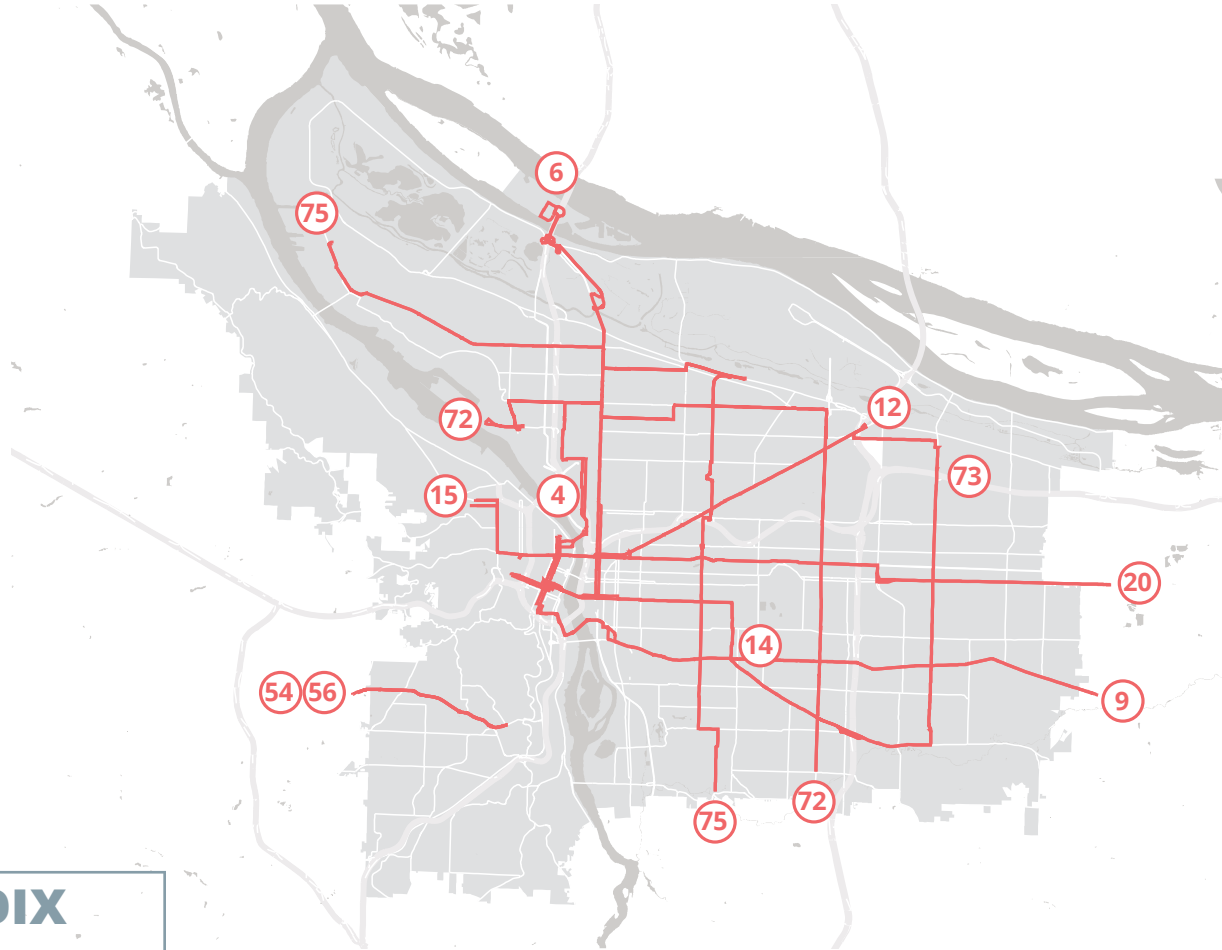




Enhanced Transit Corridors Plan

Existing Conditions and Methodology Memorandum



APPENDIX
5.18.2017





Appendices

Appendix A: Candidate Corridor Screening Memorandum

PBOT Staff recommendation on ten candidate corridors for Enhanced Transit and selection process (*January 18, 2017*)

Appendix B: Agency System Maps (used by PBOT for initial Corridor Screening)

