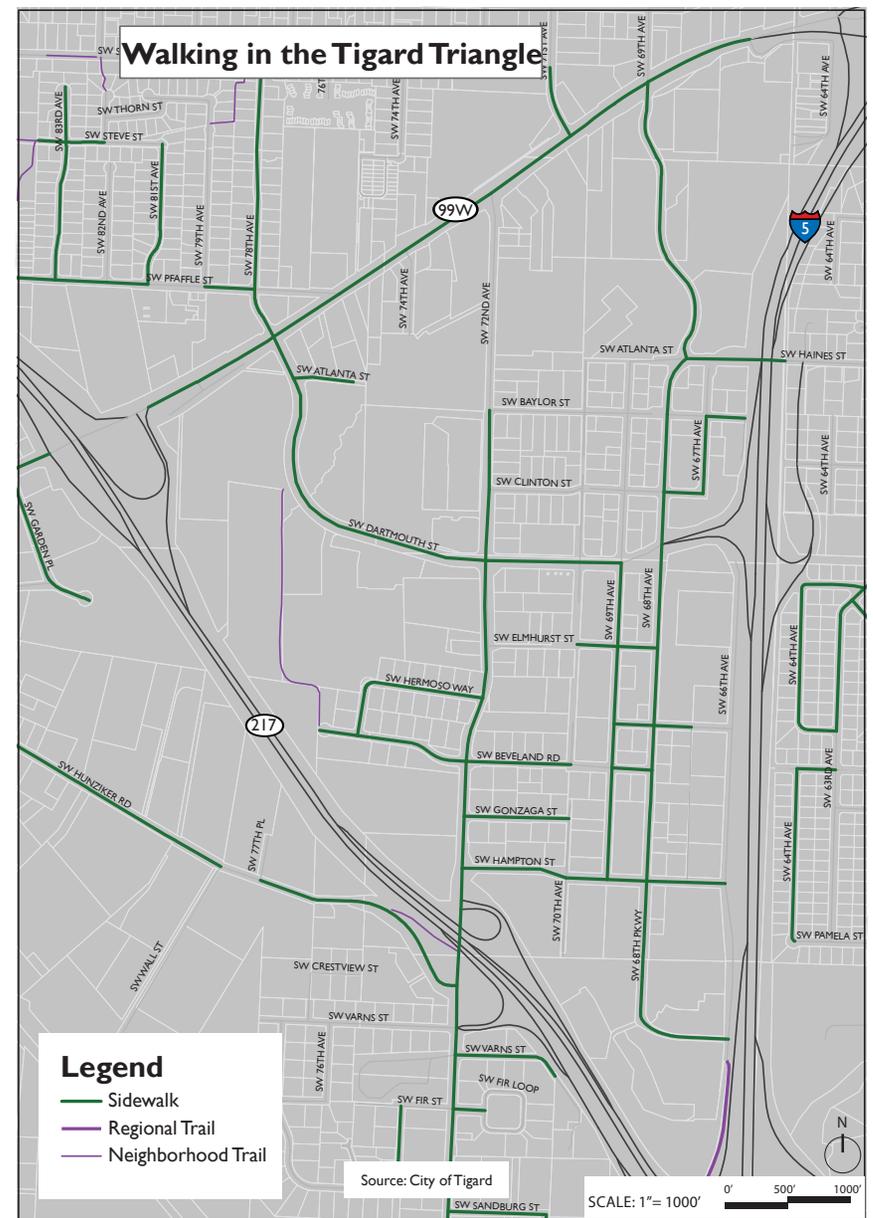


Figure 1.4 Tigrad Triangle walking map

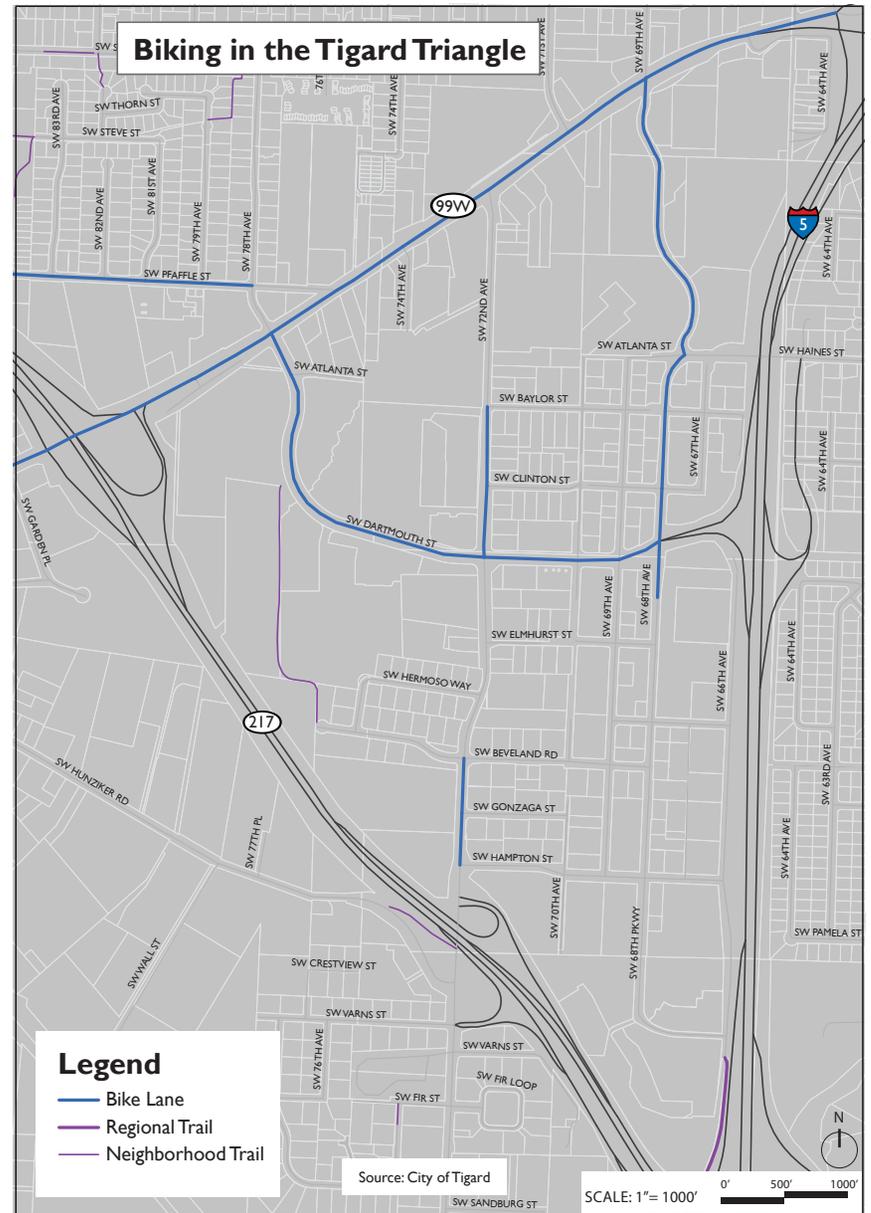
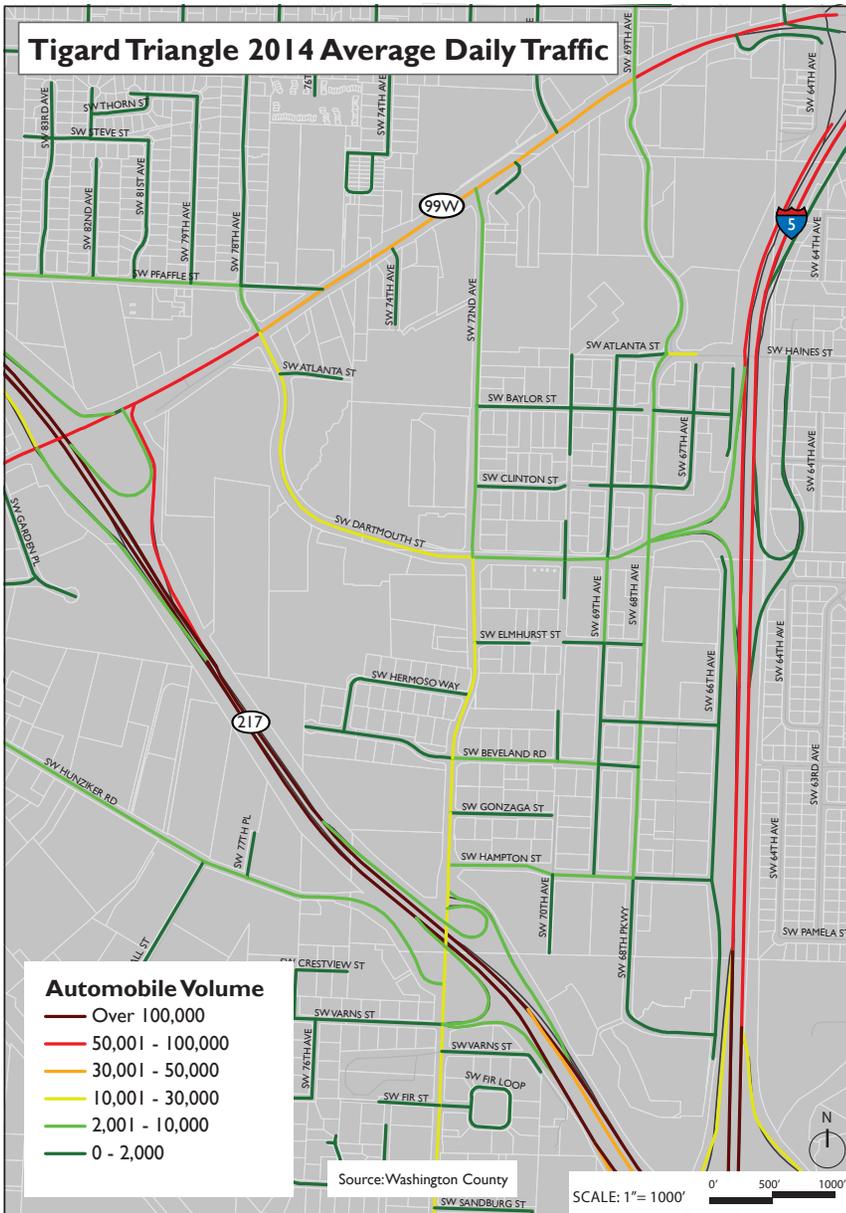


Figure 1.5 Tigard Triangle average daily traffic map

Figure 1.6 Tigard Triangle biking map

The Triangle can be roughly divided into three areas. The retail area west of 72nd Ave. is home to several big box retailers like Lowe's, Wal Mart, Costco, Winco, Babies 'R' Us, and a few smaller scale strip malls. The commercial office area in the southern corner hosts major employers like George Fox University, University of Phoenix, and Landmark Ford, with smaller office spaces interspersed among larger complexes. North of Dartmouth St. there is a small single family neighborhood that is home to most of the permanent residents in the Triangle. Hampton Park on 72nd Ave. is the only multifamily development in the Triangle. These areas all have auto-oriented development characteristics like large parking lots and poor pedestrian connections both within and between districts. Due to the lack of mixed uses, there are very few walkable destinations with the Triangle.



Figure I.7 Retail district in the Tigard Triangle



Figure I.8 Residential district in the Tigard Triangle



Figure I.9 Commercial district in the Tigard Triangle

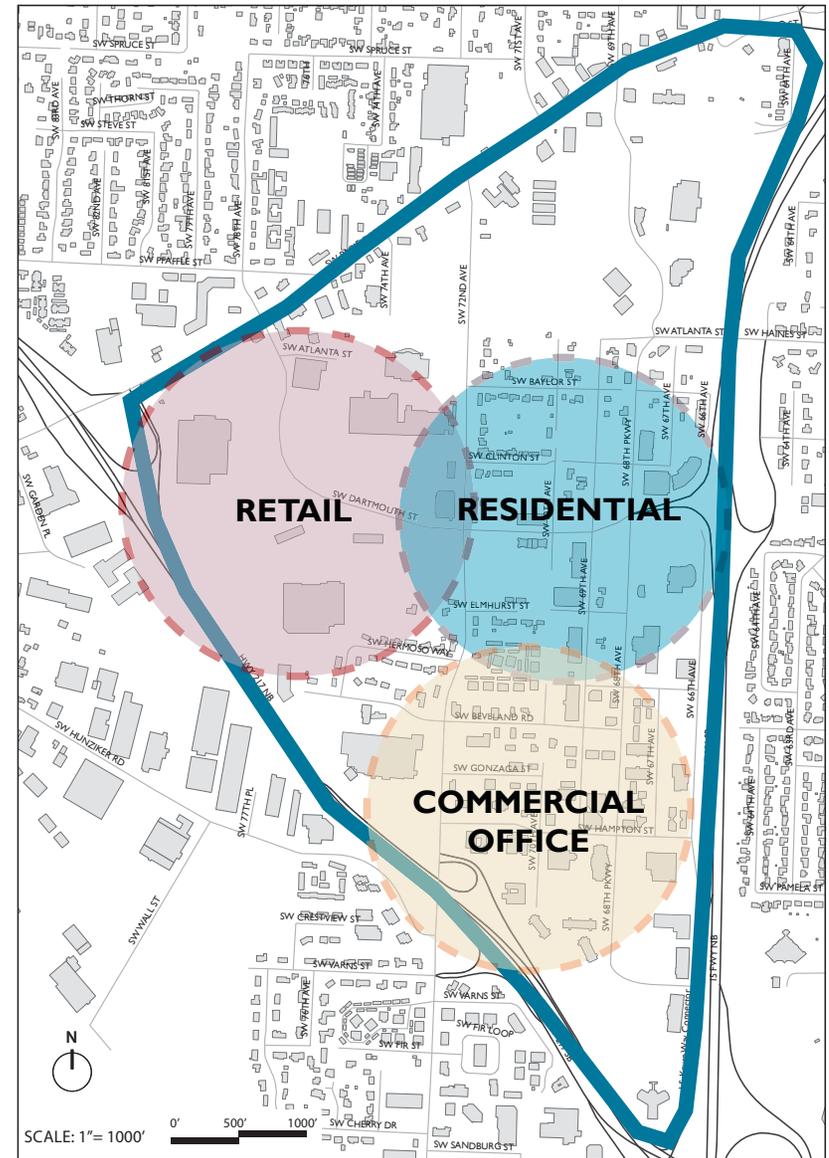


Figure I.10 Project boundary and districts

Project Boundary

Today, the Triangle is a major employment center that is home to over 7,600 jobs. According to the US Census Bureau, out of approximately 259 employed residents of the Triangle, only 16 are employed in the project area. Only 7.6% of those employed in the Triangle live in Tigard. Over 18% live in Portland and the rest are distributed between cities like Beaverton, Hillsboro, and Lake Oswego. Approximately 46% of Triangle employees commute from more than 10 miles to work and 15.6 percent commute more than 24 miles to work. These commuting characteristics help explain the auto-oriented nature of the Triangle. For a large portion of Triangle workers, walking and biking are not practical options for commuting to work.

Today, the Triangle is in transition once again and the city has identified it as an area that can absorb future growth. The Tigard High Capacity Transit (HCT) Land Use (LU) Plan was the first effort to implement a new direction for the Triangle. The HCT LU Plan produced the Tigard Triangle Station concept which envisioned a mix of neighborhood types featuring smaller blocks and a vision for a more walkable town center. More recently, the Tigard Triangle Strategic Plan produced broad recommendations for changes in zoning, automobile parking requirements, and suggestions for pedestrian-oriented streets. While the Tigard Triangle Strategic Plan did not plan for high capacity transit, the Southwest Corridor Plan now underway has studied several possible alignments for high capacity that would serve the Triangle and Downtown.

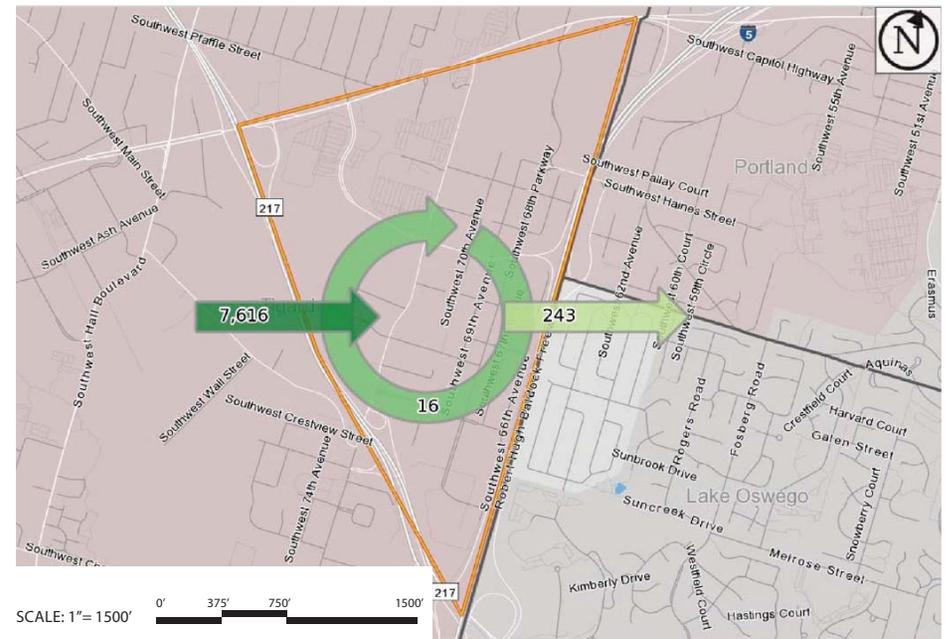


Figure 1.11 Tigard Triangle employment flow

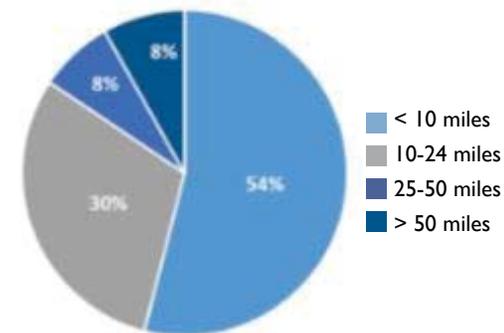


Figure 1.12 Tigard Triangle commute distance

1.4 Planning Context

The Value of Place project will help to implement existing plans and inform future planning efforts by prioritizing specific projects. It is essential to review what has been done previously in the Triangle and is planned in the near future in order to understand where the Value of Place project fits within this planning context.

1.4.1 Tigard Triangle Planning District

Currently development in the Tigard Triangle is regulated by the Tigard Triangle Planning District in Chapter 18.620 in the Tigard Development Code. It includes existing standards for street design, connectivity and site design standards for new development. These standards include many of the features like street frontages, setbacks, and streetscape features that the Value of Place project will evaluate and measure using the *State of Place* tools. The Profile and Index provided a baseline measure of how the existing standards have performed. Many of these standards will be changed as the regulatory recommendations in the Tigard Triangle Strategic Plan are adopted.

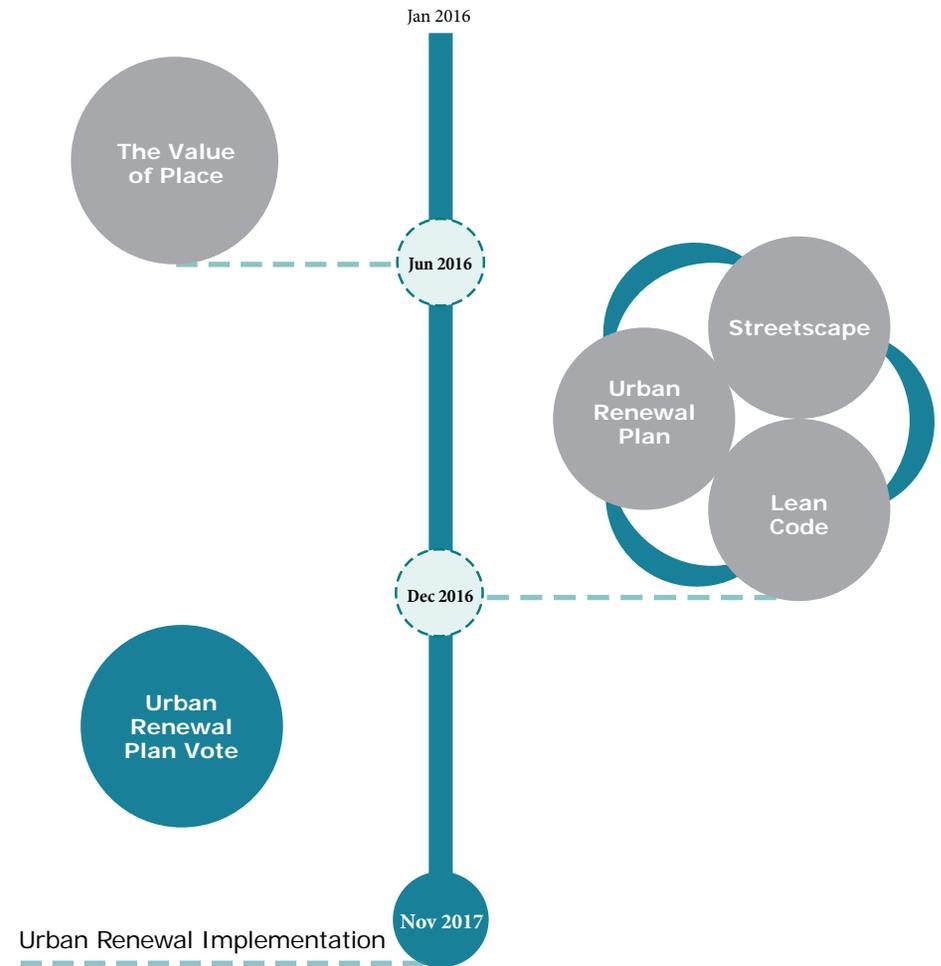


Figure 1.13 Tigard Triangle current and future planning projects

I.4.2 Tigard Triangle High Capacity Transit and Land Use Plan

Plans for high capacity transit in the SW Corridor identified the Triangle as a site for two transit stations and new land use configurations to compliment them. The plan explored four different station community types including the town center/main street, employment/retail, transit corridor and transit neighborhood types. Two of these types were selected for the Triangle. The retail area west of 72nd Ave. was identified as an employment/retail type and the area east of 72nd Ave. was identified as a town center/main street type community. The town center/main street designation is characterized by an urban feel with a mix of housing, retail, office, open space. The land use plan contemplates significant increases in density and building heights with heights up to ten stories and densities of 20-28 units per acre.

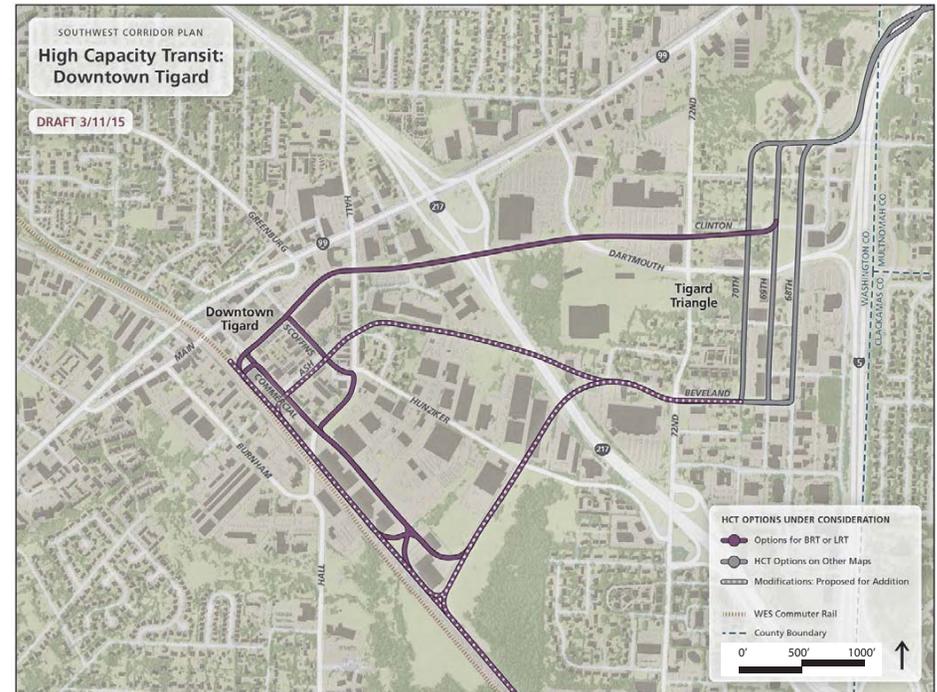


Figure I.14 Tigard Triangle land use plan

1.4.3 Tigard Triangle Strategic Plan

The Tigard Triangle Strategic Plan (TTSP) was completed in 2015. It created a new strategic vision for the Triangle with a range of land use, site design, infrastructure and regulatory recommendations. Key recommendations include:

- Completing the street grid to enhance circulation for automobiles, bikes and pedestrians.
- Increasing allowed residential densities.
- Increasing building height limits up to 75 ft.
- New multi-modal access points across 217 and I-5.
- Extending the Red Rock Creek Path and create new open space.
- Creating a new street classification system that designates pedestrian oriented streets.
- Creating new site design standards to encourage active ground floor uses, longer building frontages, minimize driveways and curb cuts and site parking lots behind buildings.

Many of the recommendations in the strategic plan, like new multimodal connections outside the Triangle and completing the street grid, are long term projects that will require large capital expenditures to implement. The Value of Place project recommends a range of lighter, quicker and cheaper alternatives that will advance the goals of the strategic plan, improve opportunity sites for mixed-use development and parks, and prioritize specific actions the city can take in the near term to start implementing the TTSP.

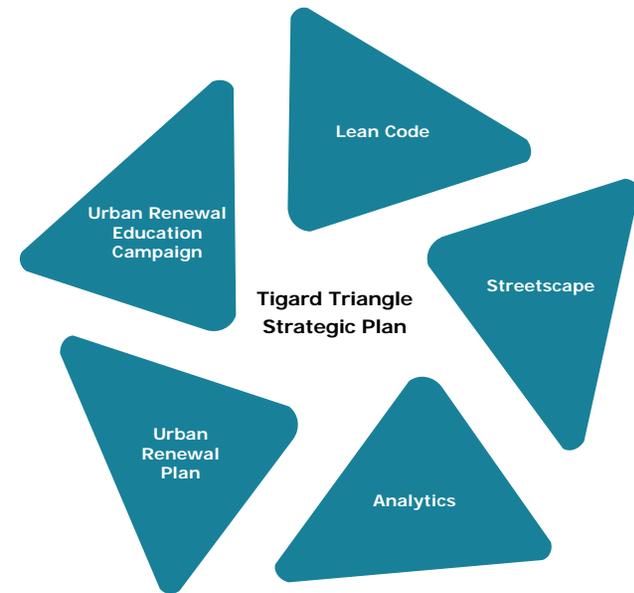


Figure 1.15 Tigard Triangle Strategic Plan implementation



Figure 1.16 Tigard Triangle lighter, quicker, cheaper project

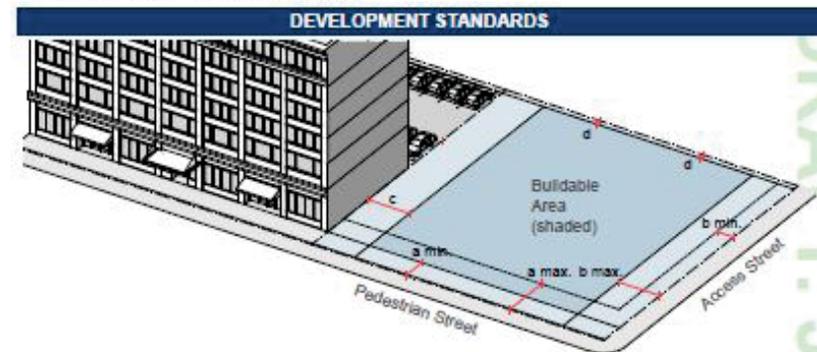
1.4.4 Draft Lean Code

The Tigard Triangle Lean Code is a draft of a new form-based code that will replace the existing zoning code in the Tigard Triangle Planning District. The Lean Code would create new regulations for building height, massing, building frontages, street orientation, parking configuration, architectural details, and street sections while reducing regulations on specific types of uses. The goal of the Lean Code is to regulate form and appearance to create a more walkable and consistent built environment. Delta Planning team reviewed the draft lean code using the State of Place products and identified specific elements that would improve with the adoption of the Lean Code as well as any deficiencies in the draft that would not advance the long-term walkability goals of the City.

