The City of Portland has strong tools to support and promote bicycle transportation. Below is the take of the City Bicycle Coordinator on city policies, guidance and goals in support of advancing the actions identified in Portland Bicycle Plan for 2030[i]. Before discussing bicycling directly, it's useful to consider the Portland Bureau of Transportation's core goals and approach to transportation justice. They are identified in PBOT's Strategic Plan.

Portland Bureau of Transportation's (PBOT) Strategic plan

In PBOT's strategic plan we discuss three core goals, into which all our activities reside. They are:
Safety: making Portland streets safe for everyone;
Moving People and Goods: provide transportation options for a growing city; and
Asset Management: Deliver smart investments to maintain our transportation system

There are also two questions we ask of our actions to make sure our efforts contribute to a Portland that is more equitable and that has a smaller carbon footprint:

Will it advance equity and address structural racism?
Will it reduce carbon emissions?

PBOTs Vision statement: We want a safe, reliable, equitable, and affordable transportation system that supports Portland's prosperity with a high quality of life, an inclusive and connected community, and a low-carbon footprint.

PBOT's Mission statement: We work with our community to shape a livable city together. We plan, build, manage, and maintain an effective and safe transportation system that provides people and businesses the access and mobility they need and deserve. We keep Portland moving.

City of Portland Policies Goals and Objectives.

The City of Portland has many policies, goals, objective and intended actions. The below are the ones the Bicycle Coordinator focuses on when seeking both internal and external support for actions in support of the Portland Bicycle Plan for 2030.

It's good to think about what we're trying to accomplish. It's not so much that high rates of bicycling are in and of themselves what Portland wants to achieve. It's that Portland recognizes bicycle transportation as a powerful and demonstrably effective tool to realize our desired outcomes, as stated in the City's 2035 Comprehensive Plan.

From the perspective of the city, writ large, it doesn't matter how we achieve our goals. Portland just wants to get there. We are directed in the 2035 Comprehensive Plan to follow the below five guiding principles in achieving the city's vision[1]. Most of these can be interpreted to support increased bicycle transportation.

[1] Comprehensive Plan Vision Statement: "Portland is a prosperous, healthy, equitable and resilient city where everyone has access to opportunity and is engaged in shaping decisions that affect their lives."

Guiding Principle	Main points	Bicycle Coordinator commentary
Economic prosperity	Low-carbon economy, employment growth, competitiveness, equitably distributed household prosperity	There is no transportation much more "low-carbon" than bicycle transportation. Not too long ago cities competed for workers based on how livable their cities could be and increased bicycling and good transit were big elements of the potential appeal. Increased reliance on all means of transportation other than automobiles reduces the transportation cost burden on households.
Human Health	Avoid or minimize negative health impacts and improve opportunities for Portlanders to lead healthy, active lives.	Study after study after study after study clearly demonstrates the health benefits of being active. Back in the 1990s public health professionals from the CDC began actively advocating and creating policies identifying the transformation of cities to be more bicycle- and pedestrian-friendly as a primary target to fight the rising and continuing epidemic of obesity
Environmental Health	Weave nature into the city and foster a healthy environment that sustains people, neighborhoods, and fish and wildlife. Recognize the intrinsic value of nature and sustain the ecosystem services of Portland's air, water and land.	Living within 300-500m of a busy road is shown to have strong correlation—and in some cases demonstrated causation—with lung and heart diseases. It is cars and their outputs that make significant contributions to the deterioration of the air, water and land. Not to mention that the transportation section in Multnomah County contributes more than 40% of the region's greenhouse gas emissions.
Equity	Promote equity and environmental justice by reducing disparities, minimizing burdens, extending community benefits, increasing the amount of affordable housing, affirmatively furthering fair housing, proactively fighting displacement, and improving socio-economic opportunities for under-served and under-represented populations. Intentionally engage under-served and underrepresented populations in decisions that affect them. Specifically recognize, address and prevent repetition of the injustices suffered by communities of color throughout Portland's history.	Portland and Oregon—like everywhere in the US--have long practiced systemic racism in order to elevate the quality of life for white people at the expense of black, indigenous and other people of color. This systemic racism has intruded into every aspect of our personal and professional systems, and it has been going on for centuries. Portland is striving to recognize and reverse this. We have been racist through where we site freeways and busy roads, though how we allow housing to be priced, to how we zone the city to where we would allow people of color to live, once they were allowed to stay in the state overnight. Can bicycling help? Yes. While the bicycle produces many tangible benefits: saves money, improves health, reduces traffic violence, improves neighborhoods, it is also a tool of joy. The bicycle is a tool that can bring people together. Unlike cars, it operates at a human scale and in an exposed manner. You can converse with your fellow biker; you can see them as you. You can simply see them and be seen. Moving at a human scale through your community—either by walking, rolling, biking, scotting, or skateboarding is a known means of improving your community because of who you'll meet and what you'll see.

		That said, bicycling by itself does not address the many barriers to free movement for black people, indigenous people and other people of color. Indeed, that very exposure creates personal risk not typically found when travelling by automobile.
Resilience	Reduce risk and improve the ability of individuals, communities, economic systems, and the natural and built environments to withstand, recover from, and adapt to changes from natural hazards, human-made disasters, climate change, and economic shifts.	The 10th anniversary Disaster Relief Trials will be happening in Cully Park in June. Bicycles will play a prominent role in any disaster. Increased bicycling also has a big role to play across the world in preventing the worst of future climate disasters.

The City's Transportation System Plan[2] (TSP) interprets these five guiding principles into seven desired outcomes related to transportation:

Desired Outcome	**Commentary**
Reduce/eliminate transportation fatalities and injuries	Strong relationship between high bicycle use cities being safer cities for everybody. Equally strong relationship between the conditions that foster increased bicycling and walking (fewer cars, slower cars, fewer vehicle miles travelled [vmt]) and safer cities.
Improve access to daily needs, such as jobs, schools, grocery stores and health care	Average bicycle commute distance in Portland is about 5 miles. Most people's daily trips are 3 miles or less
Improve health by increasing walking and bicycling	Clear relationship to bicycling
Increase economic benefits, such as access to family wage jobs and freight access	
Ensure disadvantages communities benefit as much or more than non-disadvantaged communities	How to interpret this? Does this mean to ensure we provide the highest level of facilities to support the modes our plans consider the most important? The modes considered "the most important" are walking, bicycling and transit, in that order [see below]
Reduce global warming pollution from transportation	Clear relationship to bicycling
Prioritize the most cost-effective projects	In 2008 the replacement value of the city's 300 mile bicycle network was approximately the cost of a mile of urban freeway.

City of Portland Policies and Objectives regarding bicycle transportation

Chapter 9 of the Comprehensive Plan is the Transportation Chapter. The overarching goals for the city in regard to transportation are:

[2] It is city policy (Comprehensive Plan Policy 9.3) to "Maintain and implement the Transportation System Plan (TSP) as the decision-making tool for transportation-related projects, policies, programs and street design.

Goal 9.A: Safety	The City achieves the standard of zero traffic-related fatalities and serious injuries. Transportation safety impacts the livability of a city and the comfort and security of those using City streets. Comprehensive efforts to improve transportation safety through equity, engineering, education, enforcement and evaluation will be used to eliminate traffic-related fatalities and serious injuries from Portland's transportation system.
Goal 9.B: Multiple goals	Portland's transportation system is funded and maintained to achieve multiple goals and measurable outcomes for people and the environment. The transportation system is safe, complete, interconnected, multimodal, and fulfills daily needs for people and businesses.
Goal 9.C: Great places	Portland's transportation system enhances quality of life for all Portlanders, reinforces existing neighborhoods and great places, and helps make new great places in town centers, neighborhood centers and corridors, and civic corridors.
Goal 9.D: Environmentally sustainable	The transportation system increasingly uses active transportation, renewable energy, or electricity from renewable sources, achieves adopted carbon reduction targets, and reduces air pollution, water pollution, noise, and Portlanders' reliance on private vehicles.
Goal 9.E: Equitable transportation	The transportation system provides all Portlanders options to move about the city and meet their daily needs by using a variety of safe, efficient, convenient, and affordable modes of transportation. Transportation investments are responsive to the distinct needs of each community.
Goal 9.F: Positive health outcomes	The transportation system promotes positive health outcomes and minimizes negative impacts for all Portlanders by supporting active transportation, physical activity, and community and individual health.
Goal 9.G: Opportunities for prosperity	The transportation system supports a strong and diverse economy, enhances the competitiveness of the city and region, and maintains Portland's role as a West Coast trade gateway and freight hub by providing efficient and reliable goods movement, multimodal access to employment areas and educational institutions, as well as enhanced freight access to industrial areas and intermodal freight facilities. The transportation system helps people and businesses reduce spending and keep money in the local economy by providing affordable alternatives to driving.
Goal 9.H: Cost effectiveness	The City analyzes and prioritizes capital and operating investments to cost effectively achieve the above goals while responsibly managing and protecting our past investments in existing assets.
Goal 9.I: Airport Futures	Promote a sustainable airport (Portland International Airport [PDX]) by meeting the region's air transportation needs without compromising livability and quality of life for future generations.