City of Portland Frequent Service and Timepoint Segments, 90th percentile passenger load (*TriMet, Spring 2016*)

City of Portland Frequent Service and Timepoint Segments, Difference between 90th and 10th percentile revenue speeds (*TriMet, Spring 2016*)

City of Portland Frequent Service and Timepoint Segments, Revenue Speed Divided by Posted Speed Limit (*TriMet, Spring 2016*)

Appendix C: Existing Conditions/Methodology Maps

Time-point Segments Used in Existing Conditions/Methodology Analysis (CH2M, 2017)

Portland Comprehensive Plan Designation (CH2M, 2017)

Forecasted Future Growth: Jobs and Households per Acre in 2035 (CH2M, 2017)

Forecasted Future Growth: Net Change Between 2010 and 2035 (CH2M, 2017)

Equity: Limited English Proficiency (LEP) Populations (CH2M, 2017)

Equity: People of Color (CH2M, 2017)

Equity: Low-Income Households (CH2M, 2017)

Methodology: Equity Map (CH2M/HDR, 2017)

Methodology: Forecasted Future Growth (2010- 2035) (CH2M/HDR, 2017)

Methodology: Transit Reliability (CH2M/HDR, 2017)

Methodology: Transit Speed (CH2M/HDR, 2017)

Methodology: Average Existing Weekday Transit Trips (CH2M/HDR, 2017)

Methodology: Transit Reliability (CH2M/HDR, 2017)

Methodology: Dwell Time (CH2M/HDR, 2017)

Methodology: Total Score Map

Appendix D: Evaluation Results



Appendix A: Candidate Corridor Screening Memorandum

PBOT

PORTLAND BUREAU OF TRANSPORTATION

1120 SW Fifth Avenue, Suite 800 Portland, OR 97204 503.823.5185
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Dan Saltzman Commissioner **Leah Treat** Director

Memorandum

Date: January 18, 2017
From: April Bertelsen, ETC Plan Project Manager, Senior Transportation Planner
To: Enhanced Transit Corridors Plan TAC
RE: Staff recommendation on ten candidate corridors for Enhanced Transit and selection process

The purpose of this memo is to present the project team recommendations on the ten candidate corridors to be further evaluated during the development of the Enhanced Transit Corridors (ETC) Plan. The memo also summarizes the screening and selection process that informed these recommendations. The ETC Plan Project Team is comprised of staff from the PBOT Policy, Plans and Projects (PPP) Division, TriMet, ODOT, CH2M and HDR. Metro staff also participated in the process. Task 2 in the Enhanced Transit Corridors Plan TGM grant scope of work identified this work: Define Network of Candidate Corridors, Segments and Hot Spots. Per the TGM grant scope of work negotiations with the CH2M/HDR Consultant Team, the Project Team reached an agreement to limit the study scope to ten corridors to fit within the grant award amount.

Task 2 Objectives:

- Identify existing or near-term planned TriMet Frequent Service transit lines to form the universe of Candidate Corridors and hot spots to be further evaluated
- Use a high-level screening process to define corridor segments of transit lines to be further evaluated as potential Enhanced Transit Corridors

Candidate Corridors Recommendations

Based on the screening and selection process described below, the Project Team recommends the following list of nine candidate corridors for further evaluation. The Team recommends further study of the full bus line from the edge of the downtown core (where relevant) to Portland City limits, unless otherwise noted.

1. Line 6 – MLK Jr Blvd/Jantzen Beach
2. Line 9 – SE Powell Blvd
3. Line 12 – NE Sandy Blvd
4. Line 14 – SE Hawthorne/Foster Rd
5. Line 20 – E Burnside/SE Stark St
6. Line 54/56 – Beaverton-Hillsdale Hwy, both lines combine to provide Frequent Service
7. Line 72 – Killingsworth/82nd Ave
8. Line 73 – 122nd Ave
9. Line 75 – Cesar Chavez/Lombard