1.4.5 Urban Renewal District Plan

Following the Value of Place project, the City is moving forward with a streetscape plan and a campaign to create an urban renewal district in the Triangle. The Value of Place recommendations will inform the streetscape design by identifying specific design features that have the best potential to generate value and identify opportunity sites that the City could consider purchasing with tax increment financing funds.

TABLE 18.620.05 T5 Open Summary Table



BUILDING SETBACKS		PARKING AND STORAGE SETBACKS		
a	Pedestrian Street	1 - 12 ft. max.	Pedestrian Street	18 ft. min.
b	Access Street	2 ft. min.	Access Street	8 ft. min.
c	Side Property Line	0 ft. or 6 ft. min.	Side Property Line	0 ft. min.
d	Rear Property Line	3 ft. min.	Rear Property Line	3 ft. min.
MINIMUM FRONTAGE		LOT COVERAGE		
Pedestrian Street:	80% min.	Lot coverage by buildings:	80% max.	
Access Street:	40 ft. min. from pedestrian streets			
FRONTAGE YARD TYPES (TABLE 18.620.06)				
Pedestrian Street:	shallow, urban or pedestrian forecourt			
Access Street:	shallow, urban, pedestrian forecourt, vehicular forecourt or screened parking			
Additional Requirements:	n/a			
FACADE TYPES (TABLE 18.620.08)				
Pedestrian Street:	all; porch and stoop for access to ground floor residential uses only			
Access Street:	all; porch and stoop for access to ground floor residential uses only			
MINIMUM GLAZING				
Pedestrian Street Ground:	60%			
Access Street Ground:	30%			
Second Floor:	40%			
Upper Floors:	30%			

Figure 1.17 Tigard Triangle development standards from the Lean Code



2. Findings

The Value of Place process used the State of Place products to diagnose the current state of the built environment in the Triangle, analyzed existing property and land values, reviewed the impact of existing and proposed plans on walkability, and used a proactive community engagement strategy to produce recommendations that improve the performance of the built environment and reflect the values and priorities of the Triangle community.

2.1 Community Engagement Findings

We conducted a proactive community engagement strategy to assess the values and priorities of the Tigard Triangle community. The purpose of the community engagement strategy was to

- Better understand the makeup of the walking community and their relationship to the project area.
- Understand the purpose of walking trips in the Triangle.
- Identify where people are walking in the Triangle.
- Identify the barriers to walking in the Triangle.
- Test different alternatives with the public.

To collect this input, Delta Planning used multiple techniques that were selected based on the unique characteristics of the area. With less than 400 permanent residents and over 7,000 employees, we know that the overwhelming majority of the Triangle community live outside the area and spend limited amounts of time in the area for work or shopping. Our strategy for reaching these people was to proactively engage people where they are in the area and when they are in the area.



Figure 2.1 Tigard Triangle community engagement strategies



Figure 2.2 Tigard Triangle community engagement activities

2.1.1 Survey

A ten question survey was administered between March 30 and April 31, 2016. The survey was administered online, through the mail, by intercepting individuals on the street, and at a tabling event at Western Bikeworks. The survey was available in both English and Spanish versions. We publicized the survey on the project website, during presentations to city boards and committees, through the Tigard’s social media accounts, emails to stakeholders, a tabling event, and door to door canvassing of every address in the Triangle including businesses, offices, and residences. The specific questions were designed to capture the types of walking trips in the Triangle and how they would like to prioritize certain types of improvements. The survey included two interactive mapping questions where respondents were asked to map their walking routes and indicate where they perceive barriers to walking. They were also asked to include descriptions of these barriers and many respondents used this opportunity to propose solutions they would like the City to implement.

Most of the survey respondents were employees followed by residents and shoppers. The response rate from employees, shoppers, visitors and residents was strong. The response from employees was expected given that they were the single largest Triangle constituency identified in the Census data. Residents participated at a higher rate than the Census profile indicated. The response rate from visitors and shoppers suggests that our distribution strategy to connect directly with the Triangle community with canvassing, intercept surveys and tabling events was successful at bringing these difficult to reach groups into the process.

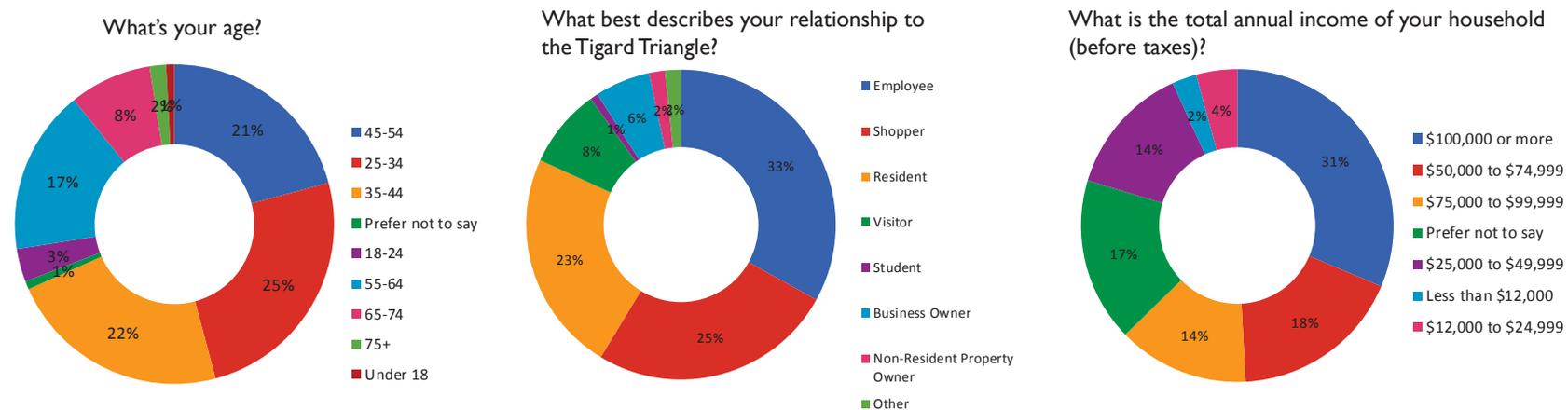
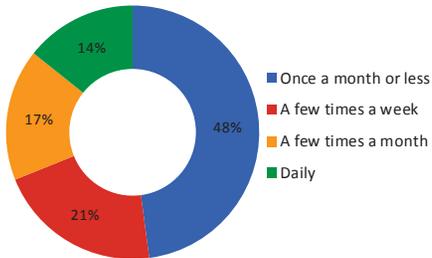


Figure 2.3 Tigard Triangle Demographic Survey Results

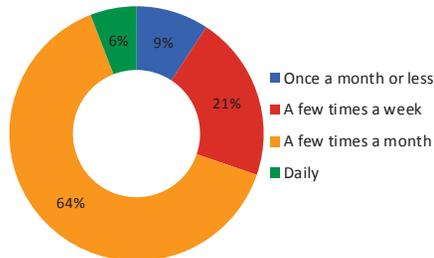
We asked people what types of walking trips they took and how often they took those trips. 75% of those responding reported taking walking trips in the Triangle a few times per month or more. Walking for errands or socializing was the most popular type of trip recorded with 60% reporting taking these trips more than a few times per month. Walks for recreation were the next most popular trip with 52% reporting trips a few times per month or more. Walking for work or school was the least reported trip but of those reporting these trips, more reported taking daily trips than those taking other type.

Our survey results created a profile of a typical Triangle pedestrian of an employee that takes occasional walks a few times per month for recreation, errands or socializing. This profile is consistent with our anecdotal observations and conversations we had in the field. We spoke with many employees taking walks on their breaks during work, often socializing with their co-workers or other area workers along the way.

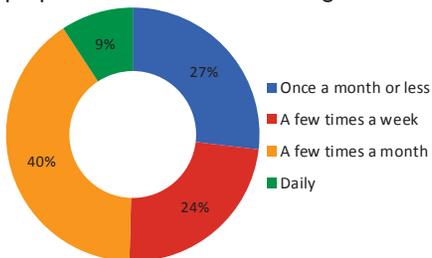
How often do you walk for the purpose of recreation?



How often do you walk for the purpose of school or work?



How often do you walk for the purpose of errands or socializing?



How often do you walk within the Tigard Triangle for any purpose?

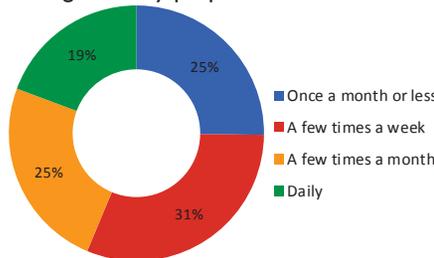


Figure 2.4 Tigard Triangle walking purposes survey results

2.1.2 Prioritization

The survey also captured input from the public on what types of improvements they would like to see prioritized in the Triangle. We asked a hypothetical question on how they would distribute \$100 between six alternatives. Five of the alternatives were selected as general indicators of the different groups of urban design categories that we felt would be relatable to a general audience not familiar with urban design. “Attracting more small business” related to a desire for more walkable destinations such as smaller scale retail stores and restaurants. “Adding/Improving sidewalks” was related to the completeness of the sidewalk network as well as a desire for more pedestrian amenities. “Improving pedestrian crossings” related to connectivity, especially at large difficult intersections. “Adding street trees or greenery” related to the aesthetic appeal of landscaping. “Strategies to reduce auto speeds” was selected as an indicator of traffic safety. The results show that adding sidewalks was the top priority, followed by attracting more small business, improving pedestrian crossings, reducing auto speeds, and adding street trees or greenery.

How would you spend \$100 to make walking better in the Tigard Triangle?

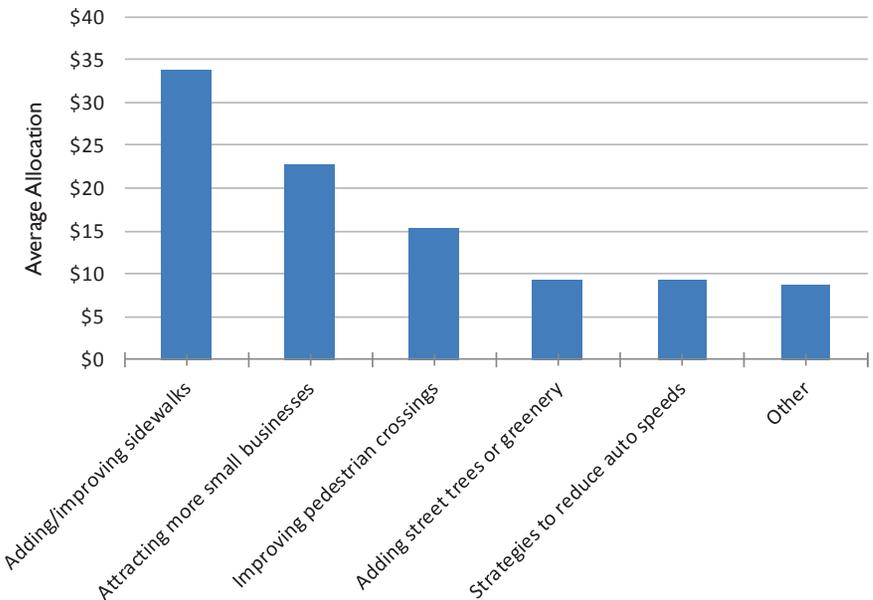


Figure 2.5 Tigard Triangle prioritization survey results

2.1.3 Walking Routes

Respondents were asked to indicate where they are walking in the Triangle in order to determine the most heavily used routes. We took the routes they indicated on the map and transposed those routes onto each street segment that we used to record the *State of Place* inventory data. This allowed us to identify the most used segments then used this data to inform our recommendations on where specific improvements would have the biggest impact on those currently walking in the Triangle.

Survey respondents recorded trips on 63 out of 70 street segments. The most walked segments were concentrated along 72nd Ave. north of Beveland St. to highway 99W. The 72nd Ave. segments between Beveland St. and Clinton St. were the most used segments. Survey respondents indicated over 20 trips on each of these segments. 68th Ave. between Dartmouth and Hampton was also popular along with east-west routes on Dartmouth St., Beveland St., and Hampton St. Most of the walking activity is concentrated around a central area south of Dartmouth between Hampton St., 68th Ave. and 72nd Ave. The segment on 72nd Ave. between Baylor St. and highway 99W also drew considerable traffic even though this segment does not have a sidewalk. People may be using this route to access the TriMet bus stop and park and ride at 74th Ave. and 99W.

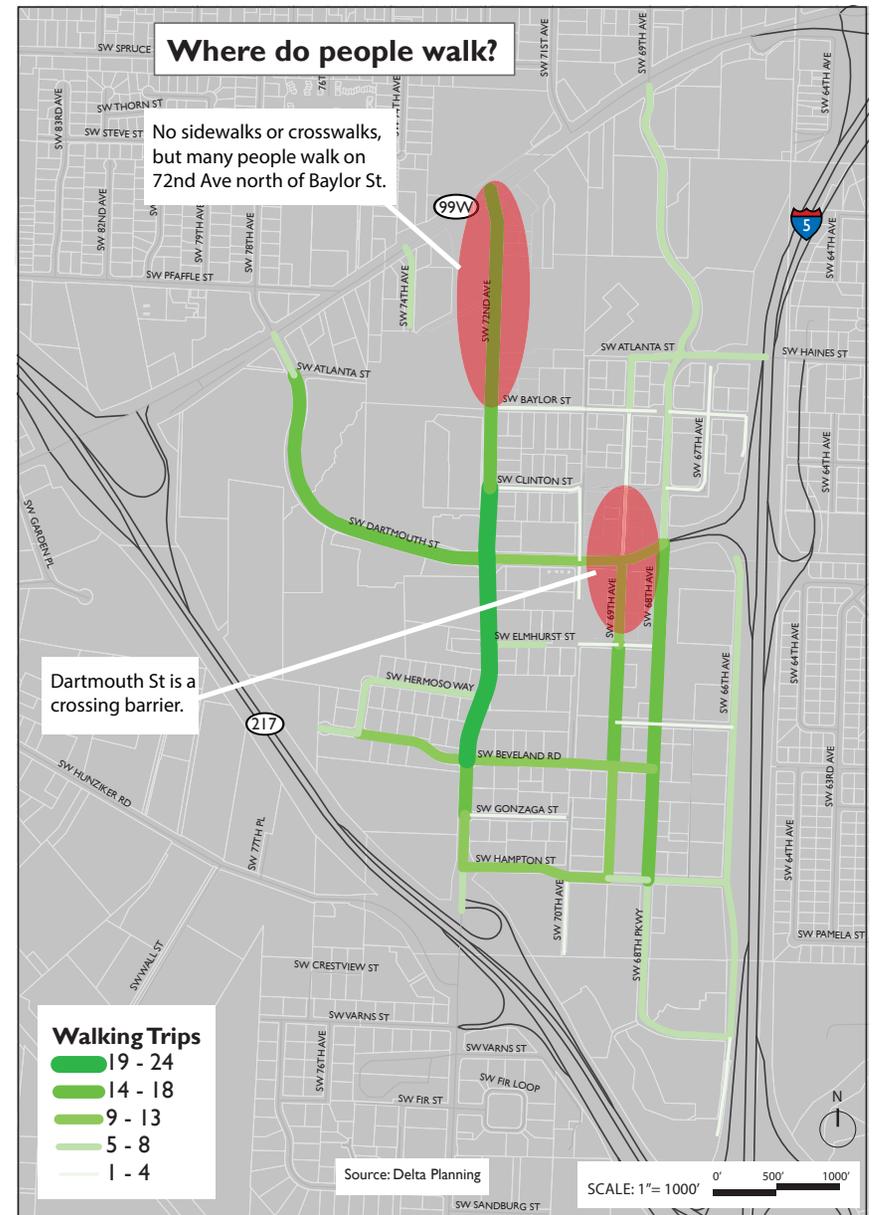


Figure 2.6 Tigard Triangle walking routes survey results

2.1.4 Walking Barriers

In another interactive map activity, respondents were asked to place pins on a map of the Triangle and indicate specific barriers or hazards they encountered on their walking trips. They also had the opportunity to annotate those markers with descriptions of those specific hazards and many suggested improvements. Over 70 people placed pins on the interactive map. Some common themes emerged from this input. Many of the hazards indicated were concentrated along 72nd Ave. north of Dartmouth St. Most common comments related to the speed of automobile traffic and the lack of sidewalks, crosswalks, and poor maintenance of the street. Others highlighted the need for more parks and trails. Several expressed their desire for more bike and pedestrian connections in and out of the Triangle with grade-separated crossing over I-5 and 217. Appendix I shows all the comments received for barriers in the Triangle.

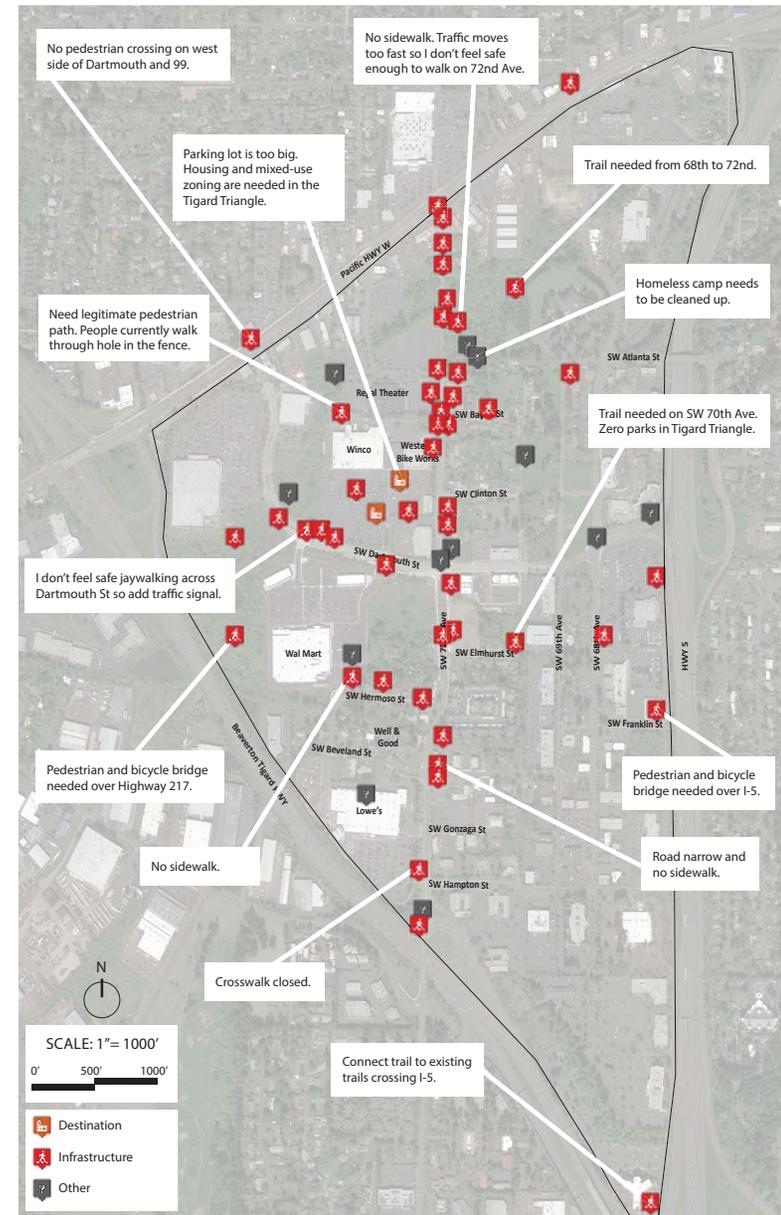


Figure 2.7 Tigard Triangle walking barriers survey results

2.1.5 Community Workshop

Delta Planning held a community workshop with stakeholders on April 20, 2016 at Western Bikeworks Tigard. The purpose of the workshop was to:

- Share the results of the *State of Place* Index and Profile
- Share preliminary results of the survey
- Receive public feedback on two possible alternative scenarios for the Triangle based on our initial findings and community engagement
- Engage stakeholders in an interactive mapping exercise

We publicized the community workshop on the survey and postcards that we distributed throughout the Triangle during the month of April as well as by email, the project website and blog, and through City of Tigard social media accounts. Food and drinks were provided and those in attendance were entered into a drawing for a \$20 gift card to Western Bikeworks. Seven community members attended the workshop. Both proposed alternatives and all the elements included in them were well received. The group did not have a strong consensus on a particular alternative. In a straw vote the “active corridor” concept received one vote more than the “neighborhood centers” concept.

In the mapping activity we asked participants to use colored dots to indicate their preference for urban design elements such as parks, opportunity sites for mixed-use development, and food cart pods. Similar themes emerged from the exercise that we observed in the survey and intercept interviews. Parks were a high priority for the community members. This was succinctly summed up with the comment “if it’s green, keep it green”. The community members identified the Regal Theatre parking lot on north 72nd Ave. as a good site for potential mixed-use development. There was a strong desire to have food cart pods along Dartmouth St. in front of Winco. The rationale for that decision was the desire have a unique attraction positioned at a highly trafficked and highly visible gateway to the Triangle. This attraction would welcome new visitors and attract shoppers from the nearby big box stores to stay and spend some of their money with local vendors.



2.2 State of Place

Delta Planning team used the *State of Place* inventory tool to capture data on over 280 built environment features in ten urban design categories that contribute to the walkability on every street segment in the Tigard Triangle. The team underwent a rigorous training process where the team practiced using the inventory in four different sample settings. The *State of Place* consultants reviewed our results to ensure that each team member demonstrated their competency in observing, capturing and evaluating each data point reliably and consistently. The data collected from the inventory was then submitted to State of Place who used their proprietary algorithm to generate an Index score for each segment and the Triangle as a whole based on a 100-point scale. Delta Planning team then used the Index to identify specific deficiencies in the built environment along each segment where improvements could be made.

The *State of Place* Index for the Triangle is 33 on a 100-point scale, which placed it in the worst category for walkability. This was a clear indicator that the Triangle is clearly not living up to the city’s goal to be the most walkable city’s vision to be the most walkable community in the Pacific Northwest. Closer examination of the ten urban design categories helped us understand in greater detail the specific elements that need to be addressed to elevate the performance of the built environment and ensure that future development lives up to the long-term vision. *State of Place* organizes the ten categories into four complementary groups. Each category is addressed in the context of each one of these groups. These broader groups in order of best to worst performance are:

- Liveliness and upkeep
- Urban Fabric
- Human Needs and Comfort
- Destinations



STATE OF PLACE PROFILE

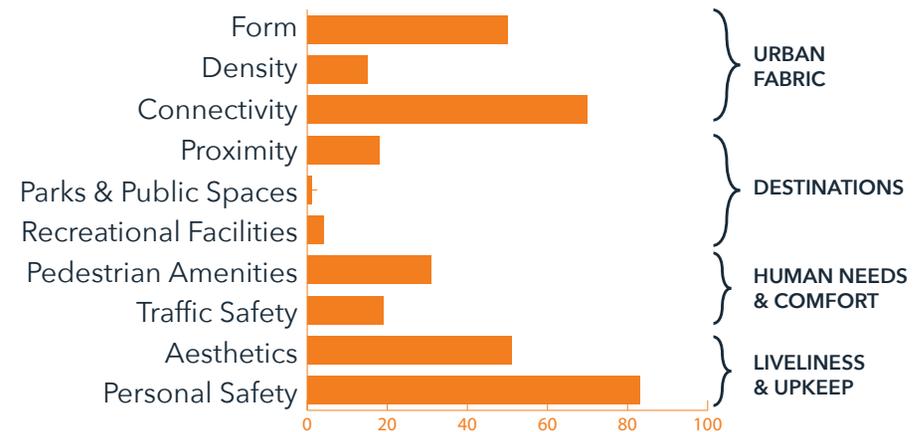


Figure 2.9 State of Place Index and profile

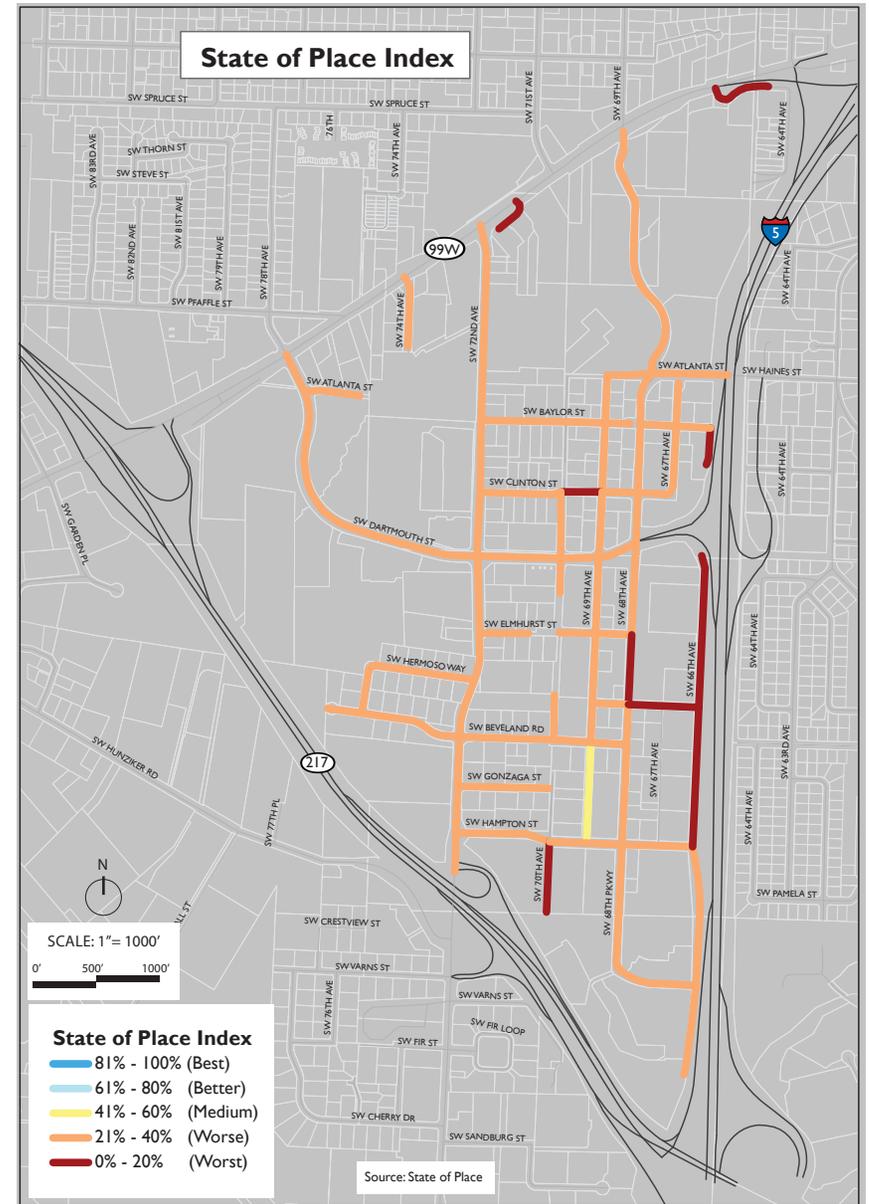


Figure 2.10 State of Place Index map for Downtown Tigid and Tigid Triangle

Figure 2.11 State of Place Index map for Tigid Triangle

2.2.1 Liveliness and Upkeep

Liveliness and upkeep includes the personal safety and aesthetics categories. Personal safety was the one category where the Triangle excelled. The specific indicators in the inventory that contributed to this score were the absence of graffiti, litter, dumpsters, broken windows, barred windows, and loose or unsupervised dogs. The presence of these indicators negatively impact pedestrians sense of personal safety and represent strong deterrents to walking where they are present. Generally, we found the area clean, well maintained, with very little evidence of graffiti, litter or other crime. We found that personal safety is not a major barrier to walkability in the Triangle. Positive indicators of personal safety include the presence of other people sitting, standing, or walking as well as our team’s subjective assessment of crime and personal safety as we walked each segment. The poorest performing segments in the aesthetics category were on 66th Ave. and Franklin St. near I-5

2.2.2 Urban Fabric

The urban fabric group includes urban design categories of form, density and connectivity. Connectivity was the second strongest performing category in the Triangle. Specific elements in the inventory that negatively impact connectivity include the presence of features like cul-de-sacs or permanent street closings and gated access points. Cul-de-sacs can be mitigated by connecting cul-de-sacs with pedestrian paths. Elements positively associated with connectivity include completeness of the sidewalk network, crosswalks, and mid-block crossings. We observed very few cul-de-sacs. While the street grid is still incomplete, most of the existing streets are connected and provide crosswalks. The sidewalk network (with a few exceptions) is complete in the office area in the southern corner and on the streets serving the commercial retail areas to the west of 72nd Ave. The inventory recognizes wide roads that carry multiple lanes of traffic in each direction as barriers to due to the difficult pedestrians often experience when crossing them. With the exception of Dartmouth St. and 72nd Ave., two lane two way streets are the norm in the Triangle which are easy for pedestrians to cross and present few barriers to connectivity.