As with many of the city's goals there is much about reducing driving and increasing bicycling, among others, that arguably contributes to the realization of these goals. That is why the city has invested in its policies and its infrastructure and programs in support of bicycle transportation. Some of the main policies in support of bicycling (all in the Comprehensive Plan) are:

Policy Name	Policy Text	Why this policy?
Policy 9.5 Mode share goals and Vehicle Miles Traveled (VMT) reduction	Increase the share of trips made using active and low-carbon transportation modes. Reduce VMT to achieve targets set in the most current Climate Action Plan and Transportation System Plan, and meet or exceed Metro's mode share and VMT targets.	The original City of Portland / Multnomah County Climate Action Plan (2009) was the first city-adopted plan to set a target for automobile commuting to drop to 30% of commute trips. Subsequent efforts have maintained that target.
Policy 9.6 Transportation	Implement a prioritization of modes for people movement by making	Otherwise known as the "Green Transportation Hierarchy," this powerful

Strategy for people movement	transportation system decisions according to the following ordered list: 1. Walking 2. Bicycling 3. Transit 4. Fleets of electric, fully automated, multiple passenger vehicles 5. Other shared vehicles 6. Low or no occupancy vehicles, fossil-fueled non-transit vehicles When implementing this prioritization, ensure that: ☐ The needs and safety of each group of users are considered, and changes do not make existing conditions worse for the most vulnerable users higher on the ordered list. ☐ All users' needs are balanced with the intent of optimizing the right of way for multiple modes on the same street. ☐ When necessary to ensure safety, accommodate some users on parallel streets as part of a multi-street corridor. ☐ Land use and system plans, network functionality for all modes, other street functions, and complete street policies, are maintained. ☐ Policy-based rationale is provided if modes lower in the ordered list are prioritized.	policy was first mentioned in the 2009 Climate Action Plan, replicated in the Portland Bicycle Plan for 2030, and eventually adopted as official city policy.
Policy 9.20 Bicycle transportation	Create conditions that make bicycling more attractive than driving for most trips of approximately three miles or less.	This policy was written to make clear that the competition for greater bicycle mode share is with automobiles and no other mode. This policy has been interpreted directly into city design guidance, as will be discussed following.
Policy 9.21 Accessible bicycle system	Create a bicycle transportation system that is safe, comfortable, and accessible to people of all ages and abilities.	"All ages and abilities" is another way to describe the "interested but concerned" cyclist. This cyclist type, used in the city's bicycle plan and more thoroughly discussed on the city's website, is the focus of the city's design efforts. The use of the word "comfort" recognizes that safety alone is not sufficient to attract new people to bicycling. Bicycling must also be comfortable—and to people of "all ages and abilities". We often think of 12-year olds when designing bikeways.
Policy 9.37 Automobile transportation	Maintain acceptable levels of mobility and access for private automobiles while reducing overall vehicle miles traveled (VMT) and negative impacts of private	A policy that reinforces the city's policy to reduce VMT. It also recognizes the negative impacts of driving.

	automobiles on the environment and human health.	
Policy 9.46 Traffic management	Evaluate and encourage traffic speed and volume to be consistent with street classifications and desired land uses to improve safety, preserve and enhance neighborhood livability, and meet system goals of calming vehicle traffic through a combination of enforcement, engineering, and education efforts. More specific is 9.46.a: Use traffic calming tools, traffic diversion and other available tools and methods to create and maintain sufficiently low automotive volumes and speeds on neighborhood greenways to ensure comfortable cycling environment on the street.	A policy directing Portland to design good neighborhood greenways.
Policy 9.49.e. Performance measures	By 2035, increase the mode share of daily non-drive alone trips to 70 percent citywide, and to the following in the five pattern areas: Central City: 85% Inner Neighborhoods: 70% Western Neighborhoods: 65% Eastern Neighborhoods: 65% Industrial and River: 55%	Spells out how the city is to achieve it's overall 70% city wide. Note, this is for all trips, not just commute trips.
Policy 9.49.f. Performance measures	By 2035, 70 percent of commuters walk, bike, take transit, carpool, or work from home at approximately the following rates: Walk: 7.5% Bicycle: 25% Transit: 25% Carpool: 12.5% Single Occupant Vehicle (SOV): ≤30% Work at home: 10% below the line (calculated outside of the modal targets above)	Describes how the city believes we will achieve the 70% non-automotive mode split.

The above are the principal bicycle and related policies that have often informed design and planning initiatives and decisions.

Because on-street parking is often an issue, it is worthwhile considering the following parking policies.

Policy 9.55 Parking management	Reduce parking demand and manage supply to improve pedestrian, bicycle and transit mode share, neighborhood livability, safety, business district vitality, vehicle miles traveled (VMT) reduction, and air quality. Implement strategies that reduce demand for new parking and	Directs city to reduce parking demand in order to improve bicycle mode share, among other things.

	private vehicle ownership, and that help maintain optimal parking occupancy and availability.	
Policy 9.56 Curb Zone	Recognize that the Curb Zone is a public space, a physical and spatial asset that has value and cost. Evaluate whether, when, and where parking is the highest and best use of this public space in support of broad City policy goals and local land use context. Establish thresholds to utilize parking management and pricing tools in areas with high parking demand to ensure adequate on-street parking supply during peak periods.	Very important policy. Recognizes that what for decades most referred to as the "parking strip" is actually the "curb zone" and has more uses than parking. In Portland's Classification Policies (in the TSP), only streets with the Design Classification of Civic Main Streets or Neighborhood Main Streets describe the Curb Zone as emphasizing access and place-making functions (such as parking, loading, transit stops, street trees, curb extensions, and street seats). Also stated: "The curb zone may be used for mobility functions if space is needed to provide bicycle facilities or provide turn lanes near intersections." Curb zones on other Street Design Classifications "typically emphasize mobility functions such as bicycle facilities or turn lanes near intersections. The curb zone may be used for access functions such as parking and loading if needed to support adjacent land use." A map of all transportation classifications is found here.

The City has taken these policies and interpreted them into guidance for the various classifications carried on each street in Portland. For bicycles, some streets are classified as Major City Bikeways. Others are classified as City Bikeways. These two classifications form the overwhelming majority of the city's current and future planned bicycle network. All other roadways are classified as "Local Bikeways." Similar classifications exist for walking, transit, freight, traffic (automobile), and emergency response. A seventh classification is for Street Design, as mentioned above.

From the TSP, Major City Bikeways "should be designed to accommodate large volumes of bicyclists, to maximize their comfort and to minimize delays by emphasizing the movement of bicycles. Build the highest quality bikeway facilities. Motor vehicle lanes and on-street parking may be removed on Major City Bikeways to provide needed width for separated-in-roadway facilities where compatible with adjacent land uses and only after performing careful analysis to determine potential impacts to the essential movement of all modes. Where improvements to the bicycling environment are needed but the ability to reallocate road space is limited, consider alternative approaches that include property acquisition, or dedication, parallel routes and/or less desirable facilities. On Major City Bikeways developed as shared roadways, use all appropriate tools to achieve recommended performance guidelines. Where conditions warrant and where practical, Major City Bikeways should have separated facilities for bicycles and pedestrians."

Emphasis here is on “highest quality bikeways”, accommodating “large volumes of bicyclists”, the desire to “maximize their comfort…by emphasizing the movement of bicycles.” Also worth noting is that alternative approaches in space-limited environments include “parallel routes and/or less desirable facilities.”

Improvements recommended for City Bikeways are similar.

Bikeway Design Guidance

The City of Portland used both internal and external guidance in the development of bicycle facilities. Internally, the City has:
“The Neighborhood Greenway Assessment Report”, which sets guidance for desired traffic conditions on neighborhood greenways
The “Portland Protected Bicycle Lane Planning and Design Guide”, which has adopted NACTO guidance for when to provide protected bicycle lanes (see below)
The Traffic Design Manual, which brings together all bicycle and other traffic design elements.

Externally, the City has adopted the National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide. Portland also uses the American Association of State Highway Transportation Officials (AASHTO) guide and also complies with guidance and standards in the federal Manual on Uniform Traffic Control Devices (MUTCD).