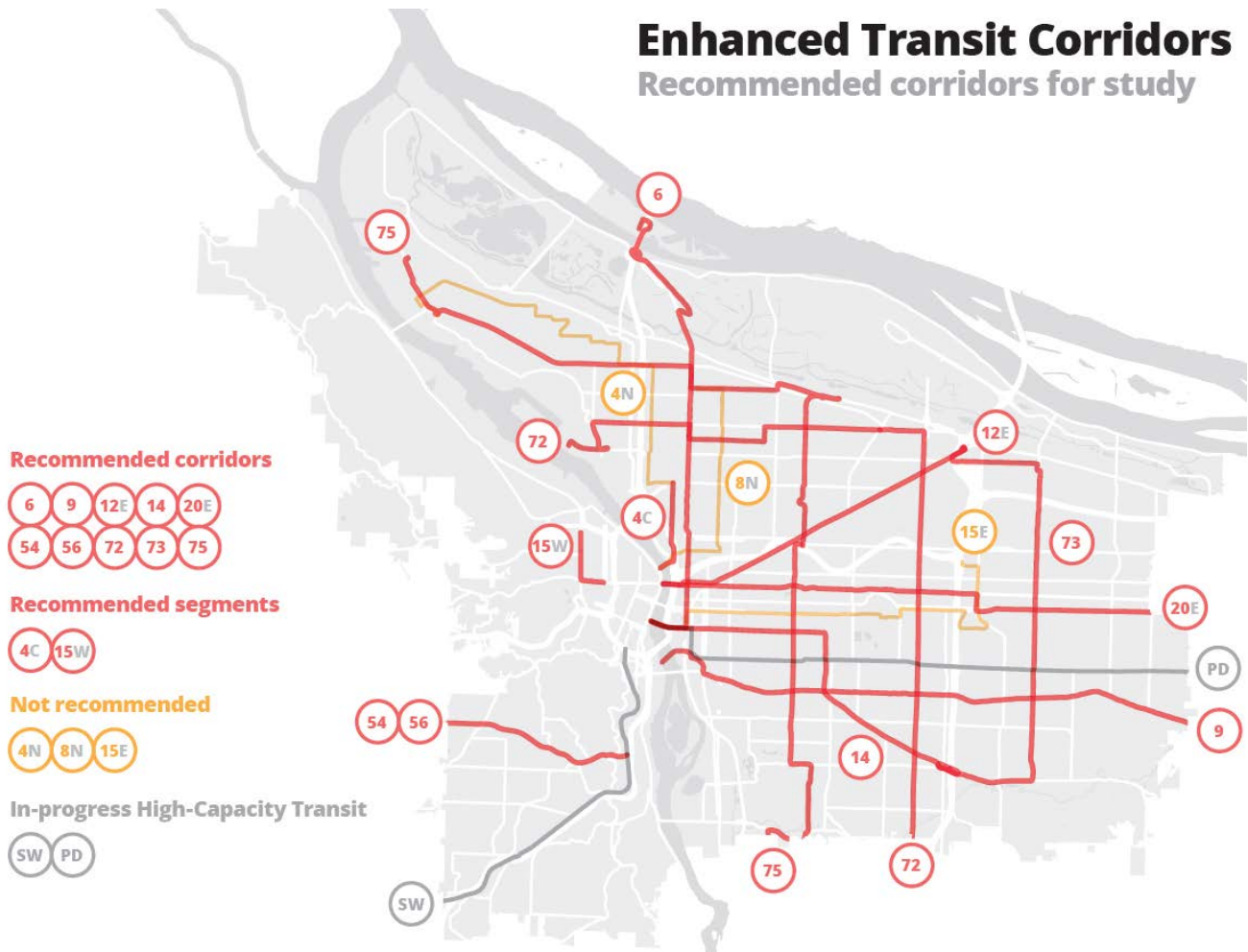


The Portland Bureau of Transportation fully complies with Title VI of the Civil Rights Act of 1964, the ADA Title II, and related statutes and regulations in all programs and activities. For accommodations, complaints and information, call (503) 823-5185, City TTY (503) 823-6868, or use Oregon Relay Service: 711.

In addition to the 9 lines identified above, the Project Team also found the following two candidate corridor segments as compelling candidates that performed similarly against the screening criteria. The Team would like TAC input to help determine which of these corridors should be included in the group of 10 Candidate Corridors - or a TAC recommendation that both be included for further evaluation.