Over the long term, completing the street grid as recommended in the strategic plan will have the greatest impact on connectivity. In the near term, the connectivity category could be improved by making low cost pedestrian connections before the street grid is fully built out.

URBAN FABRIC

		
Form	Density	Connectivity
Streetscape continuity and enclosure (e.g. setbacks, street width, building heights)	Building compactness and height	Ease of access; lack of pedestrian barriers (e.g. six lane roads)

DESTINATIONS

		
Proximity	Parks & Public Spaces	Recreational Facilities
Diversity of land-use mix	Presence, quality and access to hard and soft scape public space	Presence of outdoor and indoor physical activity facilities

HUMAN NEEDS & COMFORT

	
Pedestrian Amenities	Traffic Safety
Features that make it comfortable for pedestrians and bicyclists (sidewalks, seating, etc.)	Quality and safety of the intersection; traffic calming features

LIVELINESS & UPKEEP

	
Aesthetics	Personal Safety
Urban design features that make places dynamic and inviting	Features that influence perception of safety (graffiti, litter, broken windows, etc.)

Figure 2.12 State of Place profile dimensions



Figure 2.15 Tigard Triangle form

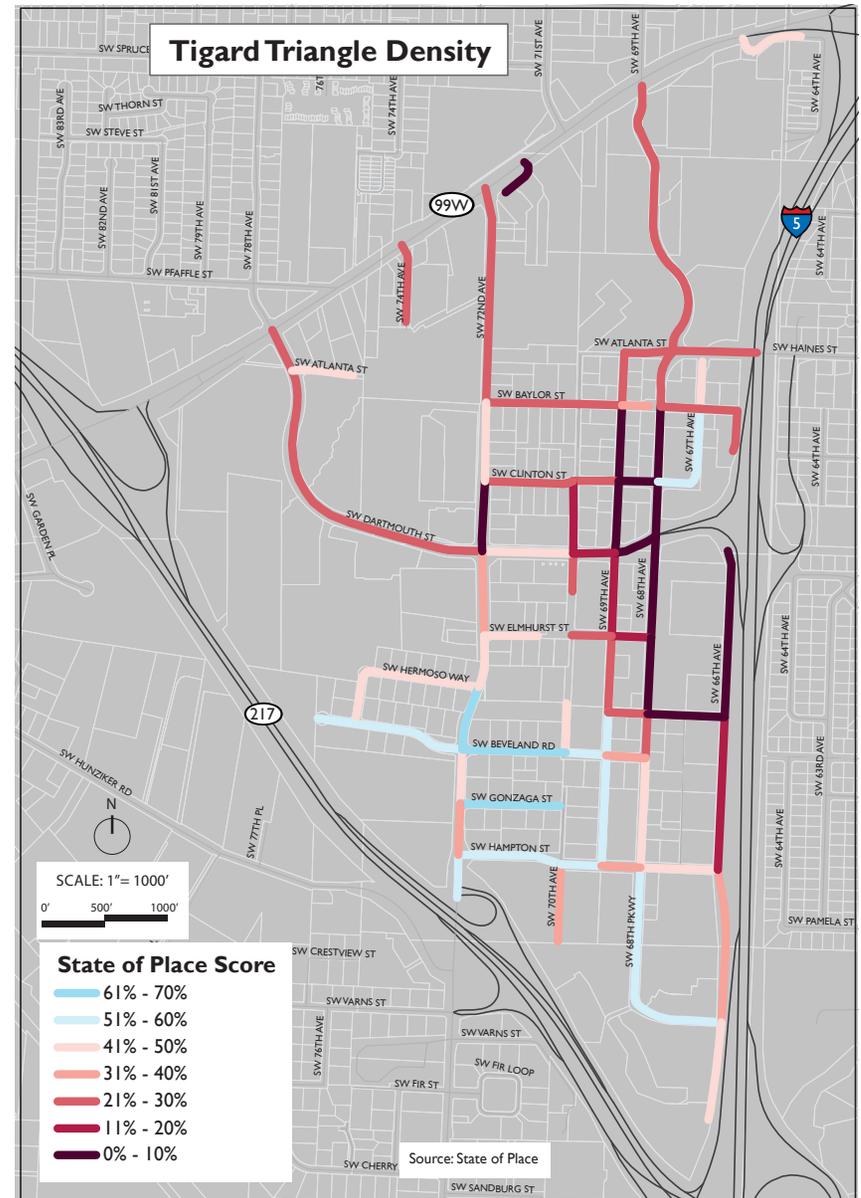
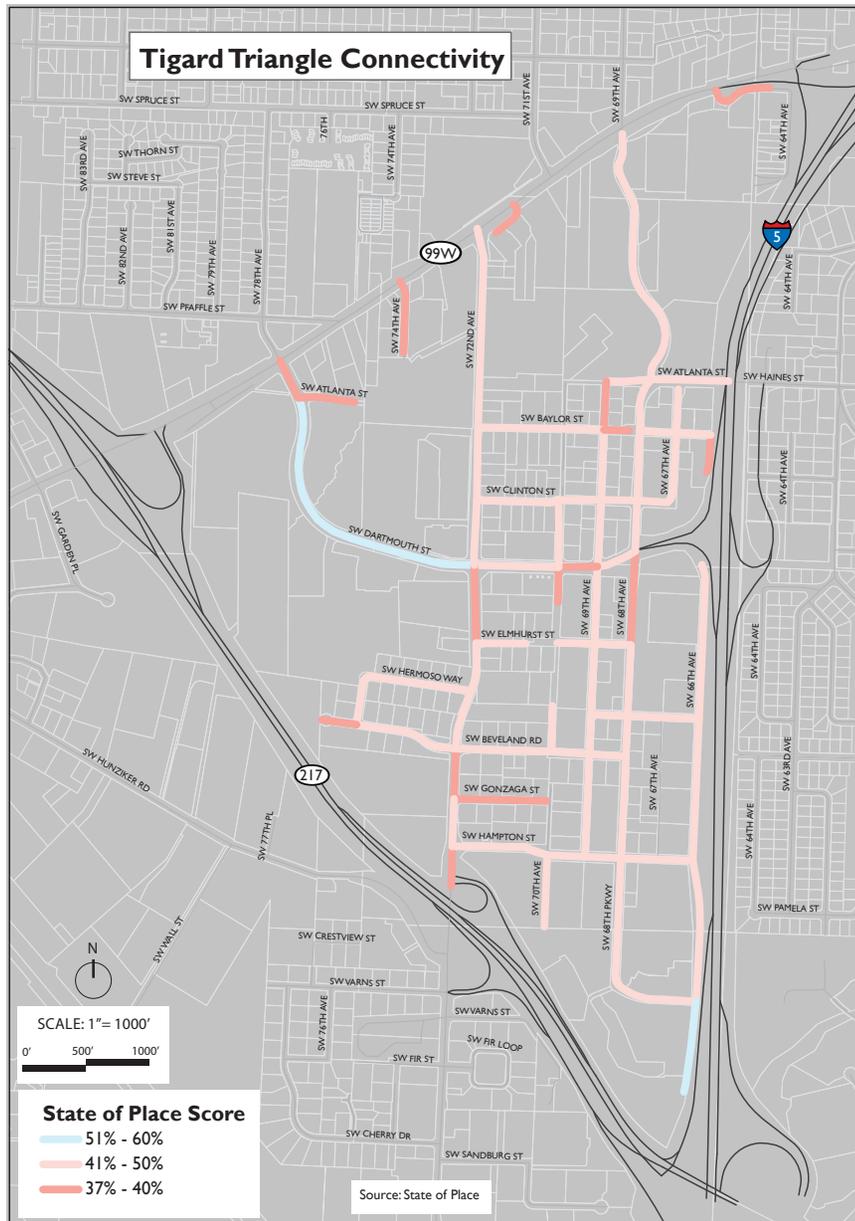


Figure 2.16 Tigard Triangle density



2.2.3 Human Needs and Comfort

The human needs and comfort group includes the traffic safety and aesthetics categories. Traffic safety was the fourth worst performing category in the Triangle. The incomplete sidewalk network, the number of inconvenient and unsafe crossings, unmarked crossings and lack of posted speed limits are examples of elements that detract from the pedestrian experience. The most problematic areas were on 72nd Ave. between Dartmouth St. and Baylor St., 72nd Ave. between Gonzaga St. and Hampton St., 68th Ave. north of Clinton and Atlanta St. near the I-5 access ramp. The 72nd Ave. segments are missing sidewalks, have key crossings that are unmarked, do not have traffic control devices or signage to alert vehicles to the presence of pedestrian and have high speed traffic that contributes to an unpleasant walking environment. The width of the street at these points and the number of travel lanes also contribute to uncomfortable pedestrian conditions. The sidewalk network is also incomplete on 68th Ave. and traffic speeds are high because it is a popular access point from I-5.

The best performing segments in the traffic safety category were Beveland St. west of 72nd Ave., 69th Ave., 68th Ave. and 66th Ave. south of Franklin St. These are all two lanes streets where on-street parking and planting strips provide a buffer between pedestrians and faster moving traffic. Overall traffic volumes are lower, traffic speeds are slower, and more frequent intersections help keep traffic calm. 69th Ave. between Hampton St. and Beveland St. was also one of the most aesthetically pleasing segments along with 72nd Ave. between Elmhurst St. and Dartmouth St. This segment along 72nd Ave. likely scored well because it was recently improved with sidewalks, street trees, and bike lanes.

Figure 2.17 Tigard Triangle connectivity

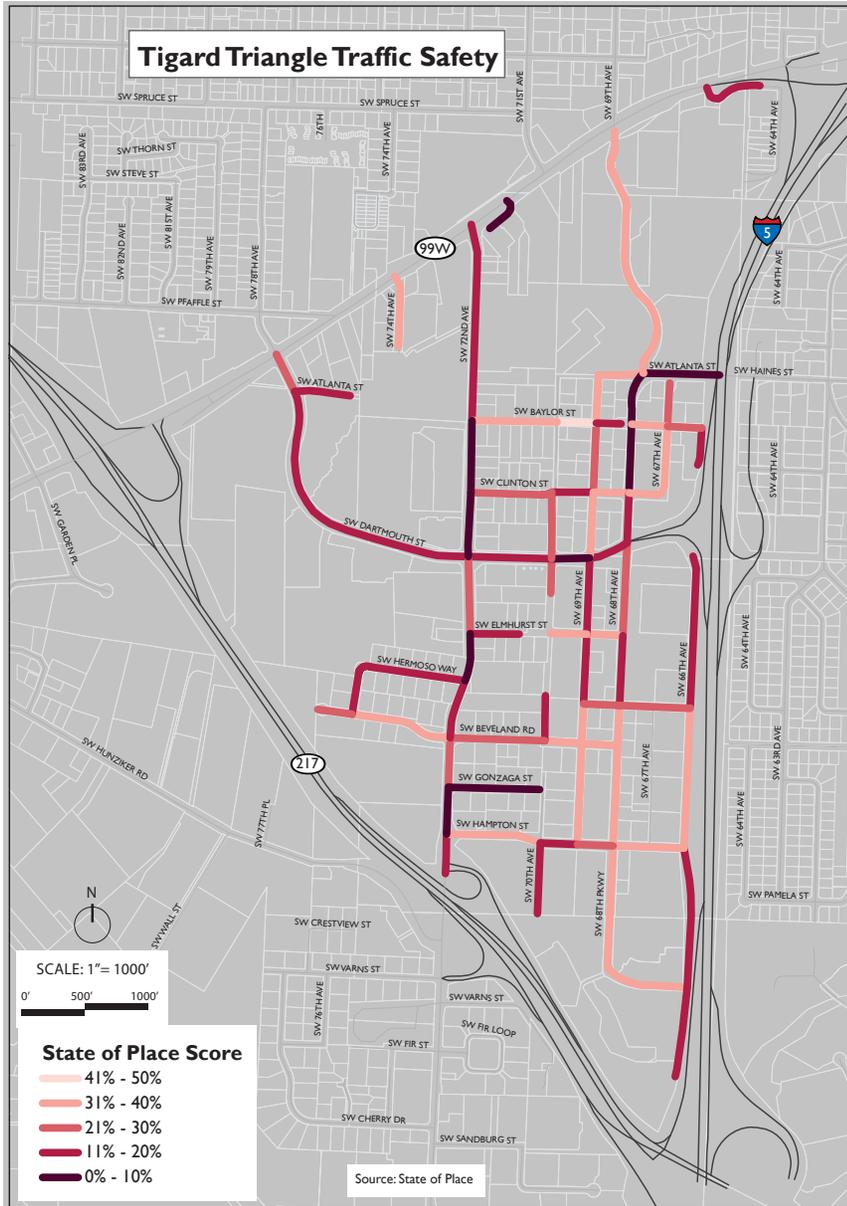


Figure 2.18 Tigard Triangle traffic safety

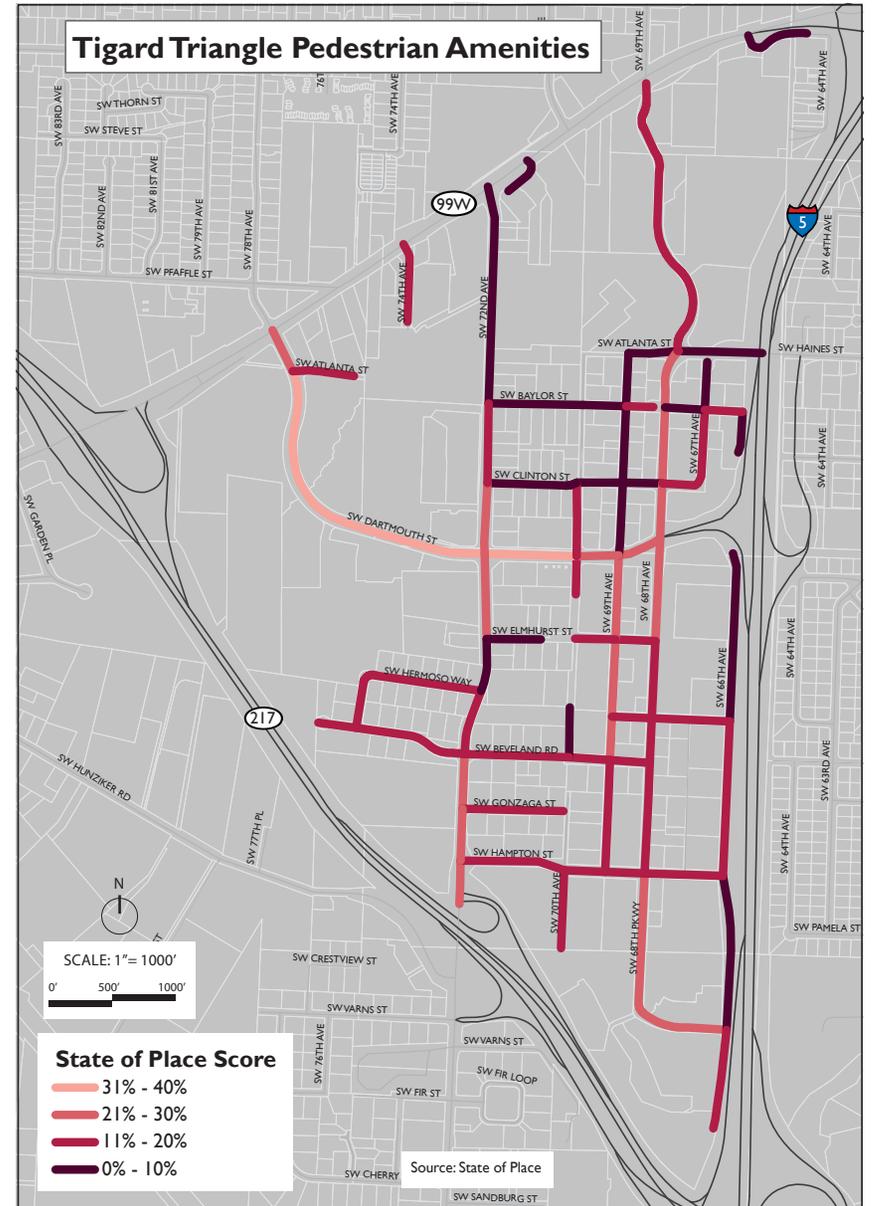


Figure 2.19 Tigard Triangle Pedestrian Amenities

2.2.4 Destinations

The destination group that showed the greatest deficit was parks, public spaces, and other walkable destinations such as small retail stores, cafes and restaurants. The only segments that have any parks or open space are the segments fronting the Dartmouth overlook. There are segments, like north 72nd Ave. that have undeveloped land that not accessible to the public. Other public spaces in the Triangle, such the Red Rock Creek path behind Wal Mart, are not captured in the inventory because they are not fronting a street segment. The strategic plan recommends developing some of the area along Red Rock Creek as open space, but only the areas adjacent to the public streets would be captured in the inventory. The Triangle is similarly lacking in recreational facilities. Only two facilities exist in the Triangle—the Regal movie theatre and the Westside Dance and Gymnastics Academy.

Other indicators of walkable destinations in the inventory include the presence of farmers markets, street vendors, restaurants and cafes or other local gathering places that are popular walking destinations. Currently, there is only one such destination in the Triangle—the Well and Good Coffee Shop—that has been open for approximately two years and appears to be very popular. Their success may be a positive indicator for the potential for similar destinations to come to the Triangle in the future. One other business—the Which Wich sandwich shop—had just opened at the beginning of the Value of Place project.

The score for the proximity category was also quite weak. The proximity score is a function of the numbers of different land uses, businesses and services available along each segment. Within the districts, single uses dominate each segment with very little diversity or variety of different services. Atlanta St. between 72nd Ave. and highway 99W was the best performing segment. This segment has the Westside Dance Academy and the Regal Movie Theater along with a few chain restaurants near 99W. SW Beveland St. between 72nd Ave. and Hermoso Way performed well due to the Well and Good Coffee shop and a few other unique services.



Figure 2.20 Park in the Tigard Triangle

2.3 Raw Score

Examining the raw scores of the segments within the Triangle allowed us to differentiate the performance of each segment in more detail than were able to do with the Index results alone. The Index provides a measure of how the Triangle performs against other neighborhoods nationally but the raw scores were useful to compare segments to each other within the Triangle. This helped us identify specific segments or regions of the Triangle where we might consider focusing improvements.

The raw scores showed that the highest performing segments in the Triangle are SW Beveland St., 69th Ave. and 68th Ave. south of Franklin St., portions of 72nd Ave. south of Dartmouth St., and the block of Dartmouth St. between 70th Ave. and 72nd Ave. Certain characteristics of Beveland St. deserve some recognition. Beveland St. is a two way, two lane street that is comfortable to walk along, unthreatening to cross, the building setbacks are not excessive and buildings have multiple entrances that are accessible from the sidewalk. Parking lots are generally located to the side or behind the buildings.

The next segments that stand out are on 72nd Ave. from Dartmouth St. south to Elmhurst St. and on Dartmouth St. east of 72nd Ave. These are segments that were recently improved with the installation of the new traffic signal at 72nd Ave. and Dartmouth St. These improvements included new sidewalks, street trees and landscaping, marked crosswalks, pedestrian signals, public art, and seating areas that have been incorporated into the recent development. The strong raw score, especially in comparison to the neighboring segments that have not been improved, can be attributed to these improvements and provide a good indicator of the performance of the current street design standards. The new development along the Dartmouth St. segment also contributes to its high raw score. These buildings have small setbacks and continuous street frontage with the parking lots positioned behind buildings, out of view from the sidewalk, and don't have driveways interrupting the sidewalk.

While these improvements have had a measurable impact, these segments also show the limits of what can be achieved under the current development code. The index scores for these segments are still mediocre due to the lack of density, mixed use, variety of businesses and types of destinations along these segments. The added width to the

streets on 72nd Ave. and Dartmouth St. likely had a negative impact on the connectivity scores by increasing the barriers for pedestrians crossing these streets.

Comparing the Dartmouth segments to the east and west of 72nd helps illustrate how the relationship between the public right of way and neighboring development patterns impact walkability. Both segments were recently improved to current standards within the public right of way with new sidewalks, crosswalks, street trees and landscaping, but the neighboring development patterns are very different. The segment west of Dartmouth is dominated by large format retail stores, large parking lots, and excessive setbacks that do not provide easy access to the sidewalk and create significant barriers to those who arrive to these destinations on foot. East of 72nd Ave. the development patterns feature buildings built close to the sidewalk with continuous storefronts that provide easy access for those arriving on foot. Parking is still provided to the rear of the building and is screened from view of the sidewalk. As a result, the raw scores for these segments are dramatically different. The Dartmouth segment east of 72nd is one of the best performing segments in the Triangle while the segment west of 72nd is one of the worst performing.

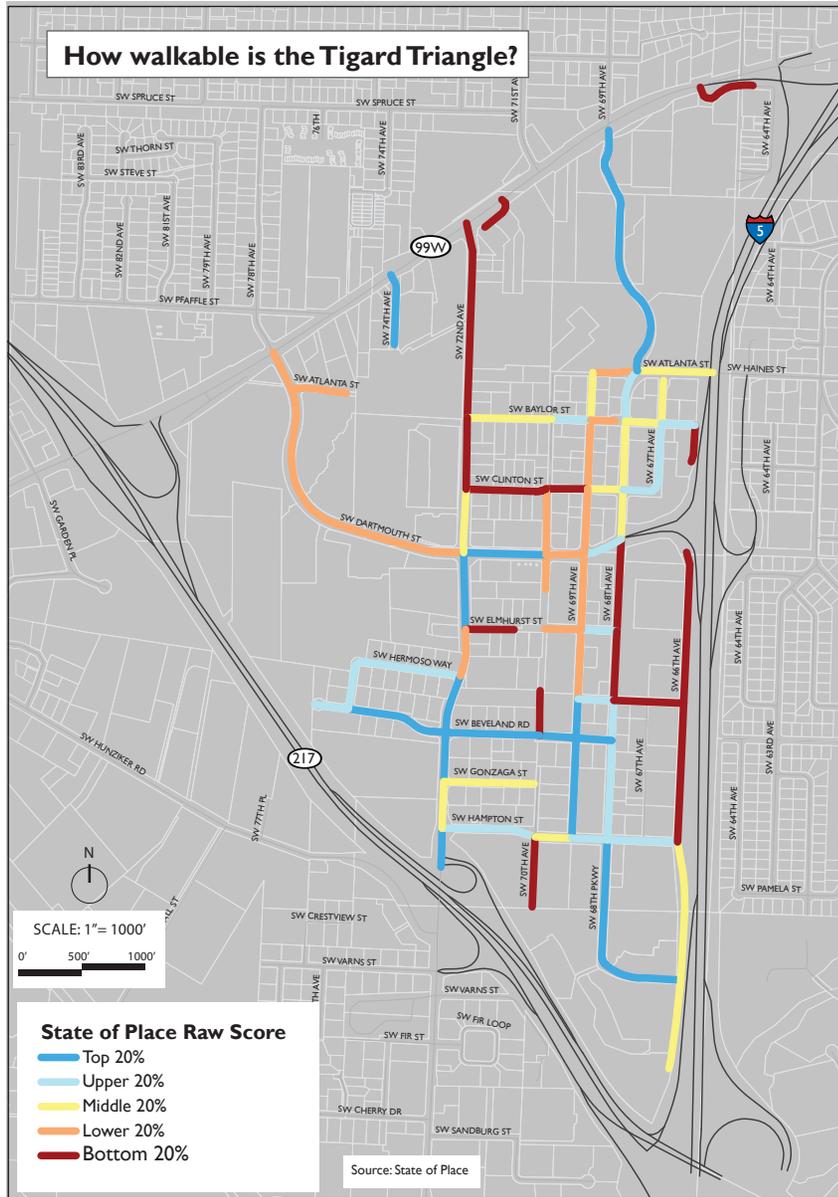


Figure 2.21 Tigard Triangle raw scores

2.4 State of Place Prioritization Report

The Prioritization report provided further analysis of the Index and Profile and was used to evaluate the preliminary alternatives and design a preferred alternative. This report identified the top three urban design categories that should be prioritized to achieve the City’s long-term goal to improve walkability in the Triangle. Those top categories are:

1. Pedestrian and Bike Amenities
2. Traffic Safety
3. Aesthetics

The report also provided a multi-criteria analysis that ranked the relative importance of each category when weighted for their impact on the overall performance of the Triangle, their importance in achieving the goals for the Triangle identified by the City, and the feasibility of implementing changes that could influence each category. Feasibility is an important consideration because many of the urban design element captured in the inventory the City can only influence indirectly. For instance, when weighted for overall impact on the Index—density ranks as the most important urban design category. While the City can regulate density with zoning and encourage it with incentives, density is primarily the result of private development that occurs over a long period of time. Similarly, proximity is largely the result of private businesses choosing to locate in the Triangle and is only indirectly the result of City decisions. The City has far more influence over decisions made in the public right of way regarding where to put pedestrian amenities like sidewalks and crosswalks. Finally, the Prioritization Report recommended specific features in each group of urban design categories the City should either increase or decrease to improve the Triangle’s performance.