The following graphics show the guidance used to infrom facility types and design.

NACTO's Contextual Guidance for Selecting All Ages & Abilities Bikeways

Roadway Context				All Ages & Abilities Bicycle Facility
Target Motor Vehicle Speed*	Target Max. Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Key Operational Considerations	
Any		*Any*	*Any of the following:* high curbside activity, frequent buses, motor vehicle congestion, or turning conflicts ‡	**Protected Bicycle Lane**
< 10 mph	Less relevant	No centerline or single lane one-way	Pedestrians share the roadway	**Shared Street**
≤ 20 mph	≤ 1,000 – 2,000		< 50 motor vehicles per hour in the peak direction at peak hour	**Bicycle Boulevard**
≤ 25 mph	≤ 500 – 1,500			
	≤ 1,500 – 3,000	Single lane each direction, or single lane one-way	Low curbside activity, or low congestion pressure	**Conventional or Buffered Bicycle Lane, or Protected Bicycle Lane**
	≤ 3,000-6,000			**Buffered or Protected Bicycle Lane**
	Greater than 6,000			**Protected Bicycle Lane**
	Any	Multiple lanes per direction		
Greater than 26 mph †	≤ 6,000	Single lane each direction	Low curbside activity, or low congestion pressure	**Protected Bicycle Lane, or Reduce Speed**
		Multiple lanes per direction		**Protected Bicycle Lane, or Reduce to Single Lane & Reduce Speed**
	Greater than 6,000	Any	Any	**Protected Bicycle Lane, or Bicycle Path**
High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts		Any	High pedestrian volume	**Bike Path with Separate Walkway or Protected Bicycle Lane**
			Low pedestrian volume	**Shared-Use Path or Protected Bicycle Lane**

* While posted or 85th percentile motor vehicle speed are commonly used design speed targets, 95th percentile speed captures high-end speeding, which causes greater stress to bicyclists and more frequent passing events. Setting target speed based on this threshold results in a higher level of bicycling comfort for the full range of riders.
† Setting 25 mph as a motor vehicle speed threshold for providing protected bikeways is consistent with many cities' traffic safety and Vision Zero policies. However, some cities use a 30 mph posted speed as a threshold for protected bikeways, consistent with providing Level of Traffic Stress level 2 (LTS 2) that can effectively reduce stress and accommodate more types of riders.18
‡ Operational factors that lead to bikeway conflicts are reasons to provide protected bike lanes regardless of motor vehicle speed and volume.

Figure 17. Contextual guidance chart from the NACTO guide, "Designing for All Ages & Abilities."

Figure 1. NACTO's contextual guidance for selecting bikeways. Adopted as part of Portland's Protected Bicycle Lane Planning and Design Guide and Traffic Design Manual

Figure 2. Performance guidelines for neighborhood greenways

PERFORMANCE GUIDELINES AT A GLANCE

VEHICLE SPEEDS:

- 20 mph measured as 85th percentile speed

AUTOMOBILE VOLUMES:

- 1,000 Average Daily Traffic (ADT) as goal
- 1,500 ADT acceptable
- 2,000 ADT maximum
- Over 2,000 ADT triggers changes

BICYCLE AND PEDESTRIAN CROSSING OPPORTUNITIES:

- 100 crossing opportunities per hour as preferred level of service
- Minimum 50 crossing opportunities per hour

Alternate Guideline: *An alternate vehicle volume measurement based on vehicles per hour may be used in lieu or in addition to ADT: to design, build and maintain for an average of 50 vehicles per hour in the peak direction, understanding that a neighborhood greenway can operate at an average of 75 vehicles per hour in the peak direction, but should be improved or maintained to not exceed 100 vehicles per hour in the peak direction.*

This measure may more effectively capture short periods of time when neighborhood greenways experience significant increases in traffic volume that jeopardize their primary goal as a priority active transportation route. For example, traffic volume may increase at the 4 to 6 p.m. peak travel period as people driving use a neighborhood greenway to avoid a nearby arterial. The traffic volume during the rest of the day may be very low, but the significant increase in peak-period autos creates a high-stress environment for people biking during that time.

Bicycle Use

There are several different measures that provide an idea of bicycle use in Portland. The three most notable are annual census reports, annual volunteer bicycle counts and the Oregon Household Activity Survey, (OHAS) last conducted in 2011.

Census data reports on commute activity. While not providing a complete picture of bicycle use, it is the most reliable apples-to-apples measure available. This data showed a steady increase in both proportion of trips made by bicycle and number of Portland resident bicycle commuters through 2015. Since 2015 the numbers have declined.

Annual volunteer bicycle counts, last conducted in 2019, (though last published in a report in 2014) survey approximately 240 locations to gain peak 2-hour bicycle count data. This data also provides a good apples-to-apples comparison of bicycle use data, though is not a source of mode split data. It provides data about whether cyclists are masculine or feminine (or male or female). The proportion of female cyclists is considered an indicator of how bicycle-friendly a community is.

The OHAS provided good data about all trip activity. An analysis of the data can be found at this link.

Census Data

One-year city wide census data (from the American Community Survey) is used to generate the information in the below table and charts.

Data from the 5-year American Community Survey provides data at the census tract level, and is used to generate the below maps. The year represented on the map is the mid-point of the five-year period used for the data.

Portland Commute Behavior 1990-2019

(all data from US Census Bureau)

	Commute Mode Split; Percentage						Commute Mode Split; Numbers							Annual Growth Numbers						
	Drove Alone	Carpooled	Transit	Walked	Bicycled	Worked at Home	Drove Alone	Carpooled	Transit	Walked	Bicycled	Worked at Home	Total Commuters	Drove Alone	Carpooled	Transit	Walked	Bicycled	Worked at Home	Total Commuters
1990	65.0%	12.9%	11.0%	5.6%	1.1%	3.4%	139,246	27,594	23,475	12,058	2,453	7,243	214,270	-	-	-	-	-	-	-
1996	65.2%	12.2%	11.7%	4.3%	1.7%	4.2%	160,928	30,080	28,794	10,622	4,254	10,311	246,860	-	-	-	-	-	-	-
1997	64.0%	11.7%	14.0%	3.8%	2.2%	3.7%	159,965	29,182	34,983	9,626	5,435	9,180	250,077	-963	-898	6,189	-996	1,181	-1,131	3,217
1998	65.4%	10.7%	12.1%	4.4%	2.0%	4.6%	165,165	26,958	30,589	11,213	5,026	11,628	252,428	5,200	-2,224	-4,394	1,587	-409	2,448	2,351
1999	63.8%	11.0%	12.3%	5.5%	1.9%	4.8%	162,966	27,995	31,530	13,928	4,900	12,202	255,363	-2,199	1,037	941	2,715	-126	574	2,935
2000	63.6%	11.9%	12.3%	5.2%	1.8%	4.3%	172,491	32,197	33,410	14,192	4,775	11,780	271,234	9,525	4,202	1,880	264	-125	-422	15,871
2001	62.8%	11.0%	13.0%	5.0%	2.8%	4.6%	165,727	29,015	34,278	13,092	7,378	12,181	264,054	-6,764	-3,182	868	-1,100	2,603	401	-7,180
2002	64.4%	10.2%	12.2%	4.8%	2.6%	5.0%	162,621	25,840	30,815	12,054	6,647	12,599	252,701	-3,106	-3,175	-3,463	-1,038	-731	418	-11,353
2003	62.4%	12.0%	12.9%	3.8%	3.0%	4.9%	161,544	31,133	33,422	9,911	7,776	12,754	258,889	-1,077	5,293	2,607	-2,143	1,129	155	6,188
2004	62.2%	11.0%	13.3%	3.7%	2.8%	5.8%	160,364	28,315	34,235	9,627	7,207	14,930	257,766	-1,180	-2,818	813	-284	-569	2,176	-1,123
2005	62.3%	10.4%	13.3%	4.3%	3.5%	5.3%	160,686	26,781	34,249	11,073	9,013	13,648	257,768	322	-1,534	14	1,446	1,806	-1,282	2
2006	60.6%	10.5%	12.6%	5.2%	4.2%	6.1%	167,559	28,895	34,948	14,264	11,477	16,758	276,465	6,873	2,114	699	3,191	2,464	3,110	18,697
2007	63.6%	9.8%	11.2%	4.4%	3.9%	6.4%	178,588	27,600	31,465	12,232	10,987	17,841	280,933	11,029	-1,295	-3,483	-2,032	-490	1,083	4,468
2008	60.4%	8.4%	12.6%	5.3%	6.0%	6.5%	176,252	24,450	36,666	15,482	17,365	18,929	291,579	-2,336	-3,150	5,201	3,250	6,378	1,088	10,646
2009	61.6%	8.5%	11.5%	5.6%	5.8%	5.9%	178,332	24,753	33,431	16,125	16,846	17,235	289,700	2,080	303	-3,235	643	-519	-1,694	-1,879
2010	58.8%	9.6%	12.1%	5.3%	6.0%	7.4%	168,231	27,375	34,544	15,078	17,035	21,139	286,228	-10,101	2,622	1,113	-1,047	189	3,904	-3,472
2011	57.8%	9.2%	13.0%	4.9%	6.3%	7.9%	174,457	27,631	39,180	14,753	18,977	23,876	301,584	6,226	256	4,636	-325	1,942	2,737	15,356
2012	58.5%	8.4%	11.1%	6.9%	6.1%	7.9%	180,107	25,736	34,289	21,336	18,912	24,308	307,935	5,650	-1,895	-4,891	6,583	-65	432	6,351
2013	57.4%	9.9%	11.9%	6.1%	5.9%	7.1%	178,980	30,831	37,002	19,017	18,337	22,160	311,588	-1,127	5,095	2,713	-2,319	-575	-2,148	3,653
2014	57.6%	9.1%	11.8%	5.4%	7.2%	7.6%	187,726	29,651	38,529	17,615	23,347	24,681	325,907	8,746	-1,180	1,527	-1,402	5,010	2,521	14,319
2015	57.2%	8.2%	13.4%	6.0%	7.0%	7.2%	191,822	27,651	44,855	20,081	23,432	24,053	335,447	4,096	-2,000	6,326	2,466	85	-628	9,540
2016	58.2%	8.1%	12.9%	5.8%	6.3%	7.8%	202,102	28,196	44,691	19,986	21,982	27,180	347,260	10,280	545	-164	-95	-1,450	3,127	11,813
2017	56.7%	8.6%	12.6%	5.7%	6.3%	8.6%	202,718	30,687	45,028	20,303	22,647	30,843	357,258	616	2,491	337	317	665	3,663	9,998
2018	58.5%	7.6%	12.0%	5.7%	5.3%	9.6%	214,405	27,972	43,800	20,859	19,553	35,313	366,445	11,687	-2,715	-1,228	556	-3,094	4,470	9,187
2019	56.4%	8.2%	13.4%	6.3%	5.2%	9.1%	206,585	30,168	49,103	23,084	19,052	33,516	366,463	-7,820	2,196	5,303	2,225	-501	-1,797	18