1. Line 4 – N Vancouver/Williams from Rose Quarter to N Fremont
2. Line 15 – West of downtown – W Burnside and NW 23rd up to Vaughn

The map below displays the recommended corridors and segments listed above, as well as the full universe of candidates evaluated during this initial screening and selection process.



Screening and Selection Process

During the fall 2016 and early winter, staff from PBOT and TriMet worked together to evaluate a universe of candidate bus lines and select ten corridors, segments or hot spots for further study and analysis. Following is a summary of the approach.

1. Start from the existing Frequent Service network map provided by TriMet and update it to reflect any recent changes so that the network includes all current existing or near-term planned Frequent Service transit lines based on the most current data.

The Project Team **added** the following two lines for consideration because TriMet is actively increasing service frequency towards Frequent Service:

- a. Line 20 – E Burnside/SE Stark St

- b. Line 73 – 122nd Ave

The Project Team **excluded** the following two lines from consideration because there are active transit projects in development:

- a. Line 4 – SE Division
- b. Line 12 – SW Barbur Blvd

2. Break the transit lines into proposed corridor segments for further analysis where appropriate. For example, the Team broke transit lines that pass through downtown Portland into different segments.
3. Develop an initial narrowed list of Candidate Corridors for additional study using high-level screening criteria based on historic transit operations and reliability, ridership and areas of forecasted future growth.

The Project Team used the following **criteria and measures** (based on TriMet data collected for the Spring 2016 sign up) to evaluate the universe of candidates:

- a. **Reliability.** Measure: “Percentage difference between 90th and 10th percentile revenue speed.” It was used to identify segments along bus routes where the difference between the transit travel speed (inclusive of all activity, such as picking up passengers, while in revenue service) varied greatly throughout the course of a day between more free flow traffic conditions and more congested/delayed time of day.

This was the primary measure the Team used in the screening process. Lines with two or more segments with the highest speed variability (top two quintiles shaded red and orange) were recommended as Candidate Corridors. The following measures helped to tip the balance in deciding which of the candidates on the cusp to include.

- b. **Ridership Passenger Loads.** Measure: “90th percentile maximum load.” This measure was used to identify segments where the passenger loads were greater.
- c. **Transit Speeds.** Measure: “50th percentile revenue speed” divided by “posted speed limit.” This measure was used to identify segments where buses were on average relatively slower than the posted speed, even off-peak.
- d. **Forecasted Future Growth.** The following measures were used to help gauge corridors the City deems important in the Comprehensive Plan Update and forecasted for future higher densities.
 - a. Does the line serve a Center, Civic Corridor or Neighborhood Corridor?
 - b. Does it serve 2035 Forecasted Households Density or Employment Density?

The attached maps display each of these measures. The Project Team aggregated all TriMet data to the segments between time points. The segments were then ranked and displayed in quintiles. Typically, the Team selected Candidate Corridors if they had multiple segments in the top/bottom (reflective of poor performance) two quintiles.

4. Identify the universe of Candidate Corridors to be further evaluated. See above recommendations.
5. If any parts of the selected corridors contain ODOT or County operated facilities, the PMT will coordinate with the affected facility provider throughout the process.
6. The consultant team reviewed and commented on Map and List of Candidate Corridors during a final work session in January 2017.