Figure 2.22 Tigard Triangle priorities

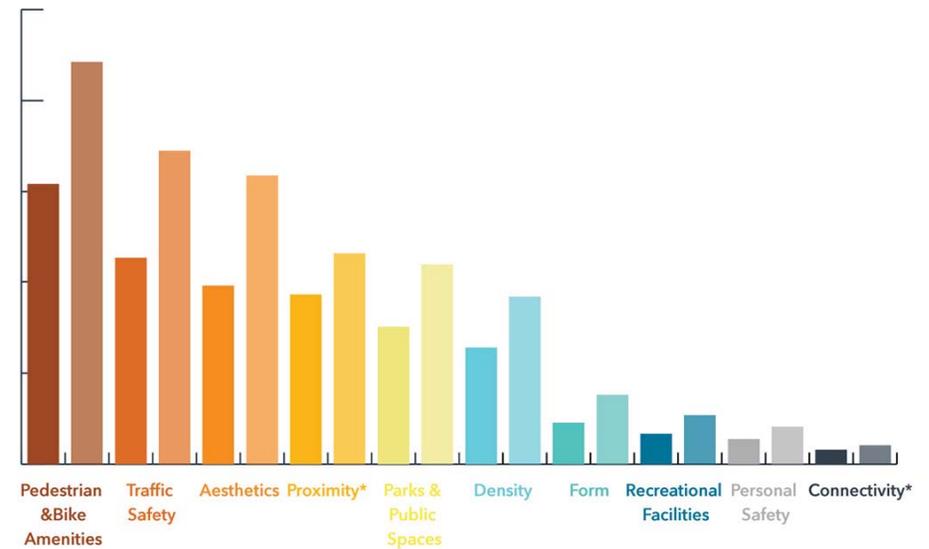


Figure 2.23 Tigard triangle relative importance of each urban design dimensions given the Tigard Triangle’s short term vs. long term goals.

2.5 Land and Property Value Analysis

The promise of the *State of Place* program is to create value and new development opportunities using strategic investments to improve walkability. In order to prioritize these investments, we analyzed existing land and property values in order to identify those properties that are underperforming and identify those properties that are most likely to respond to any improvements. Furthermore, when considering walkability as a long term planning goal, how the city chooses to measure value is an important consideration. For this project we considered three principle property value metrics:

- Total property value
- Value per acre
- Improvement to land ratio

We used the assessed values from Washington County tax lot data to conduct the analysis. Total property value is the simplest and most straightforward methods of valuing property. Using this metric, the large commercial retail properties west of 72nd Ave. perform quite well showing the highest total value in the triangle while the properties east of 72nd Ave. near 68th Ave. and 69th Ave. lag behind. These properties are also located on some of the least walkable streets in the Triangle. However, they generate this value due to the size of the lot alone. This is important because one of the principle recommendations of the strategic plan is to create a more walkable and better connected street grid with smaller blocks and smaller lot sizes. These smaller blocks will limit the sizes of lots and restrict the value that can be generated according to this metric.

A better measure of value that is consistent with the goals of the strategic plan is value per acre. Value per acre allows for a fairer, apples to apples comparison of property values that is not distorted by large lot sizes. The value of properties that develop with more compact forms, higher building heights, incorporate vertical mixed uses, and use their available footprint of land most efficiently are better captured by the value per acre metric. By comparing the raw scores with the value per acre data we can see evidence of a relationship between the State of Place indicators and the value generated by neighboring properties. The highest value per acre properties are located in the area east of 70th Ave. where the street grid is more connected, block sizes are smaller, and there are fewer gaps in the sidewalk network. The properties to the north of Dartmouth St. are underperforming. The density of development in this area is much lower and the value per acre analysis shows a need to focus improvements in this area to increase the value of these properties.

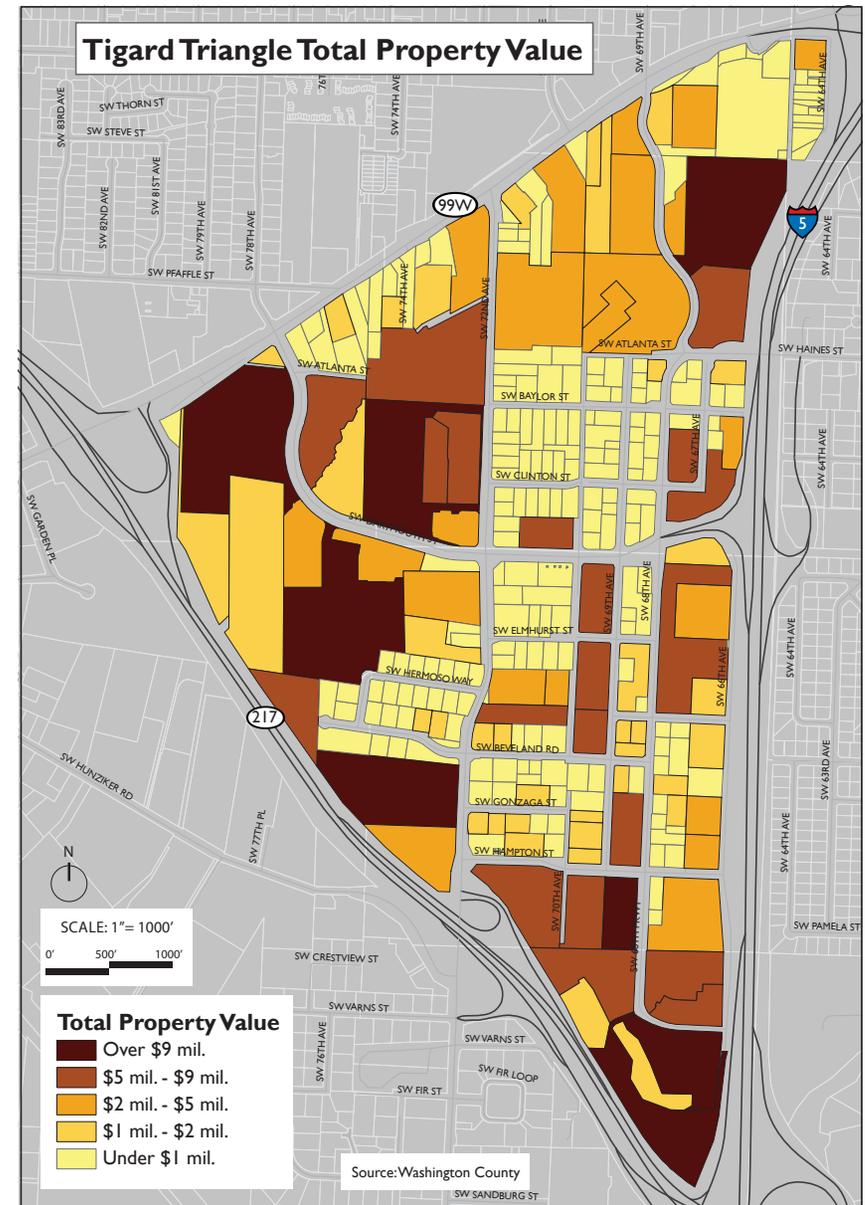


Figure 2.24 Tigard triangle total property value

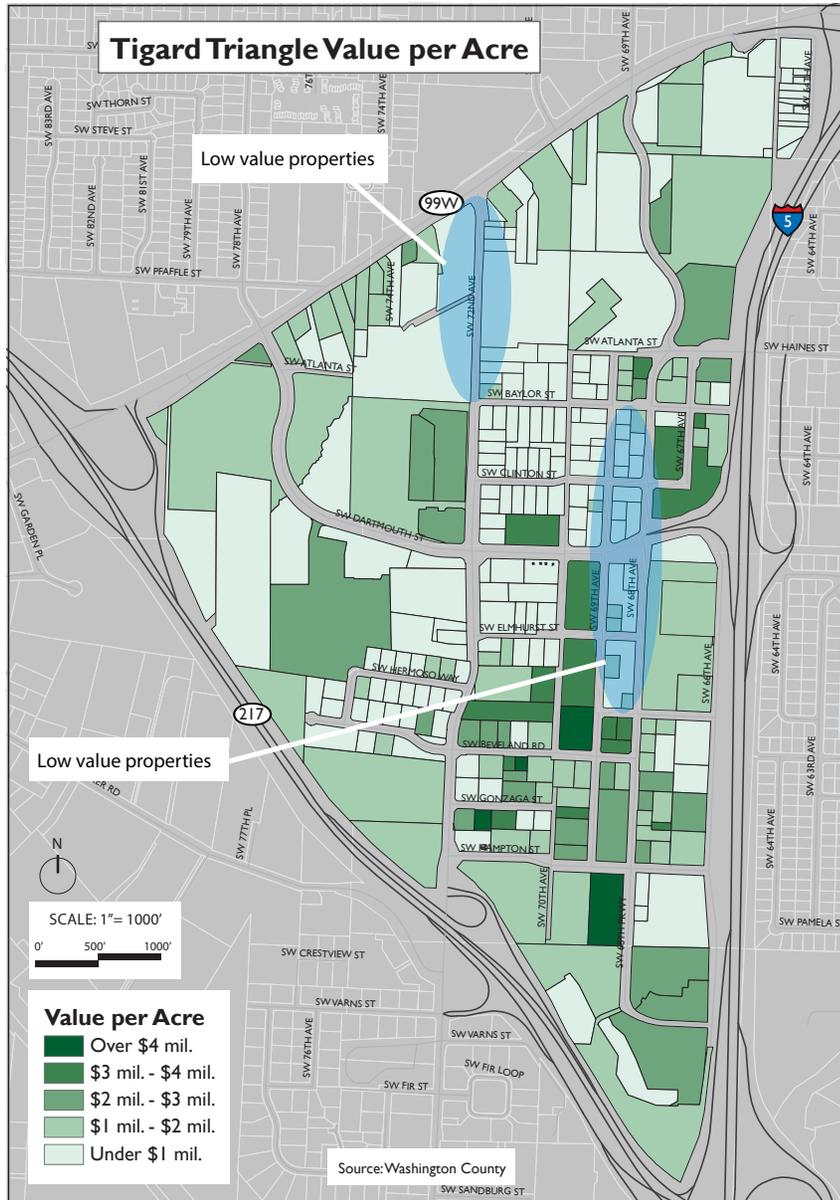


Figure 2.25 Tigard Triangle property value per acre

The Smart Math of Mixed-Use Development | Planetizen: The Urban Planning, Design, and Development Network



ASHEVILLE WALMART **DOWNTOWN MIXED-USE**

Land Consumed (acres):	34.0	00.2
Total Property Taxes per Acre:	\$6,500	\$634,000
Retail Taxes* per Acre to City:	\$47,500	\$ 83,600
Residents per Acre:	0.0	90.0
Jobs per Acre:	5.9	73.7

*Estimated from public reports of annual sales per sq.ft..

Figure 2.26 Mixed-use development value analysis

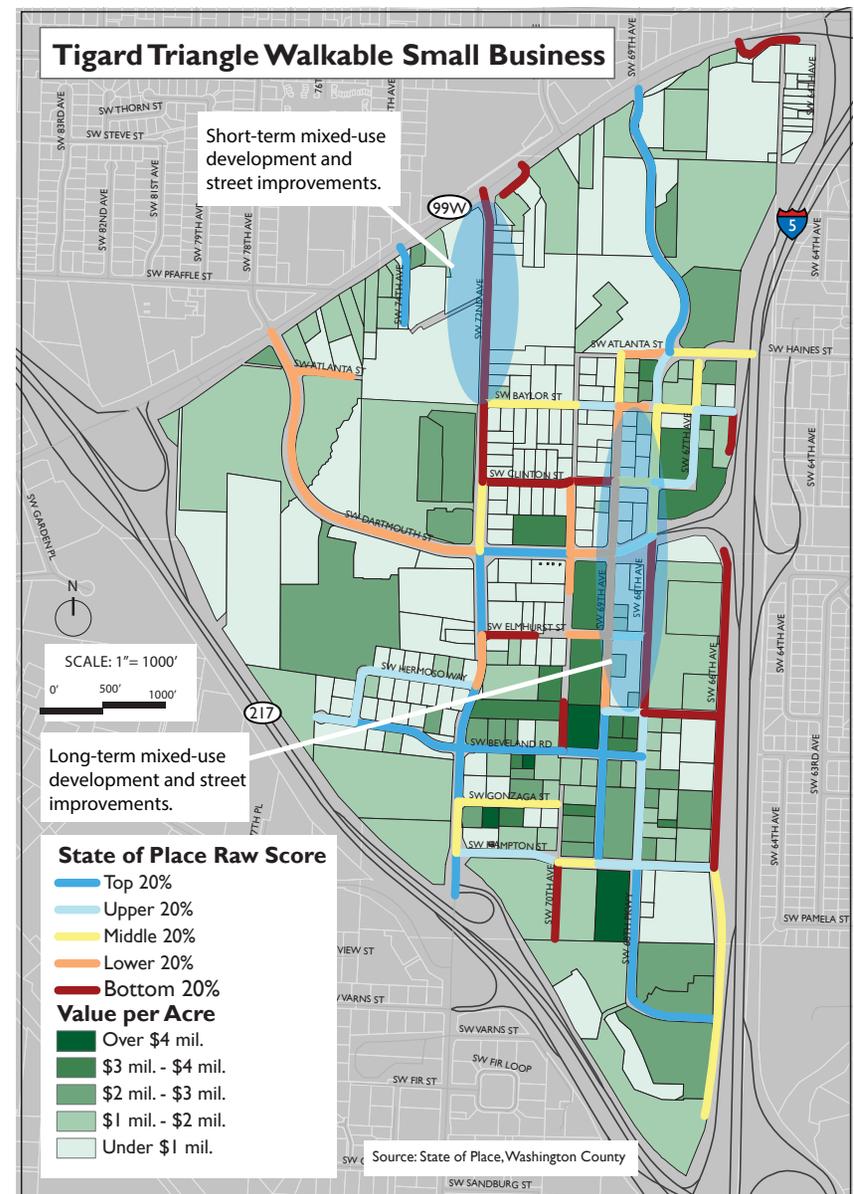
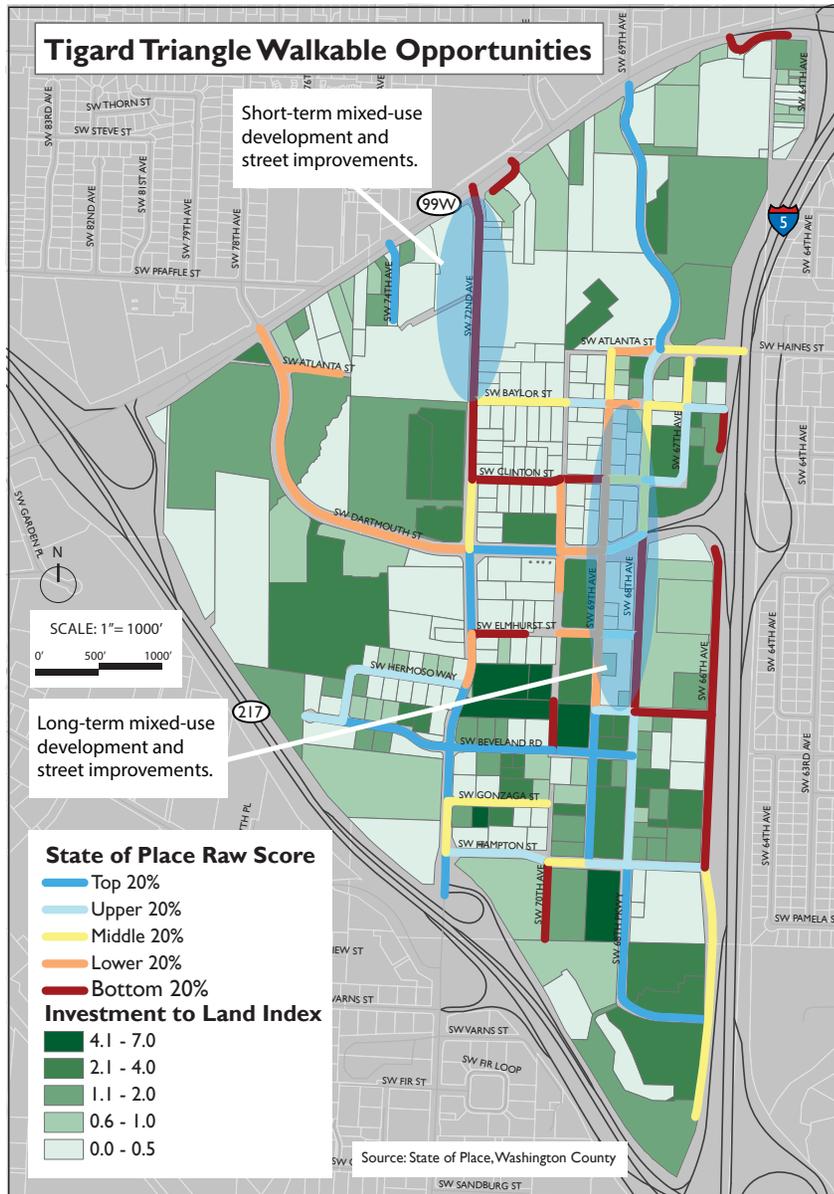


Figure 2.27 Tigard Triangle walkability opportunities

Figure 2.28 Tigard Triangle walkability opportunities



3.1 Opportunities and Constraints

The Index results and public engagement revealed certain opportunities and constraints within each group of urban design categories that we used to shape our final recommendations.

3.1.1 Urban Fabric

Opportunities

- Streets like 69th Ave. that have two travel lanes, on-street parking and low traffic volumes already have the raw ingredients to be very walkable.
- The TTSP has already prepared plans for building out a fully connected street grid.
- New pedestrian connections can be created using existing right of way. This will help the Triangle realize the benefits of improved connectivity before the street grid is built out.
- Existing development already has many positive elements of good urban form with small setbacks, continuous building facades that are oriented to the sidewalk, building entrances that are accessible to the sidewalk and parking lots that are positioned either behind or beside buildings.
- Many undeveloped and under developed lots create opportunities for development that follows a more contemporary urban form.
- The TTSP and Lean Code have already proposed increasing building height limits and allowing for greater density.
- Long term plans for high capacity transit in the areas will create opportunities for higher density development.

Constraints

- Low density development patterns create gaps in the urban fabric.
- The desire for large parking supply is high. Abundant free parking is a major selling point to attract new tenants to the Triangle.

3.1.2 Destinations

Opportunities

- Several unimproved natural areas provide opportunities to create new parks and open space.
- Public support for destinations like restaurants, cafes and small retail stores is high.
- Underutilized right of way could be used to create small pocket parks. The undeveloped right of way along 70th is a good example of an asset that is currently underutilized and neglected
- Experiment with temporary uses like food cart pods or a weekday farmers market. Experimenting with short term uses may help demonstrate that there is a market for the types of businesses the public would like to attract in the Triangle with very little risk to the city.

Constraints

- Current land owners and tenants may not be willing to give up parking in favor of other destinations like pocket parks or food carts.
- The cost of improving existing natural areas is high.
- The market for restaurants, cafés, and other small retail unproven.
- There are very few permanent residents of the Triangle to support the types of businesses that are desired.
- There are no active business associations or neighborhood associations to advocate for change.

3.1.3 Human Needs and Comfort

Opportunities

- There is a culture of walking in the Triangle. Most of those responding to our survey told us that they do take regular walks in the Triangle. This is an important finding for such an auto-oriented area and suggests that new sidewalks and pedestrian amenities will be used and appreciated.
- Complete the sidewalk network. The survey showed that improving sidewalks is the highest priority for the public in the Triangle. In some places the gaps in the network are very small and some highly traveled routes could be completed quickly and cheaply.

- Install crosswalks at key intersections. Every intersection is crosswalk in Oregon but many of these in the Triangle are still not marked. Paint is cheap and striping crosswalks in areas of high demand would increase safety and comfort for pedestrians.
- Improvements to 72nd Ave. Our survey indicates that 72nd attracts more pedestrians than any other street in the Triangle.
- There are no freight routes through the Triangle that would restrict the use of traffic calming devices.

Constraints

- Current street standards for 72nd Ave. may cause it to get overbuilt and may not be consistent with the goal of a walkable Triangle. 72nd Ave. is classified as an arterial and the Transportation System Plan calls for 72nd Ave. to be ultimately built out to five lanes with a center turn lane and bike lanes. This could make 72nd Ave. an attractive cut through route to avoid traffic on 99W which would induce higher volumes of traffic, higher traffic speeds, increase crossing distances for pedestrians and reinforce existing auto-oriented land use patterns.
- There is no neighborhood or business association to advocate for traffic calming.
- The Triangle community may not support interventions to improve the traffic safety and comfort. The largest constituency in the Triangle are employees and the vast majority of them arrive there by car. They may not be willing to accept interventions like traffic calming to improve their experience as pedestrians.

3.1.4 Liveliness and Upkeep

Opportunities

- Personal safety does not appear to be a major barrier to walkability.
- Most areas of the Triangle are clean and well maintained.
- There are opportunities to increase improve aesthetics with inexpensive improvements like colored pavement, benches, outdoor seating and street trees.
- Reduce the prevalence of blank walls through the implementation of the Lean Code.

Constraints

- Demand for surface parking will continue to limit the performance in these categories.
- Building maintenance and appearance are out of the city's control.



4. Developing Alternatives

In order to create unique solutions that advance these plans and inform future plans, we developed the following principles to craft our alternatives:

- Focus on underperforming street segments identified with the *State of Place* Profile.
- Utilize urban design solutions that reflect the priorities of the public.
- Create value by focusing improvements toward low value properties.
- Utilize leaner, quicker, cheaper solutions that advance the goals of existing plans in the near term.
- Do not duplicate the work of existing plans.

These principles helped identify several strategies that are incorporated into our alternatives in different forms. These strategies are:

- Create new pocket parks in underutilized or neglected right of way.
- Use existing right of way to create new pedestrian connections.
- Strategically prioritize new crosswalks.
- Use food cart pods to create walkable destination and demonstrate the market for small scale retail.
- Recommend opportunity sites where the city could incentivize new mixed use development.

Each one of these strategies were selected to enhance walkability in ways that create long term value and for which the public indicated support through the community engagement process. Pocket parks respond to the biggest deficiency in the destination categories. New pedestrian connections will improve the urban form categories and will help the Triangle enjoy the benefits of connectivity before the new street grid is completed. Food carts respond to one of the highest priorities for the Triangle identified in the community engagement process—encouraging more small businesses that are walkable. Finally, the opportunity sites will help the city prioritize urban renewal dollars strategically so they will generate the most bang for the buck.

We developed two preliminary alternatives that utilized these specific strategies organized around two distinct themes. These alternatives were presented to the public in a community workshop held on April 20.

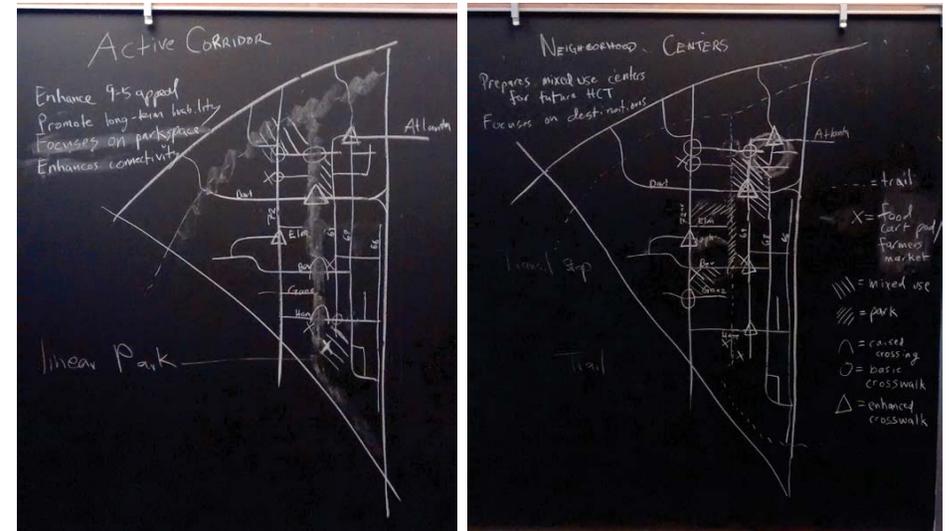


Figure 4.1 Development of alternatives for the Tigard Triangle

4.1 Alternative I: Active Corridors

The goal of the “active corridors” concept was to enhance and encourage north south movement between two open space areas envisioned in the TTSP and connect the residential areas north of Dartmouth St. to the employment areas in the south. The survey indicated that the typical pedestrian in the Triangle is an employee that walks occasionally for recreation and social interaction. The active corridor concept caters to this user with a linear park along the currently undeveloped 70th Ave. right of way. The park could be developed incrementally as a series of leaner, quicker, cheaper projects. New destinations are created with food cart pods distributed along its length. Traffic safety and connectivity are enhanced with a series of standard and enhanced crossings. In the long term, opportunity sites for mixed-use development are identified in the north and south. The two most promising sites are located on either side of 72nd Ave north of Baylor St..

Strengths of this alternative are:

- Provides new walkable destinations in the short term.
- Responds directly to requests for new parks in the Triangle.
- Improvements along 72nd Ave north of Clinton St target one of the worst performing segments in the Triangle.
- Improvements to 72nd Ave. would address the public desire for more sidewalks.
- Crosswalks on 72nd Ave. increase the level of service on the most walked streets segments.
- Improves low value properties.
- Improves over 15 urban design indicators in all ten urban design categories.
- Improves the Index score for 30 different street segments.

Weaknesses of this alternative are:

- 70th Ave. linear park may not be feasible.
- The cost of improving 72nd Ave. is high.
- The linear park could draw pedestrian traffic from 69th Ave.