Figure 3. Portland commute data from the one-year American Community Survey.

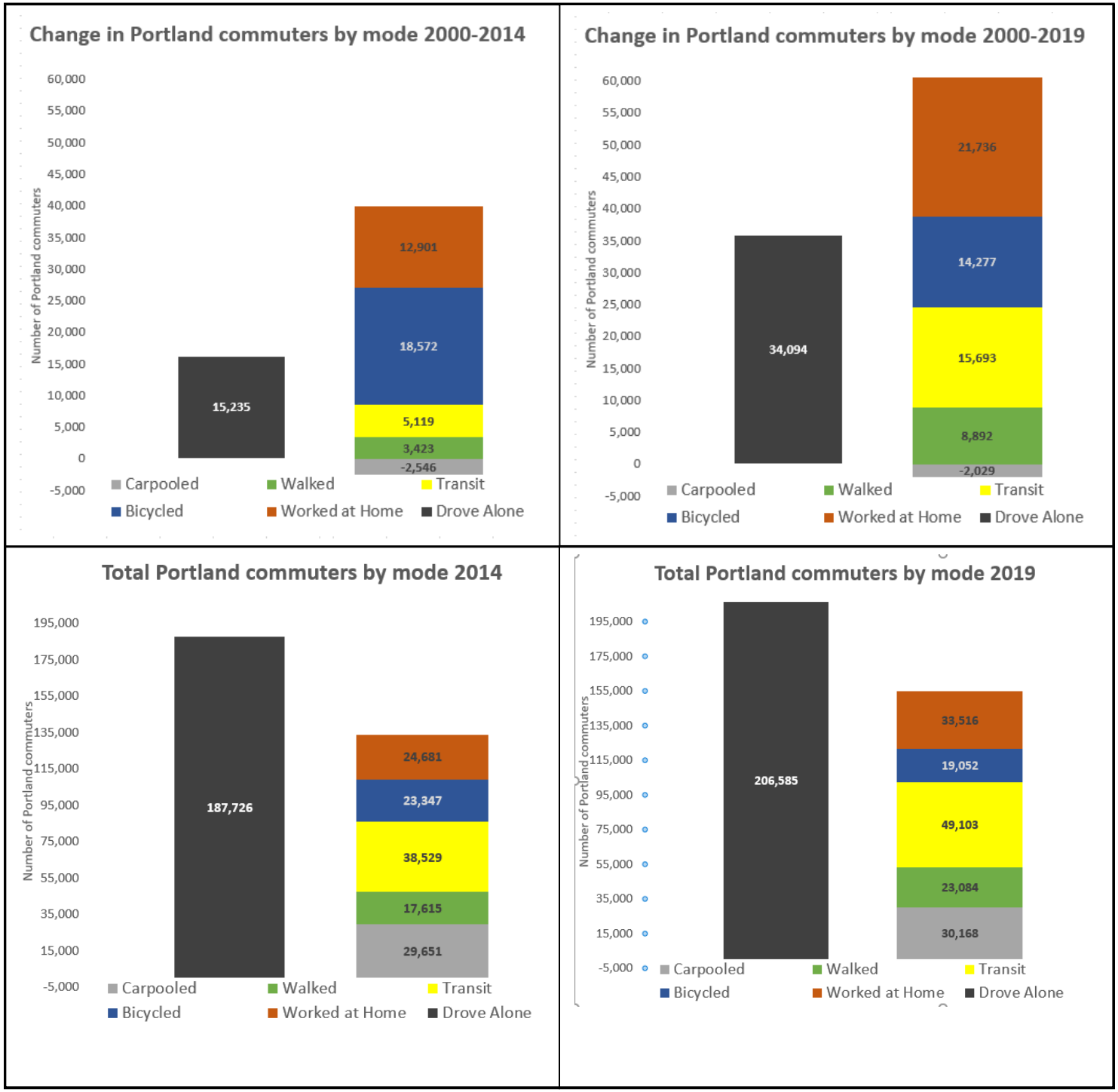

Figure 4. Change in Portland commuters by mode and total Portland commuters by mode.

Change in number of commuters. The graphs to the left, and the line graph below, show the change in the number of commuters since 2000 for two years: 2014 and 2019. In 2014 bicycle commuting peaked in Portland at 7.2%. By 2019 both the number and percent of bicycle commuters had declined from that peak.

The two charts at the top show that driving alone was increasing at a lower rate than the means of commuting favored by Portland's policies. The charts at the bottom show that driving is still the predominant mode of commuting at approximately 56% (see Figure 3 for all mode splits).