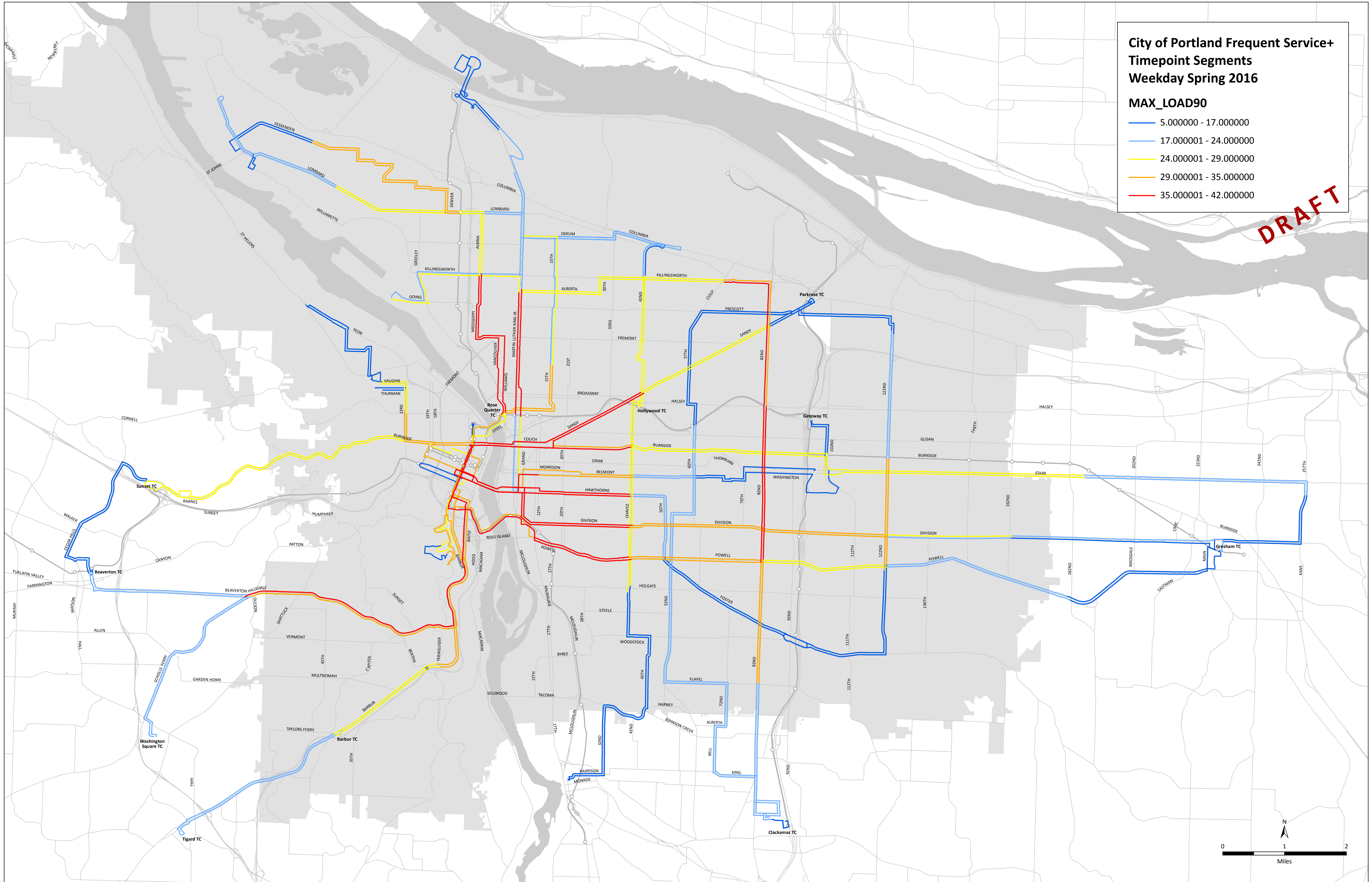
Appendix B: Agency System Maps (used by PBOT for initial Corridor Screening)

**City of Portland Frequent Service+
Timepoint Segments
Weekday Spring 2016**

MAX_LOAD90

- 5.000000 - 17.000000
- 17.000001 - 24.000000
- 24.000001 - 29.000000
- 29.000001 - 35.000000
- 35.000001 - 42.000000