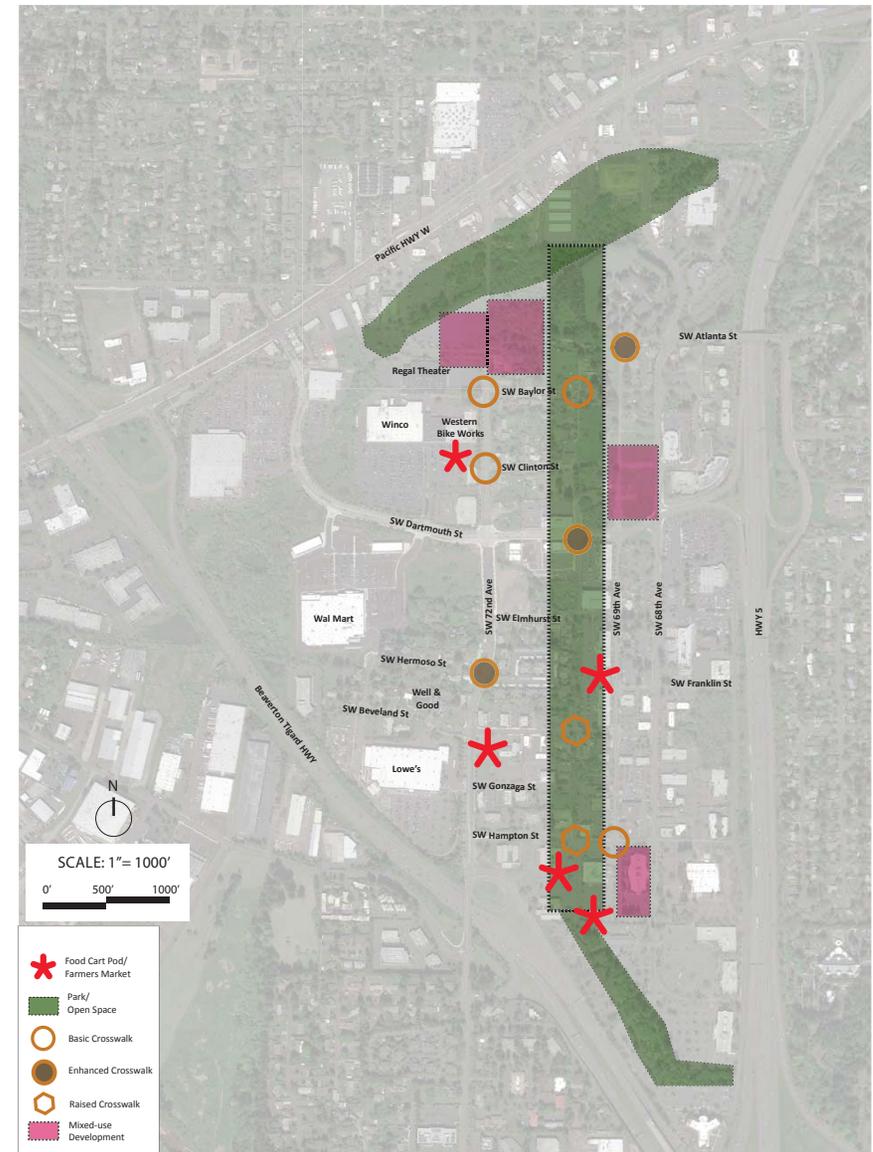


Figure 4.2 Alternative I: Active Corridors

4.2 Alternative 2: Neighborhood Centers

The second alternative directed improvements centered around two hypothetical light rail stations in the north and south areas in the Triangle. The goal with this concept was to enhance each distinct district as an independent neighborhood while still providing connectivity between them with a low impact trail. The middle section of 70th Ave. would still create new park space and also incorporate a new park on Elmhurst St. This alternative would prioritize new mixed use sites closer to high capacity transit along 69th Ave. instead of 72nd Ave. 72nd would still benefit from crosswalk improvements similar to Alternative 1.

The strengths of Alternative 2 are:

- Addresses the deficit in the parks category.
- Responds to public requests for new trails.
- Creates new short term destinations with food carts
- Improves low value property north of Dartmouth.
- Enhances service on the most used segments on 72nd.
- Improves SOP Index on the worst performing segments on 72nd, 69th and 68th.

The weaknesses of Alternative 2 are:

- Improves fewer segments than Alternative 1.
- More dependent on long term private investment.

Both alternatives were well received at the community workshop. Attendees responded positively to all the individual elements, but there was no strong consensus among the group for one alternative over the other. There was strong consensus that 72nd Ave. north of Dartmouth St. should be an area targeted for improvements and possible new development. Workshop participants also gave more attention to the commercial area west of the Triangle than we gave in either alternative. There was strong support for a food cart pod in the Winco parking lot along Dartmouth. The supporting rationale was that it would provide a visible activity generator near a major gateway. Finally, while the idea of creating park space or a trail along 70th Ave. was positively received though some raised concerns that it would draw pedestrians away from 69th Ave., reduce foot traffic on the street, and hurt the potential for long term development.

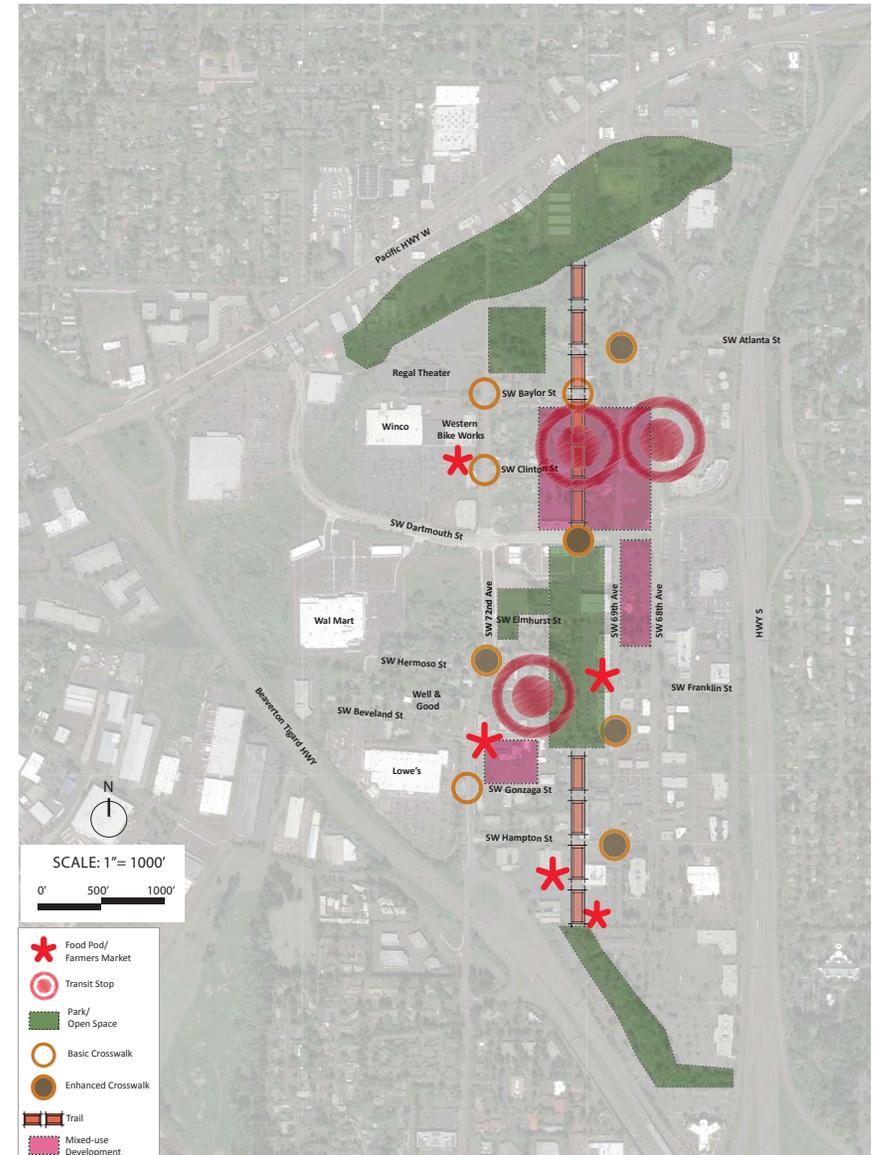


Figure 4.3 Alternative 2: Neighborhood Centers

4.3 Preferred Alternative

Delta Planning took the input received from the community workshop in addition to the analysis provided in the Prioritization Report and used them to create the preferred alternative. The most significant departure from the preliminary concepts is that the linear park was removed from consideration in order to direct more pedestrian activity to 69th Ave., which is a major pedestrian street identified in the TTSP. It does retain some short-term pedestrian connection across 70th Ave. at Clinton St. and Elmhurst St. There was consensus from stakeholders that the opportunity sites along the northern segments of 72nd Ave. are good places to focus redevelopment so those were retained along with prioritizing improvements to 72nd Ave. We also recommend developing the natural area to the north of Baylor St. as a new park to address the park shortage and support new development in this area. The southern segments of 72nd Ave would be improved with new crosswalks at select locations and a park site at the corner of 72nd Ave. and Elmhurst St.

Over the long term, the preferred alternative recommends improvements to the pedestrian district along 69th Ave. Improvements proposed here are new crosswalks at select locations that correspond to points where key east-west streets are proposed in the TTSP. Some of these crossings are proposed as raised crosswalks that would provide traffic calming benefits as well as improve traffic safety and improve connectivity. The opportunity sites were selected to invigorate the pedestrian district and add value to underperforming properties. A new park south of Franklin Street responds to the need for park space to the south. Two sites for food cart pods round out the alternative. The pod to the south near the corner of 69th Ave. and Beveland St. would provide an immediate activity generator to serve the office workers in the southern employment district. The pod along Dartmouth St. would provide a new attraction at a major gateway to the Triangle.

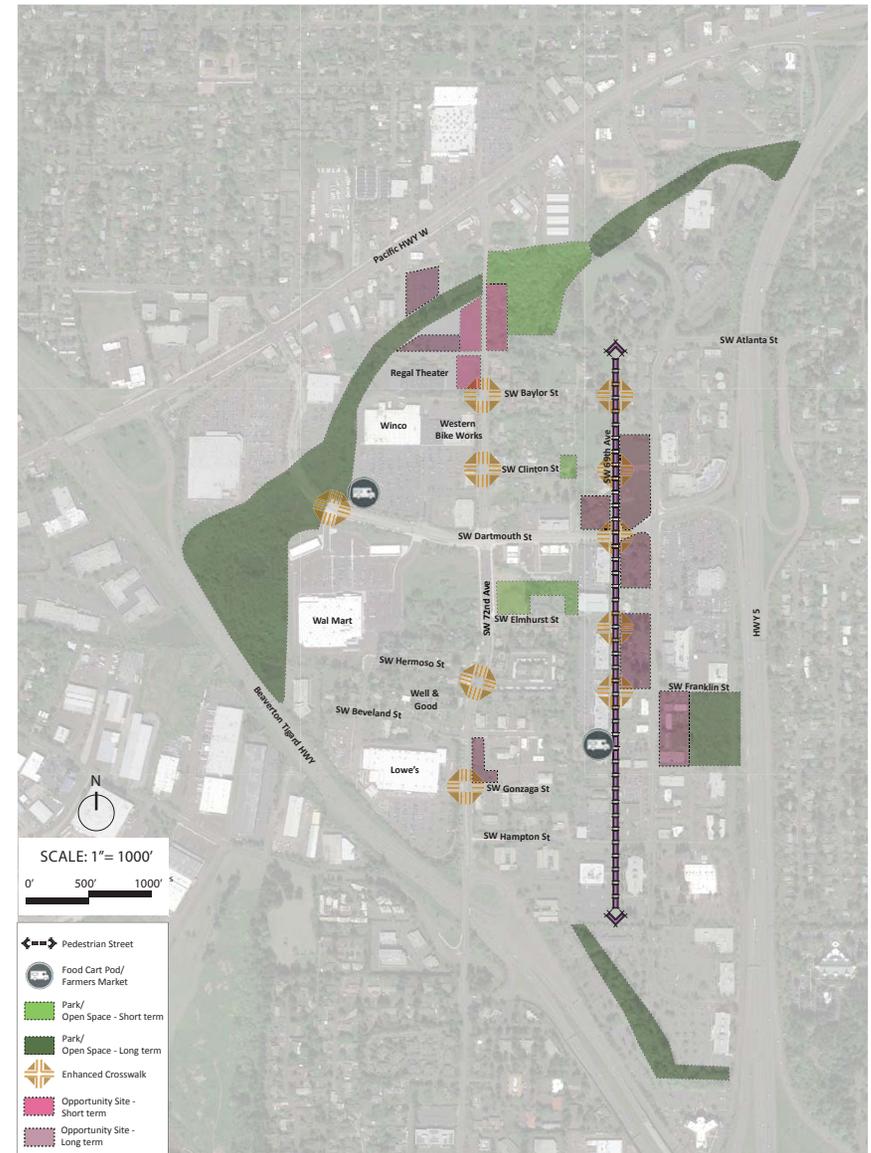


Figure 4.4 Preferred Alternative



4. Recommendations for Implementation and Prioritization

This chapter provides details on the specific actions to implement the preferred alternative. Recommendations are organized with the highest priorities first. We considered several criteria in prioritizing these recommendations:

- What is the relative cost and risk to the City?
- Does it have public support?
- Does it respond to the weighted priorities in the SoP Prioritization Report?
- Does it implement the goals of the Tigard Triangle Strategic Plan?
- Is it explicitly addressed in other plans under consideration?
- Is it timed with the arrival of high capacity transit?

We assigned the highest priority to the recommendations that will have the greatest impact on walkability for the lowest cost. Many of the specific actions are either recommended in the TTSP or are being considered under the Lean Code. These recommendations will help the City determine where they should apply resources first for maximum effect. Finally, with the arrival of high capacity transit additional resources will be available for some of these improvements to the bike and pedestrian network, therefore, our recommendations prioritize areas that are less likely to qualify for these funds.

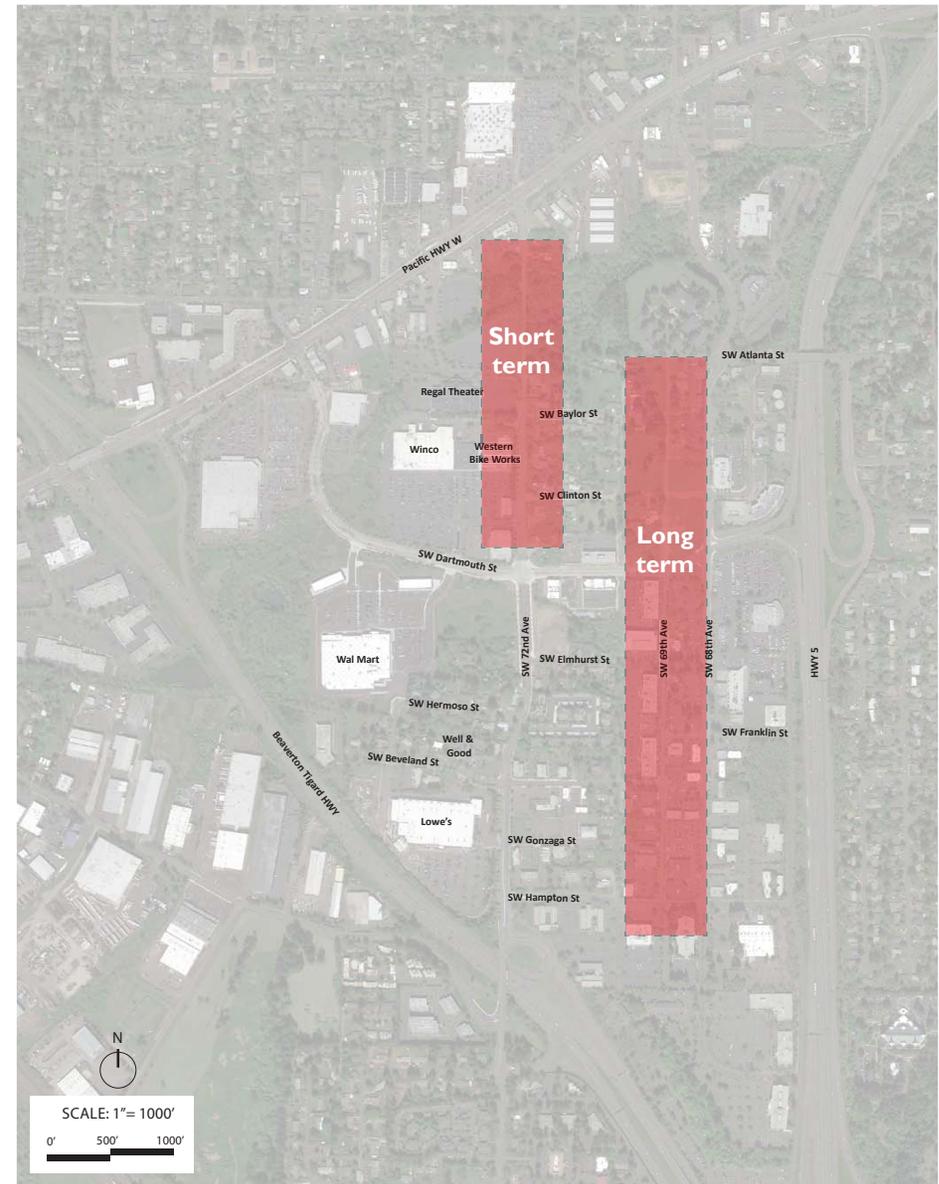


Figure 5.1 Tigard Triangle Priority Areas

4.1 Short Term: 72nd Ave north of Dartmouth St.

4.1.1 Crosswalks at Clinton and Baylor

Striping crosswalks on 72nd Ave. is a low cost intervention that will reduce the barrier 72nd Ave. currently presents for pedestrians that are traveling east and west through the Triangle between the residential and employments districts east of 72nd and the retail area to the west. Specific evidence that support prioritizing these crosswalks include:

- Improves comfort and safety for pedestrians traveling to and from the major retail areas on 72nd Ave.
- Addresses the walking hazards identified by the public through our community engagement.
- These locations have some of the highest pedestrian activity in the Triangle.
- Improves connections between districts, especially those that take walking trip for personal errands.
- Low cost.

Striping these crosswalks will increase two of the highest priority categories in the prioritization report—pedestrian amenities and traffic safety at relatively lost cost. Our public engagement findings also support prioritizing these crossings. Survey results indicated that these are the most traveled segments for pedestrians in the Triangle and where many survey respondents indicated a high concentration of walking hazards. Specifically, the crosswalks at these locations would improve urban design elements with marked crossings, convenient crossings, safe crossings and in some cases curb cuts, midblock crossings and pedestrian signals depending on the type of crosswalk design chosen by traffic engineers. Generally, the crosswalks nearest the Dartmouth intersection should be prioritized first.

4.1.2 Connect Clinton St.

While we did not advance the 70th Ave. linear park concept into the preferred alternative, there are still opportunities at Clinton St. to create new pedestrian connections for pedestrians. This would improve east west connectivity utilizing existing right of way and create an attractive and inviting pedestrian corridor connecting residents and employees to shopping and services west of 72nd Ave. Improvements like landscaping and benches could be incorporated here to create small pocket park. This would be an excellent candidate for improvement under the “leaner, quicker, cheaper” program. These improvements would create new walkable destinations to enhance the livability of the area for current and future residents with much needed park and open space.

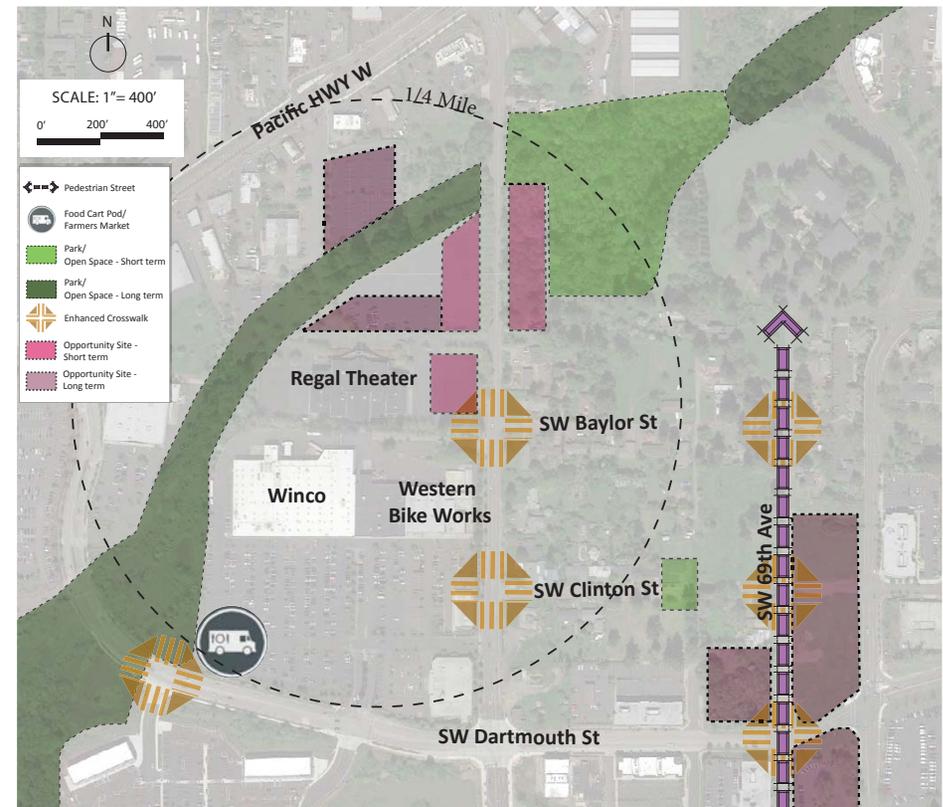


Figure 5.2 72nd Ave north of Dartmouth St. short term improvements

4.1.3 Improve 72nd North of Dartmouth

72nd Ave is the strongest candidate for a full scale street improvement project. A full street improvement would expand and complete the sidewalk network, add a sidewalk buffer, street trees, lighting and could potentially include benches and on-street parking. This recommendation delivers several key outcomes including:

- Improving the weakest performing segments in the Triangle.
- Addressing the highest priority urban design categories.
- Providing enhanced service to the most heavily used street in the Triangle.
- Addressing the segments that the public has indicated present the greatest barriers to walking in the Triangle.
- Supporting new development opportunities on adjacent property.

The overall impact of the improvement would depend on the specific street standards that are ultimately adopted into the development code. The TTSP does not recommend any changes to the current street sections for the Transportation System Plan which calls for four lanes, a center median with left turn pockets where needed and bike lanes. Adding lanes and building out 72nd Ave. according to this standard would increase crossing distances for pedestrians and increase overall traffic volumes. This would not only hurt the City’s walkability goals in the Triangle but it could make 72nd Ave. an attractive cut through route highway 99 traffic and reinforce the auto-oriented development patterns that are already established to the west. In order to avoid these outcomes, one of the key recommendations identified in the Prioritization report is the reduce the number of vehicle lanes. The current street section for 72nd Ave. should be revised, number of lanes reduced, and the city should adopt new street sections that better align with the goals for the Triangle.

The Draft Lean Code does address this problem with street sections that feature fewer travel lanes and on-street parking. It recommends street profiles for these segments which range from four travel lanes with no left turn lanes and tapers down to two travel lanes as 72nd Ave. approaches the intersection with highway 99W. These recommendations are much more consistent with the overall walkability goals for the Triangle. As a compromise between the existing street profiles and the ones recommended in the draft lean code, we recommend adopting a street which features two travel lanes, bike lanes, on-street parking, a center median that would incorporate pedestrian refuge islands at key crossings and left turn pockets where needed. This option would respond to nearly all the key recommendations identified in the Prioritization report without the significant negative impacts of the current standard.

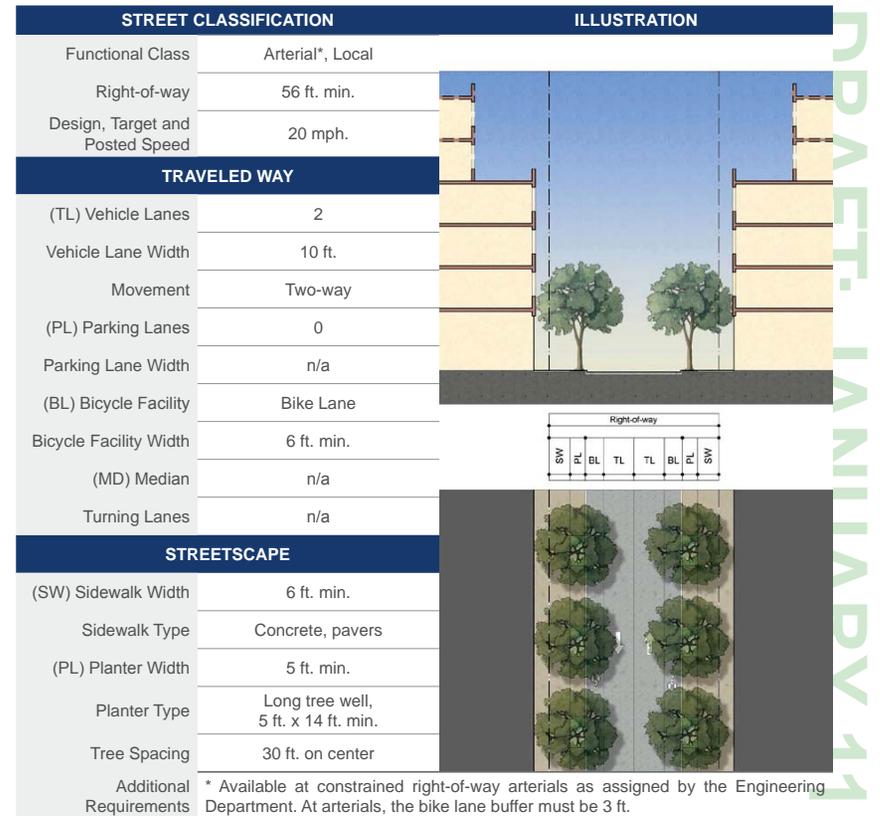


Figure 5.3 Lean Code cross section improvements along North 72nd Ave.

4.1.4 Opportunity sites at the Regal Theatre parking lots.

Over the long term, we identified a number of opportunity sites where the City may consider prioritizing new development. For the purpose of this report, we assume that this development will follow the development patterns forecast by the market analysis conducted in the course of developing the TTSP, which forecast the strongest demand for medium density multifamily housing. Therefore, we assume these developments will have a multifamily housing component in the mix of uses.

Advantages to these sites are:

- Create new walkable destinations in close proximity to existing services.
- Improvement to land ratios indicate good potential for redevelopment.
- Proximity to existing high frequency transit on highway 99W.
- Proximity to existing services on highway 99W.
- Introduces mixed use west of 72nd Ave.
- Community engagement shows support for these sites.

Disadvantages of these sites include:

- Funding is likely dependent on establishing an Urban Renewal District
- The market for mixed use in the Triangle is unproven.