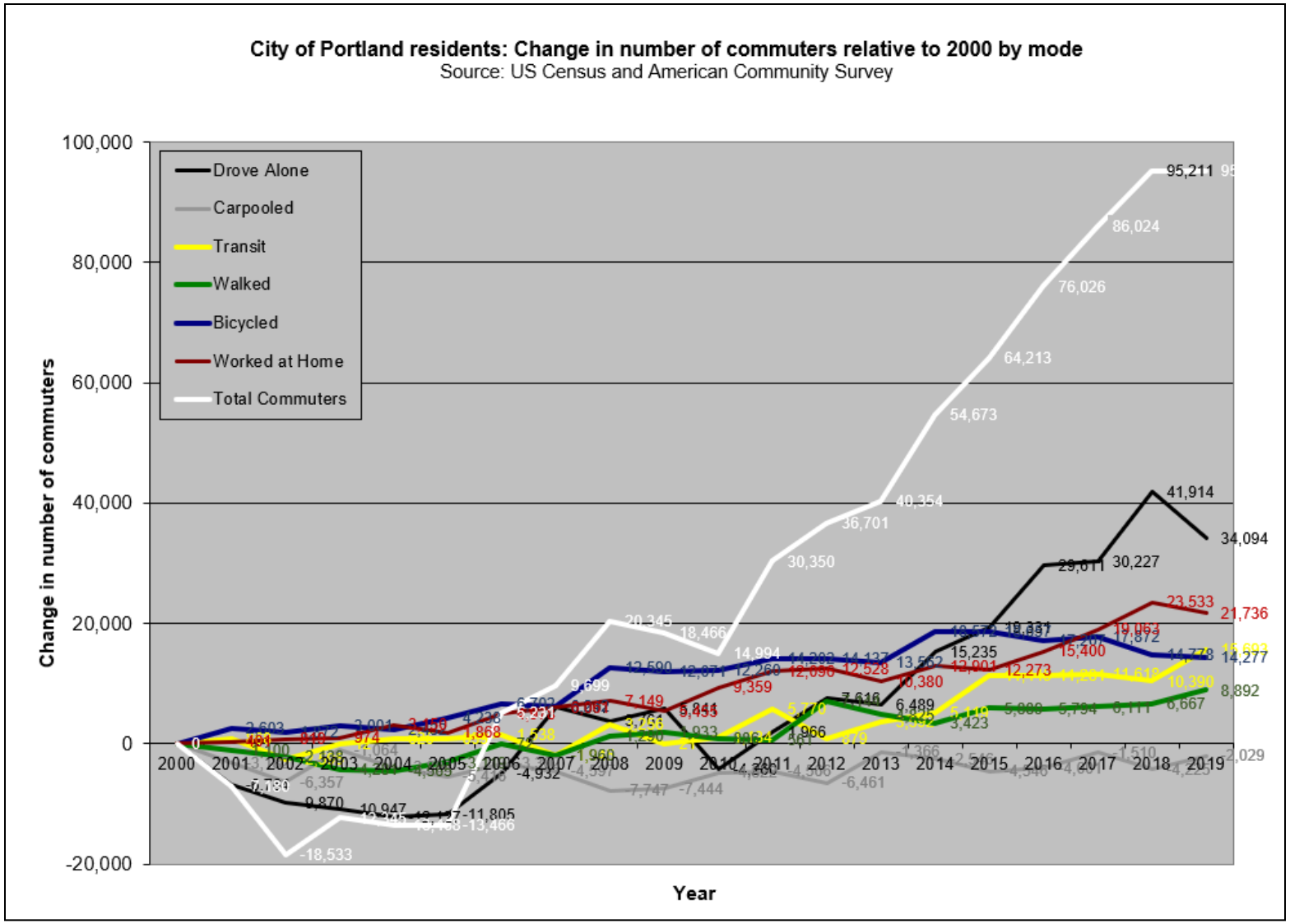

Figure 5. Annual change in means of transportation to work by mode 2000-2019.

Figure 5 shows why until 2019 we could say that since 2000 bicycling has been the means of transportation that has done the most to keep at bay the negative effects associated with increased car use. During that time period, bicycle commuting absorbed the plurality of the increase in Portland resident commuters.

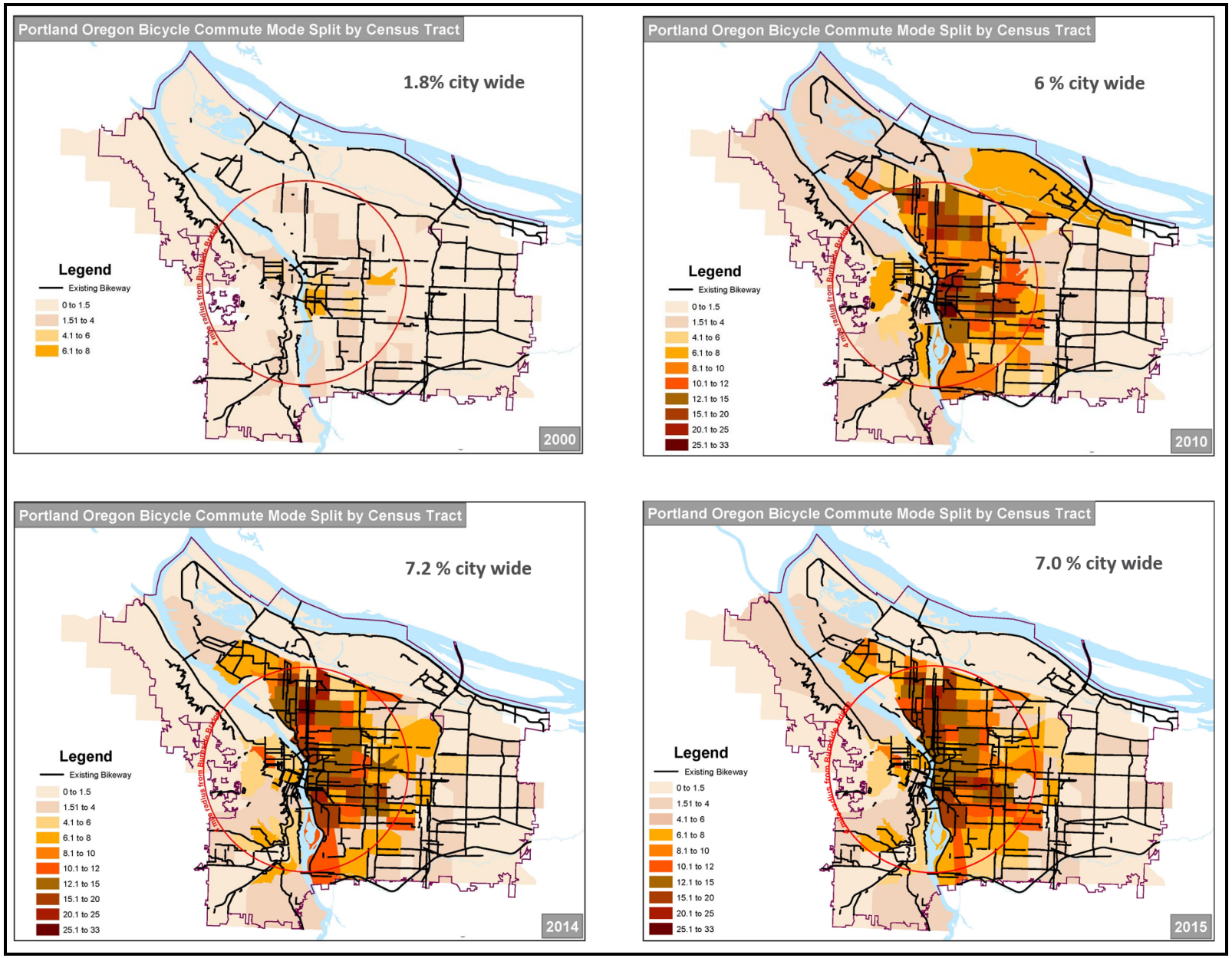

Figure 6. Bicycle mode split by census tract. Based on 5-year rolling ACS data. Year represents mid-point of 5-year period. Black lines on map reflect bicycle network during display year.

Annual volunteer bicycle counts

Portland's annual volunteer bicycle counts (last conducted in 2019) provide a wealth of comparative information. See the last published report for 2013-2014 for a sense of the information provided. Two of the more useful broad data points are people counted at location and whether observed riders were masculine or feminine[3]

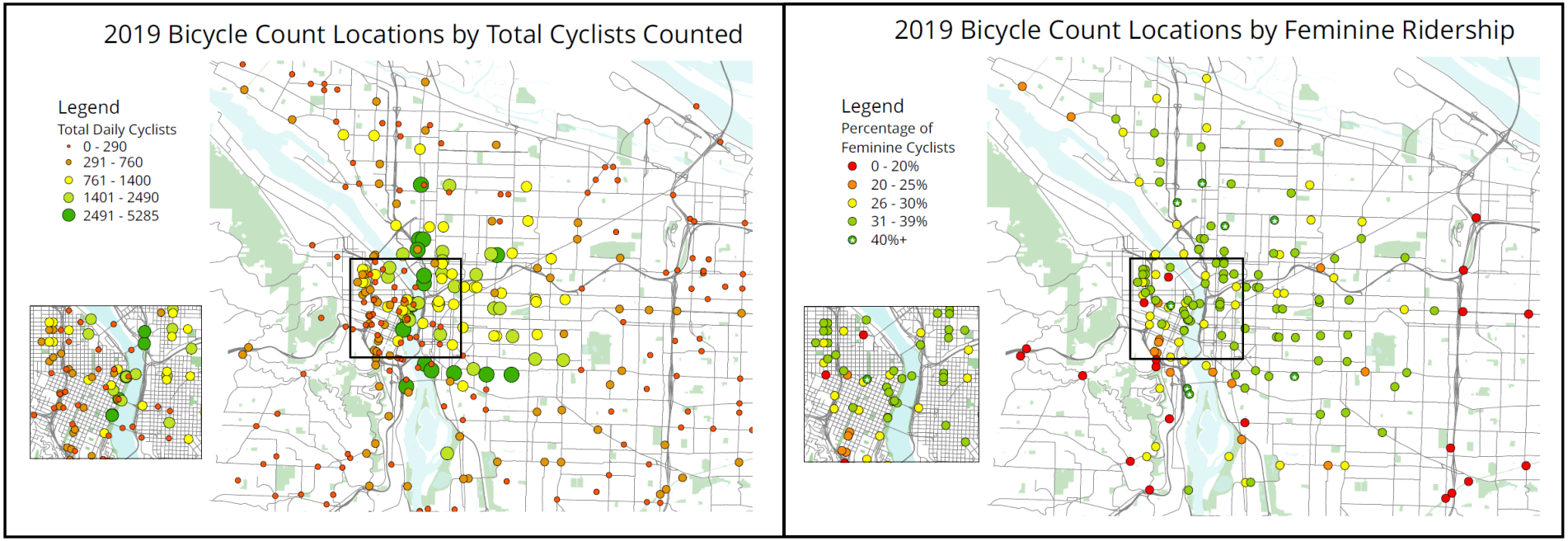

Figure 7. Total daily bicycle count and locations by percentage of feminine cyclists. Total extrapolated from 2-hour peak count.