The primary goal in prioritizing development at these sites is to capitalize on the street improvements recommended on 72nd Ave. Low property values in this area indicate that these lots are underdeveloped. Low improvement to land value ratios indicate that there is potential for attracting new development in this area. Those that participated in the community workshop concurred with our findings that these sites are good candidates for redevelopment. Unlike some areas of the Triangle, these sites already have good access to a wide variety of services within walking distance on highway 99W even if these destinations are auto-oriented and not aesthetically pleasing. While the rest of the Triangle has only limited transit service, highway 99W provides high frequency bus service that directly serves downtown Portland.

4.1.5 Park site north of Baylor

The park site north of Baylor St. would mainly serve new development along north 72nd Ave. Currently this is an undeveloped natural area that already sees some use. The popular sentiment at the community workshop was that this green area should be preserved. The land value for the property is low and it could be developed in conjunction with one of the opportunity sites we identified on 72nd Ave.



Figure 5.4 72nd Ave at Atlanta St. Before



Figure 5.5 72nd Ave at Atlanta St. After

4.2 69th Ave. Pedestrian corridor

4.2.1 Food Cart Pod at 69th and Beveland

Food carts are an inexpensive measure that can help generate new pedestrian activity in the Triangle with very little risk to the City. These would provide new walkable attractions for employees, visitors and residents. One of the top priorities identified in our survey was attracting small business and one of the primary complaints we heard was the lack of walkable destinations. Despite these strong desires, the economic analysis conducted for the TTSP concluded that the market for neighborhood scale retail in the Triangle is weak and the market is unproven. Food cart pods would address this priority quickly and cheaply without the need for more brick and mortar development. If successful they would demonstrate that there is potential for small retail in the Triangle and provide a pool of new tenants for smaller retail spaces in new mixed use developments as they become available—likely with the arrival of high capacity transit.

4.2.2 New pedestrian connection at Elmhurst

As with the pedestrian connection at Clinton St. and 70th Ave. there are still opportunities at Elmhurst St. to create a new connection for pedestrians at relatively low cost. This would improve east west connectivity utilizing existing right of way opening a direct, convenient and attractive route from some of the largest employers to the retailers to the west. This would directly serve the needs of the public that are walking for personal errands. Incorporating landscaping and benches would immediately improve the aesthetic appeal of the Triangle as well as addressing the shortage of parks and open space. These would be excellent candidates for improvement under the “leaner, quicker, cheaper” program.

4.2.3 Make 69th a truly pedestrian oriented street

69th Ave. is a major pedestrian corridor and the heart of the pedestrian district envisioned in the TTSP so it is a good candidate for some interim street improvements. The intensity of development in expected to increase significantly under the TTSP and improvements would support this vision. While no final alignment has been determined for high capacity transit, several of the options under consideration utilize this corridor. Over the long term it is likely that resources will be available to improve this area. Some of the advantages of these improvements include:

- Prepares for the arrival of high capacity transit
- Supports more intense long term development of the pedestrian district.
- Addresses poor performance in the traffic safety design category

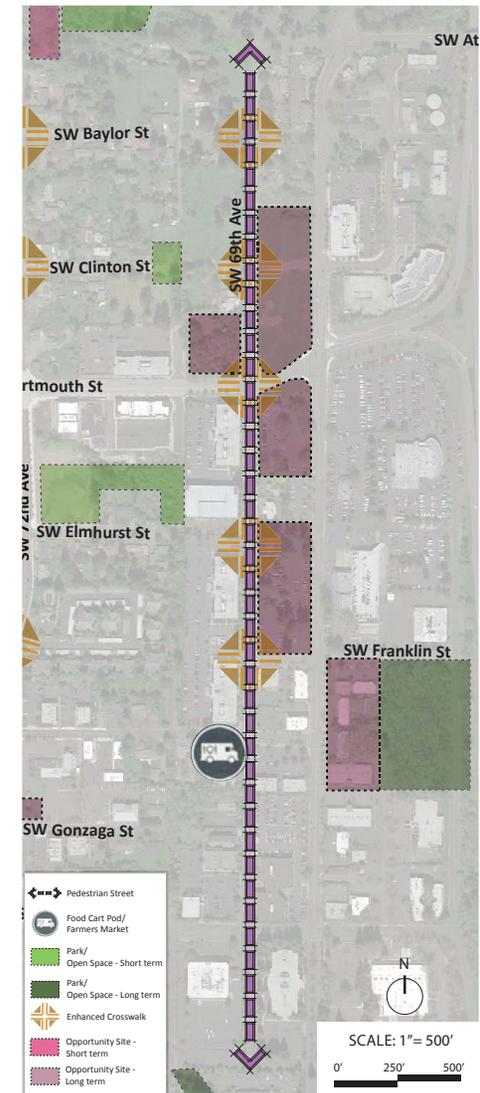


Figure 5.6 69th Ave. long term improvements

- Improves key metric in the highest priority urban design categories.
- Improves service on one of the more popular walking routes.

Some factors that do not support prioritizing these improvements should also be considered. These include:

- Survey results show that traffic calming is a low priority for pedestrians in the Triangle.
- Uncertainty of the final alignment of high capacity transit.
- The cost of some of the engineering recommendations are high.

Prioritizing these improvements is supported by findings from the Profile. The 69th Ave. segments scored poorly in the categories of traffic safety and pedestrian amenities. Striped crosswalks, raised crosswalks, mid-block crossings, and bulb outs are traffic calming features captured in the inventory so these features address these needs. Survey results indicated that 69th Ave is also a popular walking route. But it isn't clear that the public would support these improvements because our survey results indicated that traffic calming is a relatively low priority for improving the walkability of the Triangle.

The Draft Lean Code provides the best standard for 69th Ave. that is currently under consideration. The Draft Lean Code recommended profile which features two 10 ft. travel lanes, on-street parking and a 6 ft. planter. Street trees, lighting and street furniture are addressed by the streetscape requirements for the corresponding transect districts. These standards address most of the key recommendations made in the Prioritization report and improve performance in the highest priority urban design categories.

In the near term, there are a number of improvements the City can make in this corridor to increase its performance that are not explicitly addressed in the Draft Lean Code or the TTSP. These include installing curb extensions at all major crossings, raised crosswalks at key intersections, and a new crosswalk to assist pedestrian traffic when crossing Dartmouth Ave. Raised crosswalks at Elmhurst and Franklin St. align with long-term plans to extend these streets and complete the street grid. Enhancing crosswalks at these locations will deliver the benefits of improved connectivity for pedestrians in the short term before the street grid is fully developed in the long term.

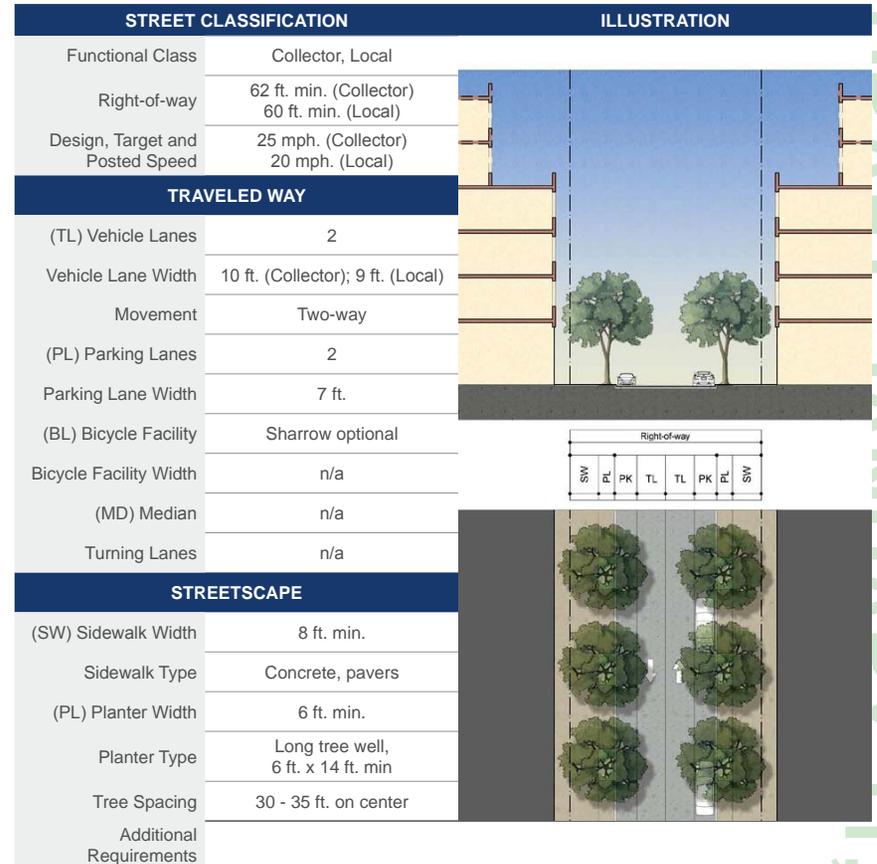


Figure 5.7 Lean Code cross section improvements along 69th Ave.



Figure 5.8 69th Ave. Before



Figure 5.9 69th Ave. After

4.2.4 Opportunity sites on 69th at Dartmouth

A number of opportunity sites were identified along the 69th Ave. pedestrian corridor. The most promising opportunities in the near term are the lots immediately to the north of Dartmouth because they are currently undeveloped and with the likelihood of high capacity transit being sited in this corridor they represent a strong opportunity to capitalize on these improvements.

As with the other opportunity sites, new long term development will increase the number and variety of walkable destinations. This impact will ultimately be determined by the zoning and regulatory requirements the city settles on. The zoning recommendations of the TTSP and the Draft Lean Code contain some important differences that need to be discussed in the context of these sites.

The TTSP envisions the pedestrian district as the area in the Triangle with tallest height limits and the greatest intensity of new development. Buildings heights are lower toward 72nd Ave. in order to preserve views to the west. The Draft Lean Code envisions the highest intensity of new development along 72nd Ave. and density gradually decreases east of 69th Ave. toward I-5. The sites around the corner of 69th Ave. and Dartmouth St. would fall in the T4 Open transect district where the development standards feature the lowest building heights and the largest setbacks. If these sites are ultimately built out to these standards instead of the standards recommended under the TTSP, the increased density would generate more foot traffic activity would improve over current conditions, but those increases would be less than what would be possible under the TTSP and likely fall short of the highest and best uses for these lots. If we assume that this will eventually be improved as a transit corridor, the lower building heights and larger setbacks will likely limit opportunities to capitalize on these investments.

4.2.5 Park site at 72nd and Elmhurst

Recommendations for new park sites were scaled back significantly in developing the preferred alternative. When the Prioritization report was made available it revealed that, while the Index showed a large deficit of parks, when considering the top priorities for the Triangle weighted by goals, parks are a lower priority than other categories like traffic safety and pedestrian amenities. Even with parks be a comparatively lower priority, they are still essential for establishing walkable destinations and activating the Triangle in the near term.

The site at the corner of 72nd Ave. and Elmhurst St. is the top candidate for a new park site. The primary advantages of this site are:

- Centrally located to all retail, employment and residential uses.
- Located on the most heavily traveled pedestrian corridors.
- Serves highest density residential development in the Triangle (Hampton Park apartments)
- Strong public support

The TTSP found the Triangle to be lacking in a strong focal point of activity in the form of a unique destination that residents and visitors could identify with the Triangle. A park at this site has great potential to meet this need. Its proximity to all the retail, employment and residential areas make the site a place that could be enjoyed by all. It would greatly enhance the livability of the Triangle and make it a more attractive place that may one day entice employees and visitors to make a home here—bringing the Triangle one step closer to a complete neighborhood.

7.2.6 SW Franklin Park site

The final park site prioritized is the lot to the south of SW Franklin St. adjacent to 66th Ave. near the eastern boundary of the Triangle. One of the multimodal connections across I-5 is sited to land here. This site would primarily serve as a destination for office employees during business hours but would also complement a neighboring mixed use development. The street segments in this area are, along with north 72nd Ave., the worst performing in the Triangle this park would positively impact four of these segments.



Figure 5.10 72nd and Elmhurst Existing Condition



Figure 5.11 72nd and Elmhurst Proposed Park Site

4.3 Best Practices

Best Practice: Protected Bike Lanes on 72nd Ave

Our short-term recommendation to improve bike safety on 72nd Ave is buffered bike lanes. Since Tigard currently has few or zero buffered bike lanes, installing buffered bike lanes in Tigard is revolutionary. However, buffered bike lanes are not good enough to encourage “interested but concerned” cyclists to bike. In order to encourage “interested but concerned” cyclists to bike, we recommend Dutch style protected bike lanes. As the below photo from Rijswijk, Netherlands shows, a protected bike lane is physically separated from automobile and pedestrian traffic. The type of buffered bike lane we are recommending only uses paint to protect cyclists from fast moving automobile traffic. Dutch style protected bike lanes use a physical barrier to protect cyclists from fast moving automobile traffic.



Figure 5.12 Protected bike lanes have been proven to create a safer cycling environment than normal bike lanes. According to a research study, protected bike lanes reduce injury risk per bike trip by 28% (Lusk, 2010).

THEY MAKE BIKING SAFER

Putting a protected bike lane on a street cuts the injury risk per bike trip by 28 percent.



Pedestrians also benefit from protected bike lanes because protected bike lanes provide traffic calming and reduce crossing distances. A New York City study found that protected bike lanes reduced pedestrian injuries (NYCDOT, 2013).

THEY MAKE IT SAFER FOR PEDESTRIANS

Protected bike lanes can help calm traffic and reduce crossing distances. Pedestrian injuries plummeted on streets where they were installed in NYC.



Since cyclists feel safer biking on a protected bike lane, most cyclists stop riding on the sidewalk and start riding on the protected bike lane. Through reducing sidewalk riding, pedestrians have less unsafe conflicts with cyclists. We noticed several cyclists riding on the sidewalk in the Tigard Triangle. As the Tigard Triangle gets more connected sidewalks and people start walking more, cyclists riding on the sidewalk will likely cause more unsafe conflicts with pedestrians so protected bike lanes are needed.

THEY REDUCE SIDEWALK BIKING

People biking on sidewalks are trying to ride in the protected bike lane that isn't there. Adding a protected bike lane immediately cuts sidewalk riding by 56%.



Motorists also benefit from a protected bike lane because they feel less stressed knowing where to expect cyclists. Currently, cyclists in Tigard bike on the road and sidewalk so motorists don't know where to expect cyclists.

THEY MAKE DRIVING LESS STRESSFUL

Protected bike lanes bring order to the street, chilling everyone out.

"I feel comfortable driving on a street with..."

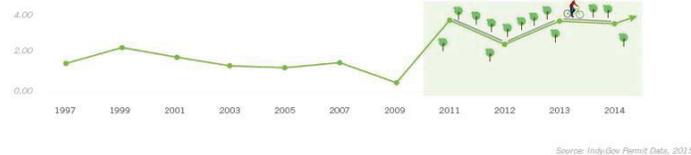


We realize protected bike lanes are expensive. Thankfully, protected bike lanes have a great return on investment. Since protected bike lanes results in significantly more building permits being issued and Tigard is in the process of adopting a lean code, our short-term recommendation to provide mixed-use development should be more easily achieved with the construction of a protected bike lane.

THEY SPUR ECONOMIC GROWTH

After the Indianapolis Cultural Trail opened in 2010, the number of building permits issued in the surrounding ZIP code rose 112% as a share of citywide permits.

112%
 INCREASE



Best Practice: Oasis Greenway on 69th Ave

Tigard's officially adopted vision is to be the most walkable community in the Pacific Northwest where people of all ages and abilities enjoy healthy and interconnected lives. Our short-term recommendations for 69th Ave include striped and raised crosswalks, mid-block crossings, and bulb outs. Since many other communities in the Pacific Northwest are also constructing raised crosswalks and bulb outs, Tigard needs to construct something more revolutionary than any other community if it wants to reach its vision.

One such revolutionary idea is an oasis greenway, which is a series of interconnected low-speed, low-volume, shared-space, vegetated linear parks created from an assembly of streets. As the below figure shows, the current design of 69th Ave is on top with only sidewalks, on-street parking, non-porous pavement, and no greenspace. The bottom image, which shows an oasis greenway, replaces the non-porous pavement with grasscrete. Since Tigard is located in the rainy Pacific Northwest, grasscrete provides 69th Ave with better stormwater management. Grasscrete also provides natural traffic calming and improves the Tigard Triangle's low State of Place park score.

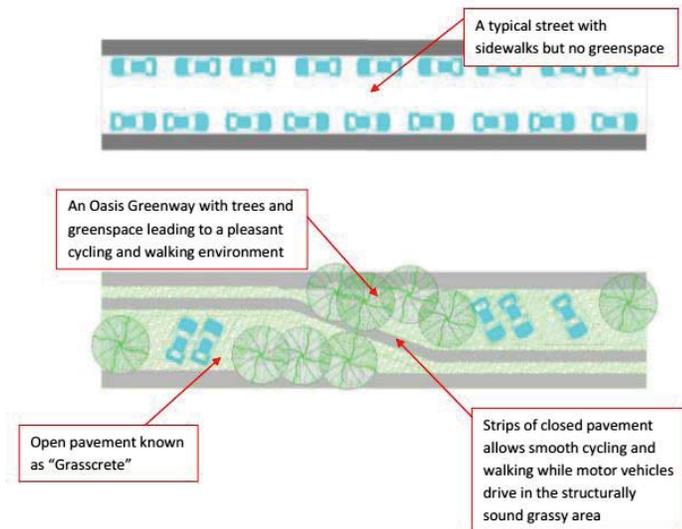


Figure 5.13 An oasis greenway versus a traditional street

Even though people may think that it isn't possible to drive an automobile on an oasis greenway, it still is possible to drive an automobile on an oasis greenway. As the below figure shows, two cars can pass each other on an oasis greenway. Since the design vehicle of an oasis greenway is a mother with a stroller, motorists are forced to share the space with people walking and a mother with a stroller so motorists are forced to go the speed of people walking. If motorists want to go faster, they can use 68th Ave and 72nd Ave, which are parallel through roads. Tigard's goal is to make 69th Ave a pedestrian street so pedestrians are prioritized on 69th Ave.

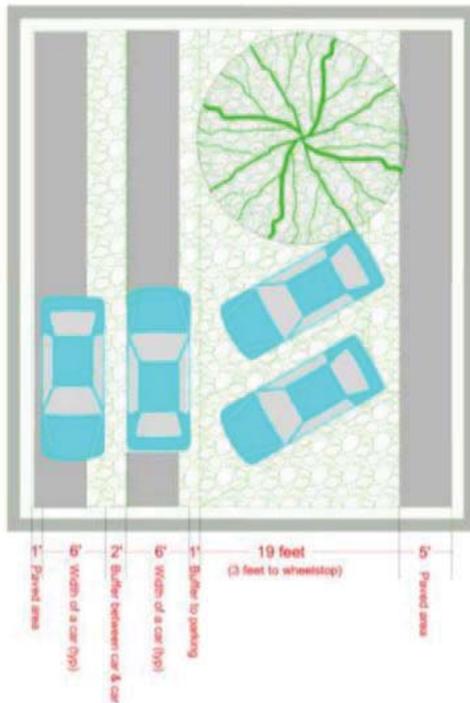


Figure 5.14 two cars passing each other with a two-foot shy distance

The below figure provides an overview of how pedestrians, cyclists and motorists should share the space along an oasis greenway. Currently, pedestrians are confined to walking on the sidewalk, cyclists are confined to biking as close to the right as possible, and motorists are allowed full use of both travel lanes and both on-street parking lanes so a shared street would change human behavior along 69th Ave. Through creating a shared space along 69th Ave, motorists and cyclists would be forced to slow down and be more aware of their surroundings. Pedestrians would be provided a safer walking environment and freedom to walk everywhere along the street. If Tigard truly wants to become the most walkable community in the Pacific Northwest, it needs to construct something revolutionary like an oasis greenway.

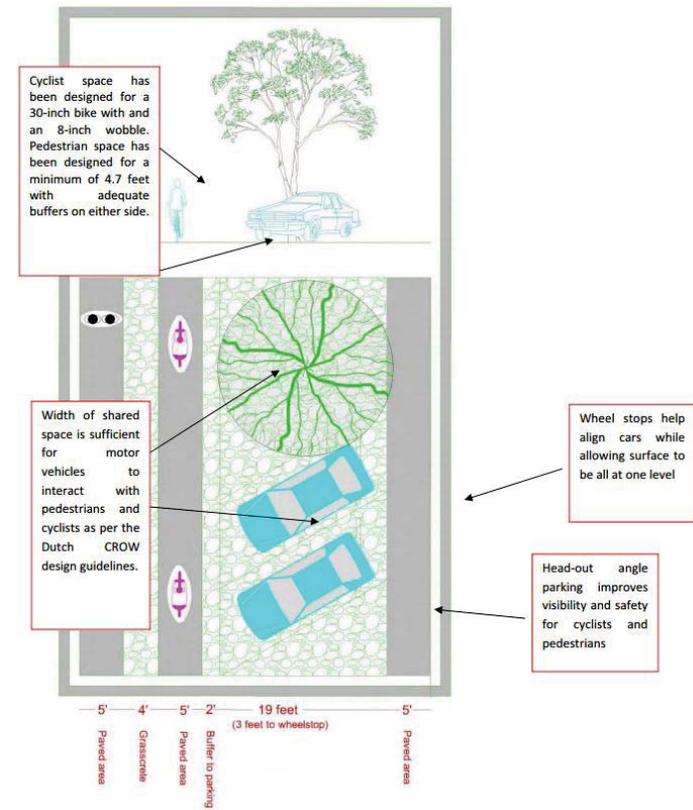


Figure 5.15 cross section and close-up plan view for a generic oasis greenway

4.4 Conclusion

In the short term, the transformation of the Triangle will begin with the area along 72nd Ave. north of Dartmouth St. Improving this street to modern urban standards will meet a critical need for pedestrians that currently use this corridor and provide a catalyst for new mixed use development in the underdeveloped lots adjacent to the Regal Theatre at Atlanta St. This groundbreaking development will provide much needed new opportunities for Tigard Triangle employees to enjoy the benefits of walking to work, reduced commute times, and enjoying an active lifestyle. New small businesses will meet the demand for new walkable destinations for those who already live and work here.

In the long term, 69th Ave. is envisioned as the heart of a new pedestrian oriented district. This will start with incremental improvements like enhanced crosswalks, a new pocket park, and a food cart pod. These will enhance pedestrian connectivity and provide interesting new walkable destinations for the over 7000 workers that commute to the Triangle every day. If successful, these initial steps will provide the catalyst for new brick and mortar businesses which will flourish with the eventual arrival of high capacity transit.

The Value of Place project succeeded by most of the measures enumerated in the original work plan. We successfully engaged all the key stakeholder groups that make up the Tigard Triangle community including residents, employees, shoppers and visitors. Our proactive engagement strategy produced meaningful input that directly helped shape our final recommendations. We demonstrated that there is a healthy culture of walking in the Triangle for a variety of purposes, that there is strong demand for improved pedestrian infrastructure, and that the public craves a greater variety of walkable destinations that are characteristic of a complete interconnected neighborhood. The public also informed us the specific problems presented on 72nd Ave. and that demand for improving this street is high. The State of Place tools documented these deficiencies in more detail. The Tigard Triangle Strategic Plan and the Lean Code both provide a range of solutions to address these deficiencies and the Value of Place project has recommended a palette of priorities for the short and long term for implementing these recommendations in a way that we feel will yield the greatest return on investment.





I Impacts of Proposed Plans on SOP Metrics

Tigard has yet to implement the recommendations of the Tigard Triangle Strategic Plan and are considering implementing a form-based Lean Code in the Tigard Triangle Planning District. These plans and policies have already produced a range of recommendations intended to advance the City's walkability goals for the Triangle. The City requested that the Delta Planning Team analyze these plans and policies using the State of Place tools. We reviewed these proposed policies to identify these impacts and identify any possible weaknesses in the documents in order to craft recommendations that address these weaknesses and avoid duplicating previous work.

I.2 Tigard Triangle Strategic Plan

Urban Fabric

Over the long term, the TTSP will have a profound impact on the urban fabric categories. This will be achieved through increasing allowable building heights, reducing building setbacks, reducing the size and coverage of surface parking lots, increasing the overall density of development and improving connectivity by completing the street grid. The land use components that would increase the form and density of the built environment include:

- Increased maximum building heights to 75 ft. in the pedestrian district.
- Allowing densities of up to 50 units per acre in the pedestrian district.
- Encouraging vertical mixed use buildings.
- Requiring active ground floor uses with minimum window glazing requirements and direct entrances to the street.

The TTSP would also implement the following site design components that will improve form:

- Increasing street frontage requirements from 50% to 70% for pedestrian oriented streets.
- Requiring parking to be sited behind buildings on pedestrian oriented streets.
- Allow shared parking lots between buildings to reduce the footprint of surface parking lots.
- Restricting access to parking lots along 69th.
- Limiting building setbacks to a maximum of 10 ft.

Destinations

The destination categories in the destination group include proximity, parks and public spaces and recreational facilities. The proximity to walkable destinations is indirectly address in the TTSP through many of the recommendations enumerated in the urban fabric categories with the increases in density and mixed use. If development lives up to the aspirations of the plan, residential densities will increase and generate more demand for a greater variety of restaurants, cafes, stores and services, though the exact location and mix of new business is largely out of the city's control. The TTSP addresses the parks and open space needs with recommendations for open space and trails on the western edge of the Triangle along Red Rock Creek. While these improvements are critical to the long term goal of creating a complete neighborhood in the Triangle, most of these benefit would not be captured by the inventory because they are not visible or measurable from the street.

Human Comfort

The human comfort categories include pedestrian amenities and traffic safety. The TTSP anticipates that the street network will be improved and built out to current standards in conjunction with new development. This alone will address many of the elements of the human comfort categories including new sidewalks and sidewalk infill, bike lanes, street trees, curb cuts, and crosswalks. Other recommendations impacting these outcomes include:

- Creating a network of pedestrian oriented streets with 11 foot sidewalks. The most important being 69th.
- New crosswalks across 72nd and Dartmouth at key locations.
- Requiring on-street parking on pedestrian and access streets.
- Mid-block crossings spaced no more than 250 ft. apart on pedestrian and access streets.
- Designing for speeds of under 25 mph on pedestrian and access streets.

While the TTSP does not specify street sections for the new street network, it does contemplate that the network will be improved under current standards. This would include 72nd Ave. being built out to five lanes with a center turn lane. This would negatively impact the connectivity score for the affected segments along 72nd Ave. Some of these segments are already the worst performing in the Triangle.

Liveliness and Upkeep

Many of the elements of these categories have already been addressed. Large parking lots negatively impact these elements and they have been addressed with reduced parking requirements, shared parking lots, and requirements to site parking behind buildings. Other elements included in these categories such as public art, monuments, banners, and outdoor seating are not explicitly addressed but would be left to the discretion of the city or addressed in the upcoming streetscape plan.