[3] Previously, riders were identified as either "Male" or "Female". Following discussing with people who preferred to not have their gender identities recorded based on a volunteers' observation, the city switched to "Masculine" and "Feminine" characterization. As noted previously, the proportion of feminine riders is a good bellwether of how bicycle friendly a community is. Feminine ridership in Portland has increased from 20% in the early 1990s to 25% by the late 1990s, to 30% by the mid aughts, to the current 32% by 2014. The world's best cycling cities generally have a 50:50 split between masculine and feminine riders.

Oregon Household Activity Survey (OHAS)

This survey was conducted and analyzed by Metro. It was a comprehensive look at all travel activity. Its data reflects all trip activity and not just the commute trip. The data does not include recreational trips (ie, trips that have the same starting and ending point). Among the more interesting elements revealed are overall mode split, bicycle use by annual income and age, racial split of active transportation, and proportion of car trips that are short. Below are some charts and bullet points summarizing that data.

- Of all trips that are 2 miles or less; about 2/3 are made by automobile.
- About 40% of all person-trips are 2 miles or less
- About 1/3 of all car trips are 2 miles or less.

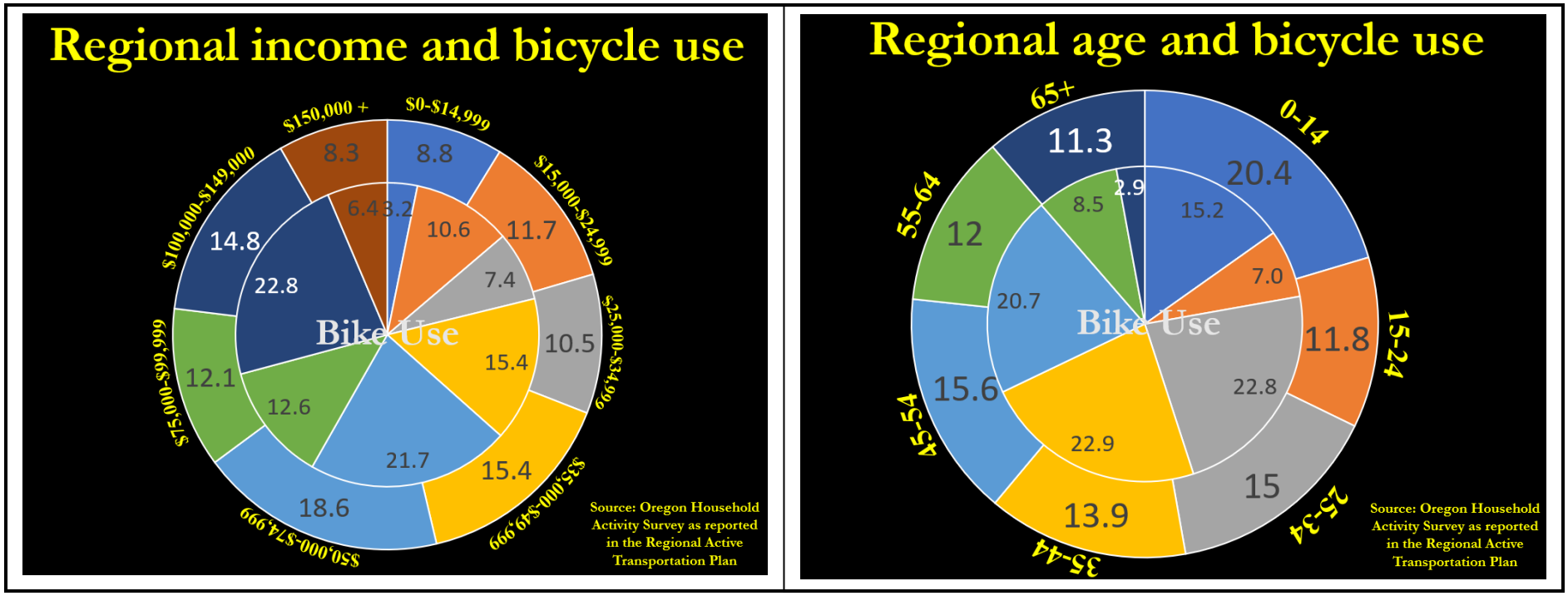

Figure 8. Data from OHAS showing how bicycle use distribution measures against population distribution of income and age. Data from 2011.

Figure 8 indicates that at the regional level bicycle use is fairly representative at most income levels and most age groups. The extent to which the wedges in the inner circle ("Bike Use") correspond to the wedges in the outer circles ("Income" and "Age", respectively) demonstrates how representative bicycle use is at each gradation. The "Bike Use" wedge being larger than the population wedge indicates bicycling is over-

represented at that gradation, relative to the overall population. The “Bike Use” wedge being smaller than the population wedge indicates bicycling is under-represented.

Also of interest from the OHAS is mode share by race of householder, as shown in Figure 9. This indicates that, at the regional level, non-white householders tend to walk, bicycle and use transit at higher levels than do white householders in the region.

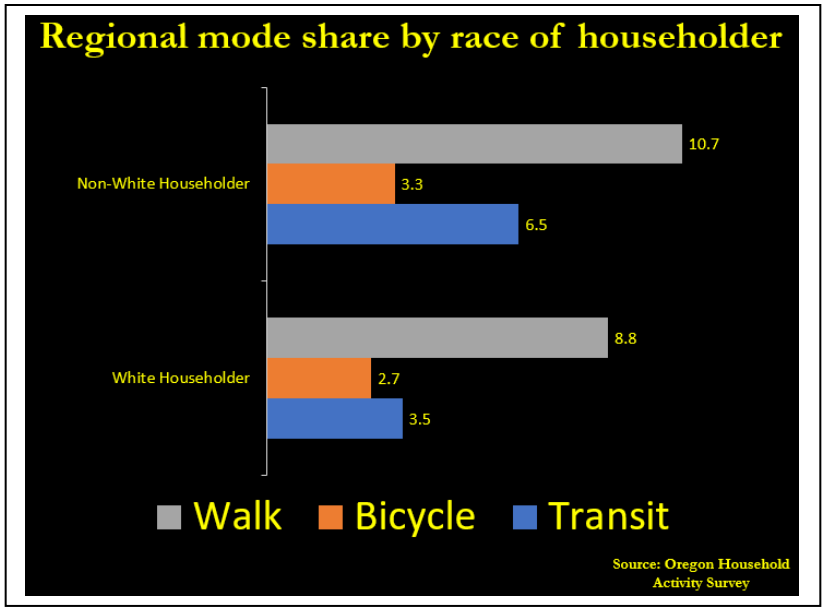

Figure 9. Data from the OHAS showing non-white householders in the region tend to walk, bike and use transit at higher rates than did white householders (data from 2011).

Comparison of Portland 2011 trip data: all trip mode split versus commute mode split

Mode	Mode split			
	OHAS 2011 (all trip)	One-year ACS (commute)	One-year ACS corrected (commute)•••	Percentage difference / Ratio (corrected commute to all trip)
Walk	15%	4.9%	5.4%	-64% / 0.4
Bike	6%	6.3%	6.9%	13% / 1.2
Transit	6.6%	13%	14.2%	115% / 2.2
Drive	72.4%	67%•	73.5%	1.5% / 1.0
Sum	100%	91.2%••	100%	

•Includes both driving alone and carpooling as Metro data for “Drive” includes carpooling, too.
••Excludes “Other” and “Worked at Home” as those categories were not included in Metro’s data.
•••Adjusted to reflect 100% of people leaving their homes to commute (discounts “Worked at Home” and “Other”)

Figure 10. Comparison between OHAS and Census data for 2011 showing both all trip data (OHAS) and commute-only data (Census)

Finally, of interest is the table shown in Figure 10, which reflects all trip data from the City of Portland. For comparison, commute mode split data is shown as well. What is interesting is that bicycle mode split is consistent between commute data (from the US Census) and all trip data (from the OHAS), as is “Drive” data.