The T5 Limited transect would apply to the most of the area east of 72nd Ave. including most of 69th Ave. This includes the heart of the pedestrian district envisioned by the TTSP. These standards for the T5 Limited transect include

- 18 ft. maximum setbacks
- 70% minimum frontage
- 70% maximum lot coverage
- 60% minimum glazing on ground floors
- 4 story maximum building heights

The T4 Open transect is the last district applied in the Triangle under the Lean Code in the areas west of 68th Ave. fronting I-5, along Dartmouth St. east of 72nd Ave. and in the office parks to the south. The applicable standards are different for development on pedestrian streets and access streets. Relevant standards for pedestrian streets that would impact 69th Ave. between Clinton and Elmhurst in this transect include:

- 18 ft. maximum setbacks for pedestrian streets
- 70% minimum frontage
- 70% maximum lot coverage
- 60% minimum glazing on ground floors
- 2 story maximum building heights

These changes will likely improve the form of the built environment in the Triangle but this is very difficult to predict. In all transects the minimum frontage requirements will create a more continuous streetscape and the minimum glazing requirements are an improvement over current standards. However, the maximum setbacks allowed throughout the pedestrian district envisioned under the Lean Code could result in less pedestrian friendly building forms and create less pedestrian oriented development patterns might not live up to the goals of the TTSP.

As with the TTSP, the Lean Code anticipates building out the street grid with pedestrian connections required on blocks over 400 ft. in length which will positively impact connectivity. Unlike the TTSP the Lean Code provides cross sections for the different streets in the road hierarchy. The most notable diversion from the current standards would be on 72nd Ave. The Lean Code envisions a narrower street on the segments north of Dartmouth. Instead of a five lane arterial with bike lanes and no parking along

its entire length, the Lean Code envisions four lanes with bike lanes and on-street parking south of Clinton St. and just 2 lanes with bike lanes and on-street parking north of Clinton St. The narrower street sections along 72nd Ave. will facilitate easier pedestrian crossings which will improve connectivity and access between residential and retail areas on either side of 72nd Ave.

Destinations

As with the TTSP, the number and quality of walkable destinations will likely improve as an indirect result of increasing density, mixed use, increased housing options, and more residents increasing the purchasing power of the customer base in the Triangle over the long term. The Lean Code does address parks and public spaces in a way that more directly impacts walkability than the TTSP. Development standards would require that 2% of the site area for developments over 3 acres be developed as pocket parks, plazas or trails. This increases to 5% for developments over 6 acres. Unlike the parks plan for in the TTSP, these spaces would be visible at the street level and would be captured in the inventory.

Human Comfort

Of the planning documents under consideration, the Lean Code provides the most detailed streetscape guidelines. These guideline address most of the features captured in the inventory such as street trees, furnishings, signage and lighting. The arterial street sections applied on 72nd Ave. and Dartmouth St. are a significant diversion from current standards in that they require on street parking. The Index assumes that on street parking will enhance the pedestrian experience by creating a buffer between vehicle travel lanes and the sidewalk and will calm traffic by narrowing the vehicular right of way.

Liveliness and Upkeep

The elements of these categories that are under control of the city have already been addressed in previous sections. These include reducing parking requirements, shared parking lots, and requirements to site parking behind buildings in order to minimize the impact of large surface parking lots. Other elements included in these categories such as public art, monuments, banners, and outdoor seating are not explicitly address but would be left to the discretion of the city.

The Value of Place: Tigard Triangle Walkability Survey

Help us understand how to make walking better in the Tigard Triangle and be entered to **win one of two \$25 gift cards to Well & Good Coffee!***

Your response will be used as part of an ongoing effort by the City of Tigard to identify the strategies with the greatest potential to make the Triangle more accessible on foot and better for small businesses, traffic, transit, and safety.

This survey will take about 5 minutes.
All responses will be kept confidential.

The Tigard Triangle:



For more information or to take the survey online, please visit bit.ly/valueofplace.

Thank you for your time and insight!

* To be entered to win a \$25 gift card, return this survey (or take it online) by April 20.

1. What best describes your relationship to the Tigard Triangle?

- Resident
- Employee
- Business owner
- Non-resident property owner
- Shopper
- Visitor
- Other: _____

2. How often do you walk within the Tigard Triangle for the purposes of:

- a. Recreation
(including exercise or walking a dog)
 - Daily
 - A few times a week
 - A few times a month
 - Once a month or less
- b. Errands / Socializing
(including shopping, dining, or visiting friends)
 - Daily
 - A few times a week
 - A few times a month
 - Once a month or less
- c. School / Work
(including volunteer work, walking a child to school, or walking to transit for school/work)
 - Daily
 - A few times a week
 - A few times a month
 - Once a month or less

3. Imagine you had \$100 to spend to make walking better in the Tigard Triangle. Based on your experience, how much would you spend on each of these?

You can spend it all on one item or spread it out.

- \$____ Attracting more small businesses
- \$____ Adding/improving sidewalks
- \$____ Improving pedestrian crossings
- \$____ Adding street trees or greenery
- \$____ Strategies to reduce auto speeds
- \$____ Other: _____

+ _____
\$ 100 TOTAL

4. Is there anything else that would improve your experience walking in the Triangle?

Almost done! Just a couple more. ➡

Nohad A. Toulan School of Urban
 Studies and Planning
 ATTN: Delta Planning workshop group
 Portland State University
 P.O. Box 751-USP
 Portland, OR 97207-0751



5. On the map, please draw a wavy line over all the streets where you have walked in the past week.



6. On the map, use numbers to mark the most significant hazards or deterrents to walking in the Triangle. Then, explain each item on its corresponding line below.

Deterrents could include anything from streets without sidewalks to large unsightly parking lots to desolate areas with few businesses or homes.

Ex. 1. Nowhere to cross here; needs crosswalk

2. _____
3. _____
4. _____
5. _____

To submit more deterrents to walking and to see those submitted by others, please see the link to our continuously updated interactive map at bit.ly/valueofplace.

Also! Come to our April 20 hands-on Community Design Workshop, where we will test a variety of draft recommendations for walkable planning with the community:

What: Community Design Workshop for Triangle Walkability Planning
 When: Wed., April 20, 2016, 5-7 p.m.
 Where: Western Bikeworks – Tigard, 7295 SW Dartmouth Ave.

Plus: *FREE food & another gift card drawing*
 Hope to see you there!



Please tell us a little about yourself.
 This information (like the rest of the survey) will be kept strictly confidential.

What is your age?

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75+
- Prefer not to say

How do you identify your gender?

- Female
- Male
- Transgender
- Other: _____
- Prefer not to say

How do you describe your race/ethnicity? *Please check all that apply.*

- American Indian / Alaska Native
- Asian / Pacific Islander
- Black / African American
- Latino / Hispanic
- Middle Eastern / North African
- White
- Other: _____
- Prefer not to say

What is the total annual income of your household (before taxes)?

- Less than \$12,000
- \$12,000 to \$24,999
- \$25,000 to \$49,999
- \$50,000 to \$74,999
- \$75,000 to \$99,999
- \$100,000 or more
- Prefer not to say

Thank you very much for your time.

Enter the drawing! Your name, phone, and email will be torn off and never associated with the rest of this survey in any way.

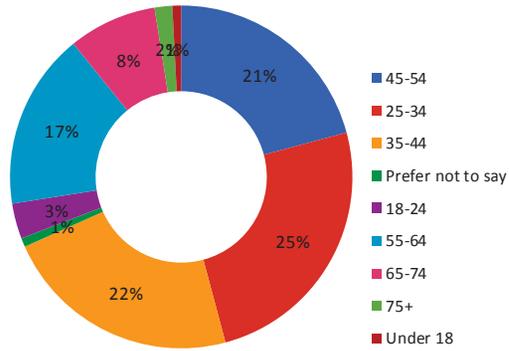
Name: _____

Phone: _____

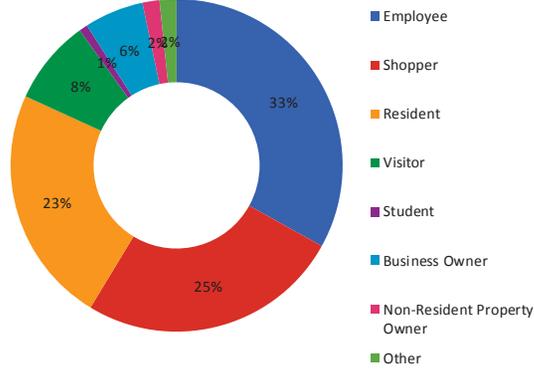
Email: _____

Tigard Triangle Demographic Survey Results

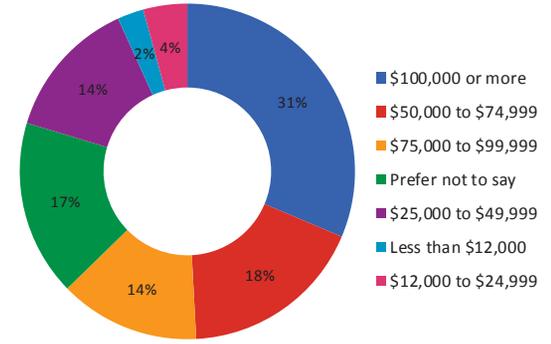
What's your age?



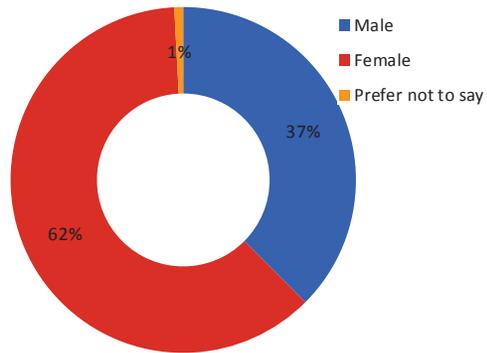
What best describes your relationship to the Tigard Triangle?



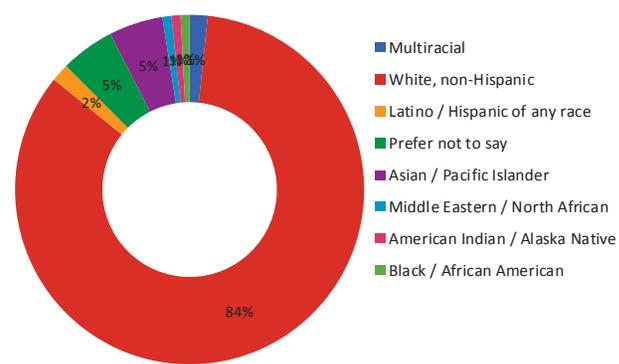
What is the total annual income of your household (before taxes)?

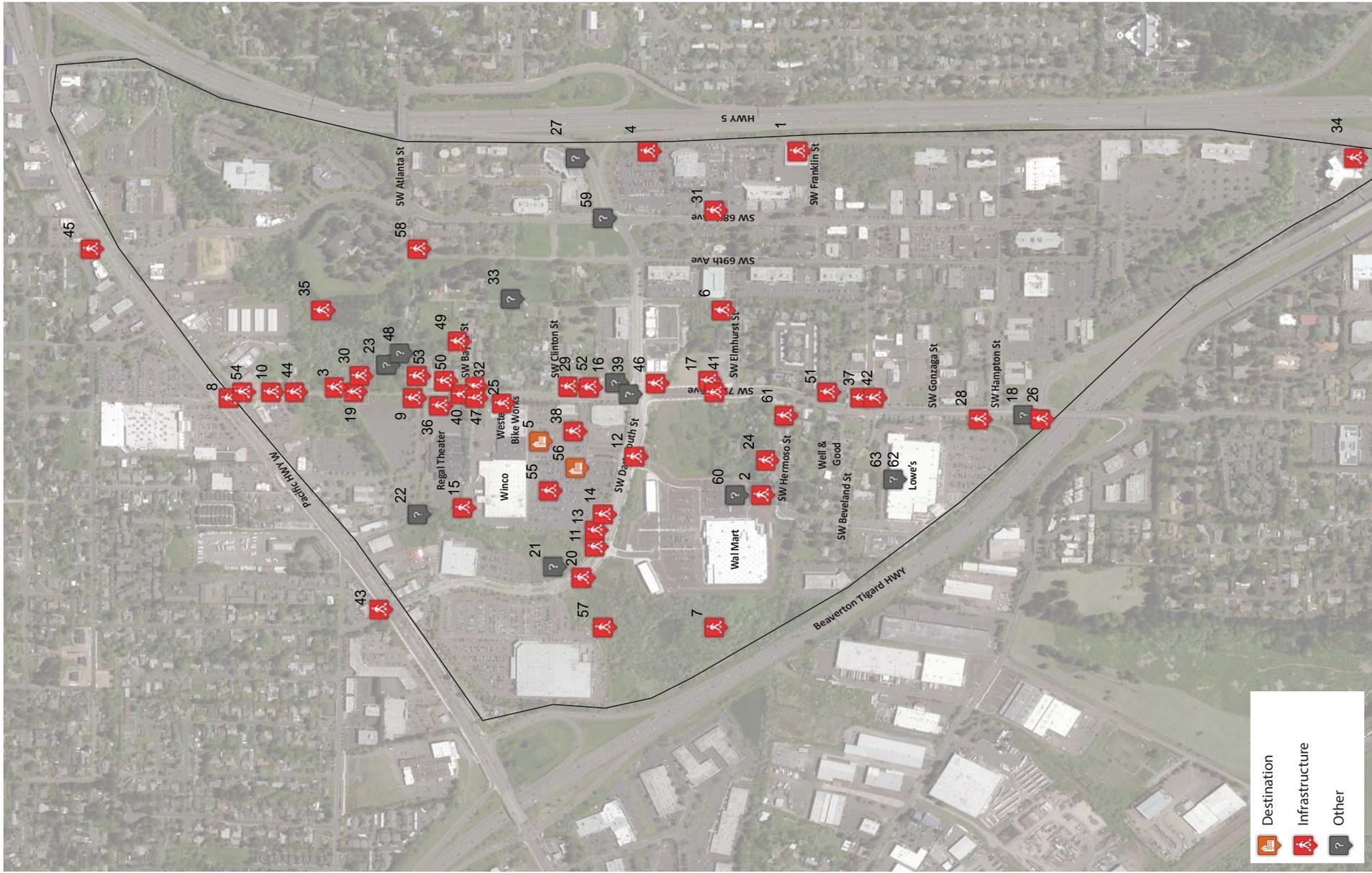


How do you identify your gender?



How do you describe your race/ethnicity?





	Destination
	Infrastructure
	Other

Number	Category	Title	Description
1	Infrastructure	lack of pedestrian bridge	There needs to be a pedestrian and bike bridge over I-5 from SW 66th Ave to Southwood Drive. It is unsafe to walk along Kruse Way from Lake Oswego and cross highway 217 to get to the Tigard Triangle.
2	Infrastructure	No sidewalk.	
3	Infrastructure	Lack of pedestrian and bike safety	There are no bike lanes, sidewalks, or storm water features on this part of fast SW 72nd Ave,
4	Infrastructure	Pedestrian bridge needed	A pedestrian bridge is needed here to safely cross I-5 to get to the corner of SW 64th Ave where it meets SW Douglas Drive. The SW Corridor Plan needs many pedestrian bridge over I-5.
5	Destination	Massive parking lot	The parking lot is too big and it contributes to flooding and the urban heat island effect. Housing and mixed-used land zoning is needed in the Tigard Triangle.
6	Infrastructure	Trail needed on SW 70th Ave	On this public right-of-way, a trail is needed on SW 70th Ave. Keep in mind, there are zero parks in the triangle, too.
7	Infrastructure	Pedestrian bridge needed	The addition of a Wal-mart has created the unfortunate situation of where to build a pedestrian bridge over highway 217? That state highway has zero pedestrian bridges.
8	Infrastructure	No protected bike lanes	Pacific Highway has zero protected bike lanes except for 30 feet of one close to the Newberry bridge on Barbar Blvd by the Capitol Highway on-ramp.
9	Infrastructure	No Sidewalk	No sidewalk. Traffic moves too fast so I don't feel safe enough to walk on 72nd Ave.
10	Infrastructure	No Sidewalk on Both Sides	No sidewalk on both sides of 72nd Ave and traffic moves to fast on 72nd Ave so I don't feel safe walking on 72nd Ave. I cut through the forest on the west side of 72nd Ave then find sidewalks on the southeast side of the movie theater.
11	Infrastructure	Add Traffic Signal	Driveway leaving Walmart parking lot has no traffic signal so I jaywalk to get across Dartmouth St. As a pedestrian, I can't safely walk across Dartmouth St.
12	Infrastructure	Crosswalk Closed	Crosswalk closed so I am forced to wait for three walk signals then walk across three crosswalks to get across one crosswalk.
13	Infrastructure	West Walmart Driveway	There is no traffic light, stop sign, or even yield sign for cars exiting this driveway, and traffic is so busy through here that drivers often don't even acknowledge pedestrians. I feel so unsafe here that I frequently end up waiting until the driveway
14	Infrastructure	Swampland - North side of Dartmouth	The sidewalk on the north side of this portion of Dartmouth is inaccessible through more than half the year because of constant flooding. Pedestrians walking to and from Winco are forced to either cross the street or walk in the road to avoid the flooded
15	Infrastructure	Need for legitimate pedestrian path	There is a hole cut in the fence to make the connection from Barbar to Beveland (without having to walk to 72 (where there is no sidewalk
16	Other	72nd Dartmouth	Intersection is too big
17	Infrastructure	Narrow shoulder	Where the lanes narrow to one lane each direction, the shoulder is also very narrow.
18	Other	Trail Walker	
19	Infrastructure	No sidewalks	No sidewalks on 72nd from Dartmouth to Pacific Hwy. We do not walk on 72nd because it's too dangerous with no sidewalk. We would use it if sidewalks were installed.
20	Infrastructure	No Sidewalk	No sidewalk on this side of Dartmouth.
21	Other	Culvert floods sidewalk	Culvert backs up from wetland. Mud and dirt covers sidewalk.
22	Other	Wetland is full of garbage	Wetland is full of garbage. Needs clean up. I see chairs and beds. It's a dumping site.
23	Other	Homeless camp needs clean up	Homeless camp. I see abandoned garbage. Desperately needs clean up!
24	Infrastructure	No Sidewalk	
25	Infrastructure	Needs more crosswalks	
26	Infrastructure	Very dangerous for bus riders	
27	Other	Traffic	
28	Infrastructure	Closed Crosswalk	
29	Infrastructure	No Sidewalk	No sidewalk on east side of 72nd.
30	Infrastructure	No Sidewalks	No sidewalks, blackberry bushes, no light. #paper
31	Infrastructure	Gap	
32	Infrastructure	Dangerous!	High pedestrian traffic crossing - feeder from both triangle MUE and residential East of I-5 via Haines St. down thru Baylor St.
33	Other	Need sidewalks in this area	Red Raindrop shape
34	Infrastructure	Trail Connections	Trail Connections to existing trails crossing I-5
35	Infrastructure	Trail needed	A trail is needed from SW 68th to SW 72nd.
36	Infrastructure	Foot path is very narrow	
37	Infrastructure	Road narrow, no sidewalk	
38	Infrastructure	More shade	
39	Other	Too much traffic	
40	Infrastructure	No Sidewalk	
41	Infrastructure	No Sidewalk	
42	Infrastructure	No Sidewalk	
43	Infrastructure	No pedestrian crossing	No pedestrian crossing on west side of Dartmouth and 99.
44	Infrastructure	Needs crosswalk	
45	Infrastructure	Bike Lane	
46	Infrastructure	No Bike Buffer	Need bike buffer between automobiles and cyclists, especially on more congested roads.
47	Infrastructure	Needs crosswalk	
48	Other	Homeless camp	Homeless camp has mountains of garbage and human waste.
49	Infrastructure	Narrow street, deep ditches, excessive speeding, no sidewalks	
50	Infrastructure	Narrow street, deep ditches, excessive speeding, no sidewalks	
51	Infrastructure	No sidewalk and crosswalk on both sides	
52	Infrastructure	No sidewalk and crosswalk on both sides	
53	Infrastructure	No sidewalk and crosswalk on both sides	
54	Infrastructure	No sidewalk and crosswalk on both sides	
55	Infrastructure	More shade	
56	Destination	Infill development	
57	Infrastructure	Sky bridge with light rail	Sky bridge with light rail from northeast side of triangle to downtown Tigard. This sky bridge should go through parking lots between Winco and Walmart. The sky bridge will encourage infill development.
58	Infrastructure	Sky bridge	Sky bridge starting on east side of I-5 and ending at Winco. I don't feel safe walking from my home on SW 61st Ave so need the bridge to separate me from automobile traffic.
59	Other	No Ped Connectivity	High traffic without pedestrian connectivity. There is only one crosswalk on this intersection on the north side of Dartmouth across 68th. There is not a clear direction for Pedestrians. The speed of traffic on the dedicated right hand turns make for a
60	Other	Connect Hemesso Way to Walmart	Need to connect the south side of Tigard Triangle to the north with a connected road and sidewalks from Hermoso Way to Walmart Parking lot.
61	Infrastructure	No Sidewalk	Need to create walkability along SW 72nd from 12335 SW 72nd Ave, to 12463 SW 72nd Ave.
62	Other	Rest Area for Pedestrians	Create a rest area such as public benches/sitting areas at the corner of Beveland & 72nd (on the side of Lowe's) to allow pedestrians a place to rest after a long walk. This will help to promote the residential communities (outside of the Triangle on th
63	Other		Provide pedestrian/bicycle routes for the residential communities on the south side of Hwy217 to access the Triangle easily.

Stakeholder Interviews

All except the final comment are paraphrased from phone conversations.

Sam Briggs, PacTrust Pacific Realty Associates

Sam Briggs is responsible for marketing and leasing PacTrust holdings in the Triangle. Currently, he is focused on finding a tenant for a 43,000 sq. ft. property of creative office space on Hampton St., which has been vacant for over a year.

The strengths of the Triangle are its central location and access to 217 and I-5. Abundant free parking is a key selling feature, though the PacTrust properties are under-parked. One of the Triangle's weaknesses is its accessibility; it often takes clients a few times to find their way into the area and there is a learning curve in finding their way around inside it. The other major weakness is the lack of walkable amenities for lunch and meetings. It does have some services on 72nd but they are perceived as too far away for tenants to walk to. Experimenting with food carts would be a great way to energize the area and build a market for smaller scale retail and restaurants.

Evan Bernstein, Pacific NW Properties

The number one strength of the Triangle is the visibility of their properties from I-5. Tenants love to have their brand visible to tens of thousands of I-5 commuters every day. The Triangle is a lower rent alternative to higher end properties on Kruse Way. The Triangle offers many of the same locational advantages at a much lower cost. The pedestrian and bike amenities on Kruse Way are not widely used and don't add much value to those properties. The shops and restaurants on Kruse Way are not walkable. Everyone just drives there anyway—including people that work in the Triangle. Bridgeport Village is just up the road so walkable development isn't needed in the Triangle.

Mimi Doukas, AKS Engineering

AKS is developing a new medical office building on 72nd Ave. at Dartmouth. She has no opinion about on the highest and best land uses or types of development in the Triangle. Doesn't like form-based code because it's too "mushy."

Greg Specht, property owner

Isn't happy with the City. The code updates are taking way too long. Supports the City's efforts to improve the aesthetic appeal of the area but does not think that pedestrian-oriented development is wise here. Smaller block sizes will inhibit new development in the Triangle and will make certain types of development not feasible.

Jim Corliss, Landmark Ford

Tigard's "vision is nuts" to make Triangle and entire city more walkable. Topography is too extreme in the Triangle to make it walkable. Downtown should be focused on instead of the Triangle. Downtown has Fanno Creek Trail, so focus development and walkability improvements in downtown and leave the Triangle alone.

Mixed-use (housing above commercial) would be expensive, so he doesn't like it. Can residents afford to live in mixed-use development and development near transit? As for parks, undevelopable wetland between Walmart and Costco is the only area in the Triangle where park space could go, but building parks there would be expensive. Re: our initial linear park concept – he doesn't think a linear park could go on east side of the Triangle.

Doug Vorwaller, Tigard Trail Volunteer (comments submitted by email)

Thanks for letting me add a few notes to the survey. The missing key point in "walkable" areas in our Tigard Triangle is linking off road "trails" for bike and pedestrian safety with any other long term planning. We currently have good starts with the trail from 72nd triangle monument down to SW Dartmouth St. the other key link in place is the trail and bridge from SW 66th Ave to Lake Oswego. Let's focus on the three missing links trails that need to be completed as part of this study.

- We have an opportunity to work with ODOT to include a missing right-of-way along the upgrade to HWY 217 along the west exit ramp to SW 72nd Ave all the way to the trail going to Lake Oswego (I5 bridge). This would connect the "monument trail" to key Trail area business and Lake Oswego. ODOT keeps talking about bike and walking to mass transit and this would move us in that direction.

- We also need to work the west side of trail from the Walmart loop to 99W. To balance the wetlands and human green space use, suggest we again run this along HWY 217 in back of Costco (may have been part of the Costco planning).

- The third park of our key off street "walkable" trail would continue from the existing trail at SW Dartmouth St NE along the creek to SW 68th Pkwy. Tigard may own big parts of this green space, Trimet/Metro has a "Park and Ride" with a need for one lot to include a trail right-of-way with the existing utility right-of-way west of SW 72nd Ave along the creek.

To make our Tigard Triangle usable we must have a key trail system for bike and pedestrians. How can we make this happen? Let's include them in our action plan. Let's push on ODOT for the needed land use and access along HWY 217 like they have done in Portland and NOT take "no" for an answer from ODOT.

Let's work together to make Tigard the most "walkable" city in Oregon and start with including the key area trail. Please let me know how I can help move to complete the missing links in our Tigard Triangle.