Portland’s strategy has long been “build it and they will come”. Meaning, build a high quality bikeway network and ridership will continue to grow. That worked until 2015. Since 2015 bicycle use, in terms of bicycle commute mode split and number of commuters has steadily declined. Why that is happening, and how to counteract it, are challenges the city will need to address to achieve our overall goals. In 2020 PBOT published a report describing progress on the action items identified in the bicycle plan.

Bicycle Network

Recognizing that creating conditions that are “safe and comfortable” for bicycling, an important focus for Portland’s cycling efforts has been to build a network that is high quality, direct, safe, comfortable, and attractive. The below figures show annual growth in the bikeway network both visually and quantitatively.

	Annual Bikeway Miles Developed											Cumulative Total of Bikeway Miles by Facility Type						
	Facility Type											Facility Type						
Year	Boulevard/ Greenway	Buffered Lane	Protected Lane	Lane	Path	Enhanced Shared Roadway	Retired Lane	Retired Buffered Lane	Retired Enhanced Shared Roadway	Total miles developed	New system miles	Boulevard/ Greenway	Buffered Lane	Protected Lane	Lane	Path	Enhanced Shared Roadway	Total
<1980	0.0			0.1	8.3					8.4	8.4	0.0	0.0	0.0	0.1	8.3	0.0	8.4
1980	3.0			5.3	15.0					23.2	23.2	3.0	0.0	0.0	5.3	23.3	0.0	31.6
1981				10.0						10.0	10.0	3.0	0.0	0.0	15.3	23.3	0.0	41.6
1982				6.4						6.4	6.4	3.0	0.0	0.0	21.6	23.3	0.0	47.9
1983				0.0	9.9					9.9	9.9	3.0	0.0	0.0	21.6	33.2	0.0	57.9
1984				4.1						4.1	4.1	3.0	0.0	0.0	25.8	33.2	0.0	62.0
1985				1.7						1.7	1.7	3.0	0.0	0.0	27.5	33.2	0.0	63.7
1986	2.6			0						2.6	2.6	5.6	0.0	0.0	27.5	33.2	0.0	66.2
1987	0.7			4.3						5.0	5.0	6.3	0.0	0.0	31.8	33.2	0.0	71.3
1988	2.3			0.9						3.2	3.2	8.6	0.0	0.0	32.7	33.2	0.0	74.5
1989				0.6						0.6	0.6	8.6	0.0	0.0	33.3	33.2	0.0	75.1
1990		0.1		1.1						1.2	1.2	8.6	0.1	0.0	34.4	33.2	0.0	76.4
1991										0.0	0.0	8.6	0.1	0.0	34.4	33.2	0.0	76.4
1992				5.0						5.0	5.0	8.6	0.1	0.0	39.4	33.2	0.0	81.4
1993				3.1						3.1	3.1	8.6	0.1	0.0	42.5	33.2	0.0	84.4
1994	0.1			8.3	8.4					16.9	16.9	8.8	0.1	0.0	50.8	41.6	0.0	101.3
1995				9.8	1.0					10.8	10.8	8.8	0.1	0.0	60.6	42.6	0.0	112.1
1996	1.5	0.1	0.1	21.1	9.0					31.7	31.7	10.2	0.2	0.1	81.7	51.6	0.0	143.8
1997	1.6	0.2		19.8	1.3					23.0	23.0	11.9	0.5	0.1	101.5	52.9	0.0	166.8
1998				16.2						16.2	16.2	11.9	0.5	0.1	117.8	52.9	0.0	183.1
1999	12.9			15.2	4.9					33.0	33.0	24.7	0.5	0.1	133.0	57.8	0.0	216.1
2000	2.4			6.5	0.6					9.5	9.5	27.1	0.5	0.1	139.5	58.5	0.0	225.6
2001		0.1		7.2	5.4					12.7	12.7	27.1	0.6	0.1	146.7	63.9	0.0	238.3
2002	2.2			7.8	3.6					13.5	13.5	29.3	0.6	0.1	154.5	67.4	0.0	251.9
2003	0.8			2.3	0.2					3.2	3.2	30.0	0.6	0.1	156.8	67.6	0.0	255.1
2004		0.2		4.3	1.1					5.7	5.7	30.0	0.8	0.1	161.1	68.8	0.0	260.8
2005				2.0	4.6					6.6	6.6	30.0	0.8	0.1	163.2	73.3	0.0	267.4
2006				2.8	1.2	0.5				4.6	4.0	30.0	0.8	0.1	166.0	74.6	0.5	272.0
2007				3.7	0.8					4.5	4.5	30.0	0.8	0.1	169.7	75.4	0.5	276.5
2008		0.1		2.9						3.0	3.0	30.0	0.9	0.1	172.5	75.4	0.5	279.5
2009	0.9	2.6	0.3	1.0	1.8		0.3			6.7	6.4	30.9	3.5	0.4	173.2	77.2	0.5	285.8
2010	19.5	0.1	0.0	3.3	0.6	0.6	0.2			24.1	23.2	50.4	3.6	0.5	176.2	77.8	1.2	309.7
2011	8.5	0.3	0.5	1.0	0.2	0.3				10.7	10.5	58.9	3.9	1.0	177.2	78.0	1.4	320.4
2012	14.1	0.4	0.5	0.0	1.1		0.8			16.1	15.3	73.0	4.3	1.4	176.4	79.1	1.4	335.8
2013	2.3	1.7	0.6	3.2	1.4	0.0	2.1			9.3	7.1	75.3	6.0	2.1	177.5	80.6	1.5	342.9
2014	2.6	6.1	0.4	5.8	1.7	0.6	5.4	0.1		17.3	11.2	77.9	12.0	2.4	177.9	82.3	2.1	354.8
2015	5.1	2.5	0.1	0.5	1.1	0.9	2.3			10.2	7.1	83.0	14.5	2.6	176.2	83.4	3.0	362.7
2016	1.0	7.4	0.9	0.4	1.0	1.2	6.6			11.9	4.1	84.0	21.9	3.5	170.0	84.4	4.3	368.0
2017	7.7	4.4	1.8	0.3	0.0	1.0	5.3	0.4		15.3	8.6	91.7	25.9	5.3	165.0	84.4	5.3	377.6
2018	2.1	3.7	0.9	0.5	0.5	3.8	3.3			11.5	4.4	93.8	29.7	6.2	162.2	84.9	9.1	385.8
2019	6.6	7.5	9.5	2.6	0.8	0.1	7.8	2.6	0.7	27.0	15.9	100.5	34.5	15.7	157.0	85.6	8.5	401.8
2020	2.5	2.1	3.0	0.1	1.4	0.1	3.3	0.8		9.3	5.1	102.9	35.9	18.7	153.8	87.1	8.6	407.0
2021	2.1	0.3	4.2	0.7	0.3		0.5	0.7	0.0	7.5	6.3	105.0	35.5	22.9	154.0	87.4	8.5	413.3
Funded	34.3	6.6	23.9	5.6	3.7	1.1				75.3	75.3	139.4	42.1	46.8	159.6	91.1	9.6	488.6

Figure 11. Annual and cumulative accounting of Portland's bikeway network by facility type.

Figure 11 shows decreasing center-line miles of (conventional) bike lanes. That is because PBOT has been replacing existing conventional bicycle lanes with either buffered, or protected bicycle lanes.