Best Regards,
Doug

Date			1	2	3	4	5	6	7	8	9
Time											
Observer											
Segment #											
Answer questions 1-9 based on this end of the segment											
Intersection											
Neighborhood Identification											
1. Are there monuments or markers including neighborhood entry signs that indicate that one is entering a special district or area?	1		yes = 1; no = 0								
Street Crossing											
2a. Consider the places on the segment that are intended for pedestrians to cross the street. Are these places marked for pedestrian crossing? Mark N/A if there are no intended places to cross.	2		all = 2; some = 1; none = 0; NA = 8								
2b. If yes, what type of marking do the crosswalks have? Mark all that apply. Mark N/A if 2a= 0 or 8											
White painted lines	3		yes = 1; no = 0; NA = 8								
Colored painted lines	4		yes = 1; no = 0; NA = 8								
Zebra striping	5		yes = 1; no = 0; NA = 8								
Different road surface or paving (e.g. tiles, colored concrete, marble, etc.)	6		yes = 1; no = 0; NA = 8								
Other	7		yes = 1; no = 0; NA = 8								
2c. If yes, is the location of the marking convenient?	8		yes =2; somewhat = 1; no = 0; NA = 8								
2d. If no, would this intersection be safer or more convenient if there were a marking?	9		yes =1; no = 0; ; NA = 8								
3a. Are there curb cuts at all places where crossing is expected to occur? Mark N/A if there are no intended places to cross.	10		all = 2; some = 1; none = 0; NA = 8								
3b. Is the curb cut convenient?	11		yes =1; no = 0; NA =8								
3c. What is the condition of the curb cut?	12		good/moderate=1; poor=0; NA=8								
4a. What type of traffic/pedestrian signal(s)/system(s) is/are provided? Mark all that apply.											
Traffic signal	13		yes = 1; no = 0								
Stop sign	14		yes = 1; no = 0								
Yield sign	15		yes = 1; no = 0								
Pedestrian signal (automated)	16		yes = 1; no = 0								
Pedestrian signal (activated)	17		yes = 1; no = 0								
Pedestrian signal (with countdown)	18		yes = 1; no = 0								
Pedestrian signal (with sound)	19		yes = 1; no = 0								
Pedestrian crossing sign	20		yes = 1; no = 0								
Traffic assistant/" crossing guard"	21		yes = 1; no = 0								
Pedestrian overpass/underpass/bridge	22		yes = 1; no = 0								
4b. If no, would this intersection be safer or more convenient if there were a traffic or pedestrian signal?	23		yes = 2; somewhat = 1; no = 0; NA=8								
4c. For intersections with pedestrian overpasses/underpasses, is the location of the overpass/underpass convenient?	24		yes = 2; somewhat = 1; no = 0; NA=8								
4d. For intersections with pedestrian overpasses/underpasses, are overpasses/underpasses well maintained?	25		yes = 2; somewhat = 1; no = 0; NA=8								
4e. Are wait times for crosswalks long enough for pedestrians to get across the street? Consider children, older adults, and people with disabilities when answering this question.	26		yes = 1; no = 0; NA=8								
5. Do cars turning left or right make it unsafe for pedestrians to cross this intersection?	27		yes = 1; no = 0; NA=8								
6. Describe the turning radius.	28		1= wide; 0=tight; NA=8								
7. For an individual who is on this segment, is THE DESIGN OF THE ENVIRONMENT safe (traffic wise) to cross the street from this segment? Consider children, older adults, and people with disabilities when answering this question.	29		yes = 2; somewhat = 1; no = 0; cul de sac = 8								
8. For an individual who is on this segment, is THE DESIGN OF THE ENVIRONMENT convenient (traffic wise) to cross the street from this segment? Consider children, older adults, and people with disabilities when answering this question.	30		yes = 2; somewhat = 1; no = 0; cul de sac = 8								

Playing or sport field	117	attractive = 3; neutral = 2; unattractive = 1; 0 = no space																		
Plaza /square /courtyard	118	attractive = 3; neutral = 2; unattractive = 1; 0 = no space																		
Public garden	119	attractive = 3; neutral = 2; unattractive = 1; 0 = no space																		
Beach	120	attractive = 3; neutral = 2; unattractive = 1; 0 = no space																		
Other	121	attractive = 3; neutral = 2; unattractive = 1; 0 = no space																		
14b. Is it possible for the general public to use the public space(s) ?	122	unclear = 2; yes = 1; no = 0; NA = 8																		
14c. How much of the segment is taken up by the public space? Consider both sides of the segment.	123	More than 50% =3; 25-50% =2; Less than 25% =1; NA = 8																		
Other Land Uses																				
15. How many of these land uses are present on this segment?																				
Bars/night clubs	124	some/a lot = 2; few = 1; none = 0																		
Adult uses	125	some/a lot = 2; few = 1; none = 0																		
Check cashing stores/pawn shops/bail bond stores	126	some/a lot = 2; few = 1; none = 0																		
Liquor stores	127	some/a lot = 2; few = 1; none = 0																		
16. How many of the following gathering places are on this segment?																				
Restaurants	128	some/a lot = 2; few = 1; none = 0																		
Coffee shops/Tea houses	129	some/a lot = 2; few = 1; none = 0																		
Libraries/bookstores	130	some/a lot = 2; few = 1; none = 0																		
Corner store/Convenience store	131	some/a lot = 2; few = 1; none = 0																		
Art or craft galleries	132	some/a lot = 2; few = 1; none = 0																		
Wine bars/lounges	133	some/a lot = 2; few = 1; none = 0																		
Farmers market	134	some/a lot = 2; few = 1; none = 0																		
Other	135	some/a lot = 2; few = 1; none = 0																		
17a. Is this segment part of a gated community?	136	3= segment is in between two gated communities; 2=one side of the segment is on the edge of a gated community; 1=segment is inside a gated community; 0=No																		
17b. How many entrances into the gated community are present?	137	Write out response or if 17a=0 or 1, then mark N/A=8																		
17c. How accessible is the gated community to the general public?	138	2= not accessible; 1= somewhat accessible; 0=accessible; if 17a=0, then mark N/A=8																		
Sidewalks																				
18a. How many sides of the street have sidewalks?																				
18a. How many sides of the street have sidewalks?	139	count 0 or 1 or 2																		
18b. Is the sidewalk complete on one or both sides? Mark N/A if 18a =0	140	Complete on both sides= 2; complete on one side=1; incomplete on both sides = 0; NA = 8																		
18c. Is the sidewalk wide enough to accommodate pedestrians comfortably?	141	yes = 1; 0 = no																		
18d. What is the condition or maintenance of the sidewalk? Mark N/A if 18a =0	142	moderate or good = 2; poor = 1; under repair = 0; NA = 8																		
18e. Is there a decorative or unique paving that covers most or all of the sidewalk on the segment? (e.g., bricks, tile, etc.) Does not include special paving markings for blind people. Mark N/A if 18 =0	143	yes = 1; no = 0; NA = 8																		
18f. Determine how much of the sidewalk is covered by these features that provide protection from sun, rain, and/or snow. Mark N/A if 18 =0																				
Arcades	144	some/ much of sidewalk covered = 1; no/little covered = 0; NA = 8																		
Awnings	145	some/ much of sidewalk covered = 1; no/little covered = 0; NA = 8																		
Other	146	some/ much of sidewalk covered = 1; no/little covered = 0; NA = 8																		
18g. Are any of the following buffers present between the sidewalk or street. Mark N/A if 18a =0																				
Parked cars	147	Both sides = 2; One side = 1; no = 0; NA = 8																		
Landscaping	148	Both sides = 2; One side = 1; no = 0; NA = 8																		
Bollards	149	Both sides = 2; One side = 1; no = 0; NA = 8																		

25c. If no, would this intersection be safer or more convenient if there were a marked mid-block crossing?	183	yes = 2; somewhat = 1; no = 0; NA = 8																		
Steepness																				
26. How steep or hilly is this segment? Mark all that apply.																				
Flat or gentle	184	yes = 1; no = 0																		
Moderate	185	yes = 1; no = 0																		
Steep	186	yes = 1; no = 0																		
Sidewalk Amenities																				
27. Are there outdoor dining areas (e.g. cafes, outdoor tables at coffee shops or plazas, etc.) located on the segment?	187	some/a lot = 2; few = 1; none = 0																		
28. Indicate how many of each of the following street furniture/sidewalk amenities is/are present on the segment.																				
Benches (not a bus stop) or chairs	188	some/a lot = 2; few = 1; none = 0																		
Bus stops with seating	189	some/a lot = 2; few = 1; none = 0																		
Ledges for sitting	190	some/a lot = 2; few = 1; none = 0																		
Heat lamps	191	some/a lot = 2; few = 1; none = 0																		
Fountains	192	yes = 1; no = 0																		
29. Are there visible public restrooms on this segment that are clearly open to the public ?	193	yes = 1; no = 0																		
Street Trees																				
30a. How many street trees are on this segment? (street trees are typically between the sidewalk and the street or if there is no sidewalk, trees usually line the street)	194	some/ a lot = 2; few = 1; none = 0																		
30b. What size are the trees? Mark N/A if 30a = 0	195	2=large or medium; 1=small; NA = 8																		
30c. Is the sidewalk shaded by trees? Mark N/A if 30a = 0	196	More than 50% = 2; 25-50% = 1; less than 25% = 0; NA = 8																		
Buildings																				
31a. What building heights are present on this segment? Mark all that apply.	197	6= 40+ stories; 5 =13-39 stories; 4=9-12 stories; 3=4-8 stories; 2= 2-3 stories; 1=1 story; NA (no buildings) = 8																		
31b. How many stories are most buildings on the segment?	198	6= 40+ stories; 5 =13-39 stories; 4=9-12 stories; 3=4-8 stories; 2= 2-3 stories; 1=1 story; NA (no buildings or no predominant height) = 8																		
32. Are there abandoned buildings or lots on this segment?	199	some/a lot = 2; few = 1; none = 0; NA=8																		
Streetscape																				
33. Is the street "wall" continuous?	200	2= yes, both sides; 1 = yes, one side; 0 = no; NA = 8																		
34. What is the average setback between the sidewalk and the buildings, or from street (if no sidewalk)? Mark N/A if there are no buildings.	201	extra large = 4; large =3; medium = 2; small = 1; none = 0; N/A = 8																		
Windows																				
35. How many buildings on this segment have windows with bars ? (proportion) Mark N/A if there are no buildings?	202	some/a lot = 2; few = 1; none = 0; NA = 8																		
Other Features of Buildings																				
36a. How much of the segment has blank walls or buildings with blank walls ? Mark N/A if there are no buildings	203	some/a lot = 2; few = 1; none = 0; NA = 8																		
36b. Is there a mural or other "decorative" art feature on the blank wall?	204	1 = yes; 0 = no																		
36c. Is the mural or other "decorative" art feature on the blank wall attractive?	205	2 = attractive; 1= neutral; 0 = attractive																		
37. Can you look through the windows on the ground floor to see what is happening inside the building?	206	yes = 2; somewhat = 1; no = 0; NA = 8 (no buildings)																		
38a. Are there podium buildings on this segment?	207	some/a lot = 2; few = 1; none = 0; NA = 8																		
38b. How many separate buildings are there on the block?	208	2 = one or two buildings, each side; 1= one or two buildings, one side; multiple buildings, one side; 0 = multiple buildings, both sides; NA = 8																		
38c. What is the width of the buildings on the block? Mark all that apply																				
Wide width	209	all/most = 2; few = 1; none = 0; NA = 8																		
Medium width	210	all/most = 2; few = 1; none = 0; NA = 8																		
Narrow width	211	all/most = 2; few = 1; none = 0; NA = 8																		

38d. If there are wide or medium width buildings on the segment, are they "broken up" by architectural details or colors (e.g. is it made to look like multiple buildings)?	212	yes = 1; no = 0; NA = 8																		
38e. How many separate building entrances are there on the block?	213	some/a lot = 2; few = 1; one = 0; NA = 8																		
Parking																				
39a. Is there a surface parking lot on this segment?	214	both sides = 2; one side = 1; no = 0																		
39b. What is the average size of the parking lot(s)? Mark N/A if 39 a = 0	215	Extra large=4; large = 3; medium = 2; small = 1; N/A = 8																		
39c. How much of the segment does the parking lot cover ? Mark N/A if 39 a = 0	216	some/a lot = 2; little = 1; NA = 8																		
40a. Is there a parking structure visible on this segment (do not include parking structures that are completely underground)?	217	yes = 1; no = 0																		
40b. Looking at the front of the parking structure on the street level floor, what is the predominant use that is visible to you? Mark N/A if 40a =0	218	parking = 2; varied = 1; not parking other uses = 0; NA = 8																		
Garages																				
41a. How many buildings have garage doors facing the street? Mark N/A if there are no buildings	219	some/a lot = 2; few = 1; none = 0; NA = 8																		
41b. How prominent are most garage doors when looking at the front of the buildings? Mark N/A if 33a = 0 or 8	220	very = 2; somewhat = 1; not very/not visible = 0; NA = 8																		
Driveways																				
42. How many driveways are visible on the segment?	221	some/a lot = 2; few = 1; none = 0																		
Maintenance																				
43. Describe the general maintenance of the buildings on this segment. Mark N/A if there are no buildings	222	attractive = 3; neutral = 2; unattractive = 1; NA = 8																		
44. Describe the general maintenance of the landscaping on this segment. Mark N/A if there is no landscaping.	223	attractive = 3; neutral = 2; unattractive = 1; NA = 8																		
45. How much graffiti is apparent on this segment?	224	some/a lot = 2; little = 1; none = 0																		
46. How much litter is apparent on this segment?	225	some/a lot = 2; little = 1; none = 0																		
47. Are there dumpsters visible on this segment?	226	some/a lot = 2; few = 1; none = 0																		
48. Are there any broken windows on this segment?	227	some/a lot = 2; few = 1; none = 0																		
Lighting																				
49a. Is there outdoor lighting on the segment? (Include lighting that is intended to light public paths and public spaces)?	228	yes = 1; no = 0																		
49b. Is the lighting adequate?	229	yes = 1; no = 0																		
49c. Is the lighting attractive?	230	yes = 1; no = 0																		
Freeways																				
50. Is there a freeway overpass/underpass connected to this segment ?	231	under a freeway overpass =3; next to freeway = 2; IS a freeway overpass = 1; none of the above = 0																		
Traffic Features																				
51a. Is the speed limit posted?	232	yes = 1; no = 0																		
51b. What is the posted speed limit on this segment? Only include those on the segment itself.	233	write number posted																		
23. Are there measures on this segment that could slow down traffic ? Mark all that apply.																				
Speed bump/speed hump/raised crosswalk; or dips (that are intended to slow down traffic)	234	yes = 1; no = 0																		
Rumble strips or bumps (includes dots, reflectors, raised concrete strips, etc.)	235	yes = 1; no = 0																		
Curb bulb out/curb extension	236	yes = 1; no = 0																		
Traffic circle/roundabout	237	yes = 1; no = 0																		
Median	238	yes = 1; no = 0																		
Angled/ On-street parking (that runs along most or the entire segment - does not have to be on both sides of segment)	239	both sides = 2; one side = 1; no = 0																		
Other?	240	yes = 1; no = 0																		
53a. Is there a cul-de-sac or permanent street closing on this segment?	241	yes = 1; no = 0																		
53b. Is there a pedestrian access point or cut through point that allows pedestrians to go from one segment to another (even though vehicular traffic may not be able to)? Mark N/A if 51a = 0	242	yes = 1; no = 0; don't know = 7; NA = 8																		
Architecture/Design																				

Pedestrian signal (activated)	273	yes = 1; no = 0																		
Pedestrian signal (automated)	274	yes = 1; no = 0																		
Pedestrian signal (with countdown)	275	yes = 1; no = 0																		
Pedestrian signal (with sound)	276	yes = 1; no = 0																		
Pedestrian crossing sign	277	yes = 1; no = 0																		
Traffic assistant/Crossing guard	278	yes = 1; no = 0																		
Pedestrian overpass/underpass/bridge	279	yes = 1; no = 0																		
4b. If no, would this intersection be safer or more convenient if there were a traffic or pedestrian signal?	280	yes = 2; somewhat = 1; no = 0; NA = 8																		
4c. For intersections with pedestrian overpasses/underpasses, is the location of the overpass/underpass convenient?	281	yes = 2; somewhat = 1; no = 0; NA = 8																		
4d. For intersections with pedestrian overpasses/underpasses, are overpasses/underpasses well maintained?	282	yes = 2; somewhat = 1; no = 0; NA = 8																		
4e. Are wait times for crosswalks long enough for pedestrians to get across the street? Consider children, older adults, and people with disabilities when answering this question.	283	yes = 1; no = 0																		
5. Do cars turning left or right make it unsafe for pedestrians to cross this intersection?	284	yes = 1; no = 0; NA = 8																		
6. Describe the turning radius.	285	1= wide; 0=tight; NA = 8																		
7. For an individual who is on this segment, is THE DESIGN OF THE ENVIRONMENT safe (traffic wise) to cross the street from this segment? Consider children, older adults, and people with disabilities when answering this question.	286	yes = 2; somewhat = 1; no = 0; cul de sac = 8																		
8. For an individual who is on this segment, is THE DESIGN OF THE ENVIRONMENT convenient (traffic wise) to cross the street from this segment? Consider children, older adults, and people with disabilities when answering this	287	yes = 2; somewhat = 1; no = 0; cul de sac = 8																		
9. Is there a pedestrian island in the middle of the intersection?	288	yes = 1; no = 0																		

Segment ID	Form	Density	Proximity	Connectivity	Parks & Public Spaces	Pedestrian Amenities	Personal Safety	Traffic Safety	Aesthetics	Recreational Facilities	State of Place Index
9	84.4%	22.8%	6.3%	50.2%	0.0%	8.8%	91.8%	5.6%	34.5%	0.0%	26.1%
10	53.5%	22.8%	8.2%	37.8%	0.0%	15.0%	91.8%	28.9%	27.5%	0.0%	24.5%
11	71.9%	43.8%	3.7%	50.2%	0.0%	33.1%	100.0%	16.9%	37.0%	0.0%	37.0%
12	82.0%	6.7%	0.0%	50.2%	0.0%	2.3%	85.1%	30.0%	32.7%	0.0%	24.5%
13	85.8%	21.0%	0.0%	50.2%	0.0%	0.0%	75.4%	18.8%	29.5%	0.0%	20.3%
14	75.5%	6.7%	1.8%	50.2%	0.0%	21.6%	96.6%	5.7%	30.5%	0.0%	25.7%
15	89.2%	0.0%	0.0%	50.2%	0.0%	4.0%	81.7%	31.6%	31.8%	0.0%	25.6%
16	72.8%	43.8%	3.7%	37.4%	0.0%	30.1%	100.0%	21.4%	32.1%	0.0%	34.0%
17	68.2%	50.6%	8.4%	50.2%	0.0%	23.3%	100.0%	31.4%	31.6%	0.0%	36.3%
18	71.2%	36.3%	1.8%	50.2%	0.0%	9.8%	100.0%	15.5%	30.8%	0.0%	25.3%
19	48.2%	6.7%	2.9%	37.4%	0.0%	23.1%	85.7%	26.1%	24.5%	0.0%	21.0%
20	62.4%	29.5%	1.8%	50.2%	0.0%	23.3%	85.7%	13.1%	22.6%	0.0%	22.7%
21	66.9%	13.5%	0.0%	50.2%	0.0%	18.8%	92.6%	38.0%	25.1%	0.0%	27.9%
22	67.3%	29.5%	1.8%	50.2%	0.0%	9.7%	88.7%	31.6%	27.3%	0.0%	25.1%
23	82.3%	50.6%	1.8%	50.2%	0.0%	23.3%	91.8%	35.5%	38.2%	0.0%	39.0%
24	88.9%	50.6%	17.9%	50.2%	0.0%	18.8%	100.0%	37.0%	41.8%	0.0%	46.6%
25	82.3%	50.6%	1.8%	50.2%	0.0%	19.8%	88.4%	32.0%	32.8%	0.0%	34.7%
26	72.5%	50.6%	23.0%	50.2%	0.0%	18.2%	95.9%	33.7%	30.7%	0.0%	39.9%
27	68.0%	29.5%	3.7%	50.2%	0.0%	16.5%	96.6%	32.0%	27.7%	0.0%	29.5%
31	67.5%	43.8%	1.8%	50.2%	0.0%	16.5%	96.6%	31.0%	24.9%	0.0%	28.5%
32	73.8%	60.5%	13.4%	37.8%	0.0%	18.1%	82.8%	6.5%	23.6%	0.0%	25.8%
33	84.4%	48.7%	0.0%	50.2%	0.0%	0.0%	67.3%	16.8%	31.8%	0.0%	21.0%
34	64.3%	13.5%	1.8%	50.2%	0.0%	23.3%	92.6%	18.1%	19.3%	0.0%	23.0%
35	69.5%	27.8%	1.8%	43.5%	0.0%	14.8%	89.7%	36.5%	18.9%	0.0%	24.8%
36	65.4%	29.5%	23.3%	37.4%	0.0%	19.6%	83.4%	35.6%	19.7%	49.9%	34.0%
37	83.1%	0.0%	0.0%	50.2%	0.0%	26.2%	81.7%	18.1%	27.6%	0.0%	27.6%
38	89.2%	0.0%	0.0%	50.2%	10.8%	21.7%	81.7%	18.9%	31.8%	0.0%	30.9%
39	84.1%	50.6%	4.7%	37.4%	0.0%	30.1%	95.9%	15.7%	44.7%	0.0%	39.5%
40	77.5%	43.8%	1.8%	37.8%	0.0%	3.0%	53.9%	17.7%	22.5%	0.0%	14.9%
41	82.0%	6.7%	0.0%	50.2%	0.0%	4.0%	85.1%	31.5%	30.4%	0.0%	24.6%
42	72.4%	13.5%	1.8%	37.4%	0.0%	22.1%	100.0%	0.0%	30.1%	0.0%	23.2%
43	74.9%	50.6%	7.9%	50.2%	0.0%	16.5%	80.5%	33.0%	30.8%	0.0%	32.7%
44	73.1%	13.5%	0.0%	43.5%	0.0%	12.6%	91.8%	21.0%	26.9%	0.0%	22.8%
45	30.4%	21.0%	6.7%	59.9%	0.0%	37.1%	85.7%	13.5%	22.8%	0.0%	22.6%
46	64.6%	36.3%	3.7%	50.2%	0.0%	30.0%	92.6%	6.8%	27.8%	0.0%	27.7%
47	71.4%	43.8%	9.7%	50.2%	0.0%	14.4%	96.6%	19.2%	27.0%	0.0%	29.1%
48	77.1%	50.6%	1.8%	37.8%	0.0%	12.9%	95.9%	26.7%	30.1%	0.0%	28.7%
49	65.7%	43.1%	5.4%	59.9%	0.0%	16.1%	90.8%	20.2%	27.4%	0.0%	26.8%
50	81.4%	36.3%	6.1%	37.4%	0.0%	26.8%	100.0%	21.4%	42.0%	0.0%	38.3%
51	88.9%	43.8%	0.0%	50.2%	0.0%	4.0%	71.4%	17.3%	28.8%	0.0%	22.5%
52	86.5%	63.0%	9.4%	50.2%	0.0%	11.6%	86.1%	29.1%	33.4%	0.0%	35.2%
53	67.5%	43.8%	13.3%	50.2%	0.0%	15.7%	94.2%	37.0%	24.1%	0.0%	32.7%

55	69.4%	29.5%	1.8%	37.8%	0.0%	4.5%	91.8%	19.3%	26.2%	0.0%	19.6%
56	68.9%	6.7%	4.7%	37.8%	0.0%	4.0%	76.8%	5.3%	20.3%	0.0%	11.7%
57	86.5%	21.0%	0.0%	50.2%	0.0%	0.0%	85.1%	21.0%	30.4%	0.0%	22.5%
60	65.4%	36.3%	1.8%	43.5%	0.0%	11.9%	87.5%	17.7%	21.2%	0.0%	19.8%
63	80.0%	63.0%	1.8%	50.2%	0.0%	15.8%	96.6%	19.1%	36.8%	0.0%	33.1%
64	72.8%	36.3%	1.8%	50.2%	0.0%	18.8%	100.0%	37.0%	35.4%	0.0%	35.2%
65	83.4%	27.8%	0.0%	37.8%	0.0%	4.6%	86.8%	34.8%	28.8%	0.0%	25.3%
66	84.1%	21.0%	0.0%	50.2%	0.0%	0.0%	93.3%	40.6%	31.4%	0.0%	28.0%
67	74.3%	36.3%	1.8%	37.8%	0.0%	10.6%	92.6%	17.7%	29.4%	0.0%	23.8%
68	56.3%	6.7%	1.8%	50.2%	0.0%	2.3%	74.0%	16.1%	27.1%	0.0%	13.6%
69	40.0%	6.7%	12.6%	50.2%	0.0%	19.5%	92.6%	13.1%	21.3%	0.0%	19.8%
70	71.8%	50.6%	3.7%	50.2%	0.0%	15.4%	100.0%	33.1%	27.6%	0.0%	31.8%
71	86.8%	29.5%	6.0%	50.2%	0.0%	20.6%	100.0%	4.1%	34.5%	0.0%	31.7%
72	83.4%	43.8%	6.0%	50.2%	0.0%	2.3%	88.4%	21.0%	30.1%	0.0%	26.4%
73	78.9%	29.5%	4.2%	50.2%	0.0%	1.6%	85.1%	31.5%	31.1%	0.0%	26.1%
74	78.3%	29.5%	3.7%	50.2%	0.0%	12.6%	91.8%	30.0%	31.2%	0.0%	30.2%
75	71.3%	6.7%	3.3%	50.2%	0.0%	22.2%	91.8%	8.5%	36.7%	0.0%	27.7%
76	72.8%	29.5%	9.7%	50.2%	0.0%	16.5%	95.9%	29.8%	28.9%	0.0%	32.2%
77	67.0%	13.5%	1.8%	50.2%	0.0%	10.7%	86.8%	34.1%	14.5%	0.0%	20.4%
78	53.1%	29.5%	1.4%	37.4%	0.0%	26.8%	89.7%	24.5%	25.4%	0.0%	24.6%
79	62.6%	43.8%	1.4%	37.8%	0.0%	17.5%	90.8%	17.7%	28.5%	0.0%	23.8%
80	71.8%	27.8%	8.9%	50.2%	0.0%	19.9%	95.9%	36.3%	27.1%	0.0%	33.7%
82	88.9%	43.8%	0.0%	50.2%	0.0%	8.5%	81.0%	4.9%	31.2%	0.0%	23.3%
84	37.3%	6.7%	5.1%	50.2%	0.0%	18.1%	86.8%	22.4%	19.2%	0.0%	16.9%
86	60.1%	21.0%	15.3%	50.2%	0.0%	7.9%	85.1%	11.4%	25.4%	0.0%	21.4%
87	84.1%	21.0%	0.0%	50.2%	0.0%	0.0%	85.1%	39.0%	31.4%	0.0%	26.5%
88	54.9%	43.8%	3.3%	50.2%	0.0%	14.8%	85.1%	2.4%	34.9%	0.0%	21.4%
301	70.1%	50.6%	1.8%	50.2%	0.0%	18.0%	92.0%	14.3%	30.9%	0.0%	27.6%
302	65.6%	36.3%	5.4%	50.2%	0.0%	19.6%	100.0%	20.5%	32.0%	0.0%	30.4%

TEAM BIOGRAPHIES

The Value of Place - Tigard, OR

Delta Planning Team



Wala Abuhejleh

Wala is a Master of Urban and Regional Planning student at PSU specializing in community development. She is passionate about re-energizing and revitalizing neighborhoods. She is interested in reinforcing the connection between the Tigard Triangle and its community and enhance livability and environmental quality through walkability initiatives.



Ray Atkinson

Ray is a Master of Urban and Regional Planning student at PSU specializing in transportation. He is from Kannapolis, NC, and was raised in a home that has a Walk Score of zero. He is passionate to use his GIS knowledge to help the Tigard Triangle become more walkable, so people don't have to rely on an automobile for every trip.



Linn Davis

Linn is a Master of Urban and Regional Planning student at PSU specializing in land use with a particular interest in public participation. He is passionate about walkable neighborhoods and the potential of this project to bring together technical tools and public input to yield a slate of specific walkability strategies in the Triangle.



Curtis Fisher

Curtis is a Master of Urban and Regional Planning student at PSU specializing in transportation and land use. His professional interest is in improving overall well-being by enhancing the quality of the built environment. He has a Bachelor's Degree in history from Western Michigan University and a graduate certificate in paralegal studies from Woodbury College in Vermont.



THE VALUE OF PLACE
Version 1
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