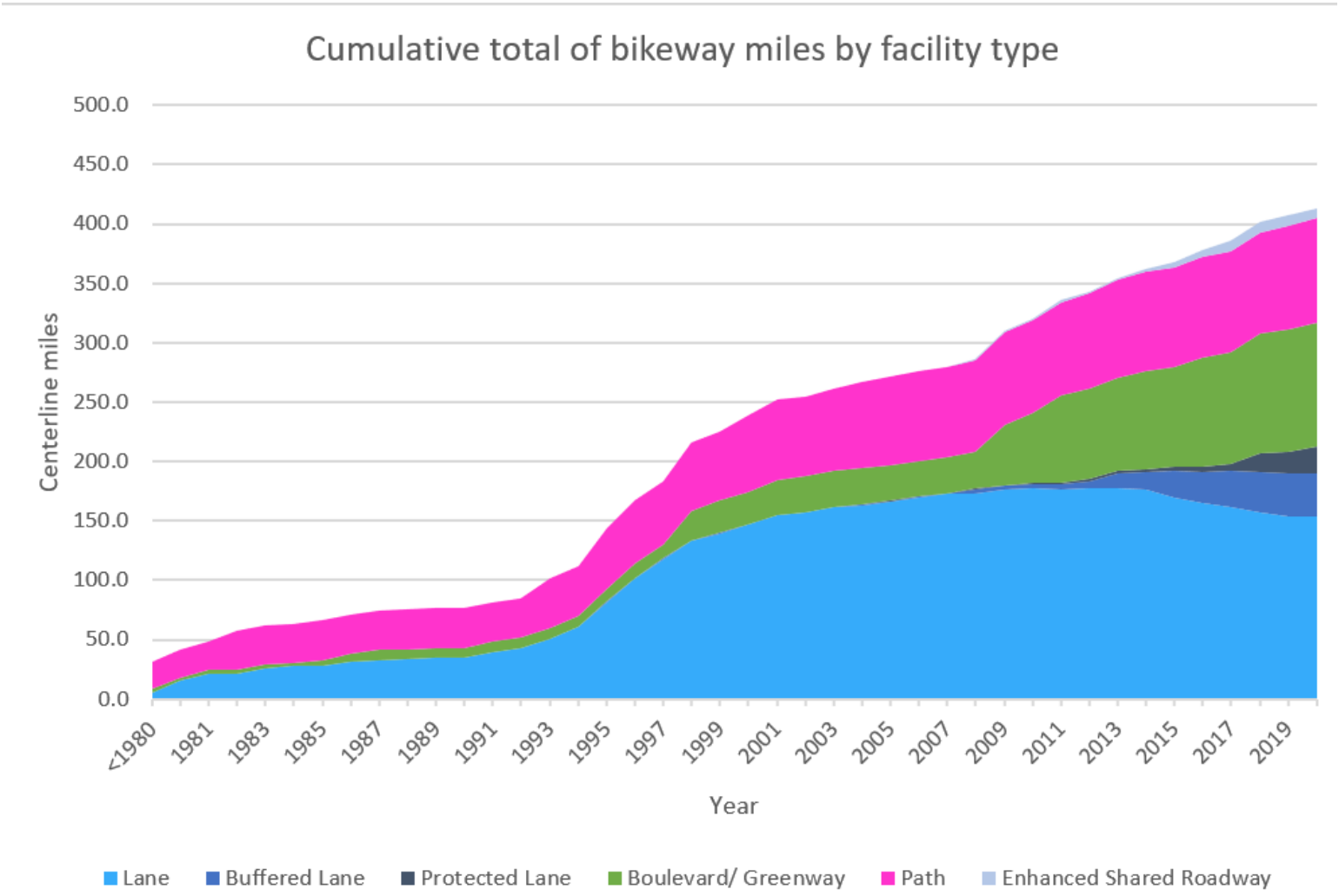

Figure 12. This chart6 shows significant growth in the miles of neighborhood greenways build and decreasing miles of conventional bicycle lanes in favor of either buffered or protected bicycle lanes.

Portland's bikeway network has grown appreciably in total miles, quality of facilities and interconnectedness. In additional to developing higher quality neighborhood greenways and protected and buffered bicycle lanes, PBOT has also focused on intersection treatments. These include bike boxes, dedicated signal phasing and cross bikes. The below maps show the network development since 2000.

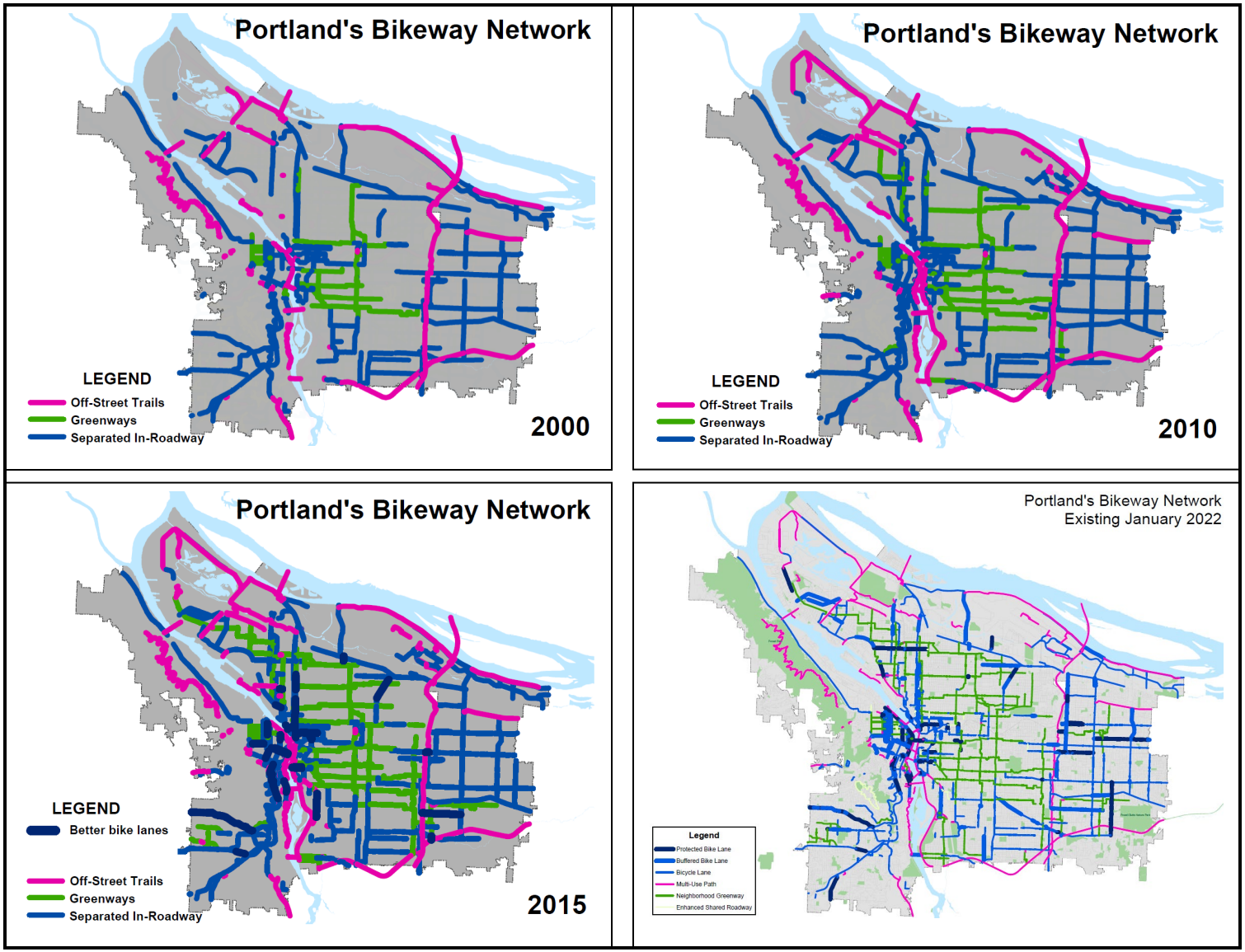

Figure 13. Portland's bikeway network 2000-2022

[i] Here is a list of all linked references in the document, as well as other links to projects, programs and other documents.

Portland Bicycle Plan for 2030
Portland Bicycle Plan for 2030; 2019 Progress Report
Portland Bureau of Transportation
PBOT's Strategic Plan
Portland's 2035 Comprehensive Plan
Portland's Transportation System Plan
City of Portland/Multnomah County Climate Action Plan:
    Original 2009 Plan
    Access to subsequent plans
Portland Bicycle Advisory Committee
Four types of transportation cyclists
Portland Transportation Classifications
Portland traffic counts
Portland Vision Zero
    Interactive crash map
    Vision Zero interactive dashboard
Portland Bikeway Network
Neighborhood greenways
    The Neighborhood Greenway Assessment Report
Portland Protected Bicycle Lane Planning and Design Guide
Portland Traffic Design Manual
National Association of City Transportation Officials (NACTO)
    Urban Bikeway Design Guide
Portland annual volunteer bicycle counts
    Last published report in 2014
Analysis of Oregon Household Activity Survey
Metro data on OHAS

PBOT capital projects
    Central City in Motion
    East Portland in Motion
    Southwest in Motion
    Northwest in Motion
    North Portland in Motion
    Fixing Our Streets
    Small Capital Programs (quick builds)
    Rose Lane Project

PBOT Planning and Programs
    Way to Go Plan (Transportation Demand Management)
    Pricing Options for Equitable Mobility (POEM)
    Safe Routes to School

PBOT Maintenance Operations
PBOT Equity and Inclusion Program
Sunday Parkways
Portland Bike Share