DRAFT

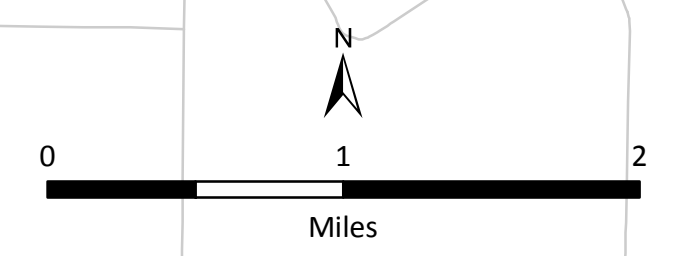
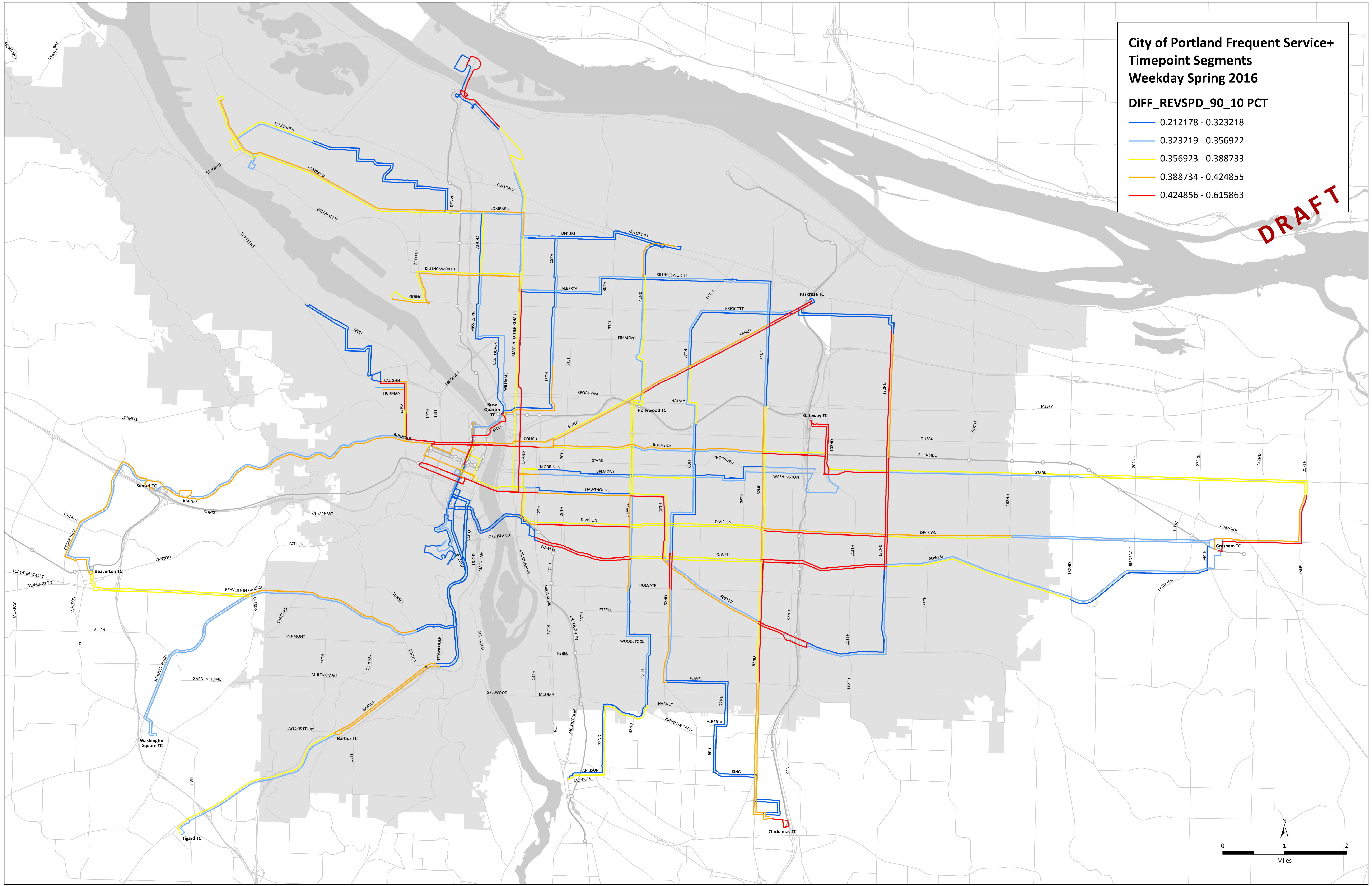


**City of Portland Frequent Service+
Timepoint Segments
Weekday Spring 2016**

DIFF_REVSPD_90_10 PCT

- 0.212178 - 0.323218
- 0.323219 - 0.356922
- 0.356923 - 0.388733
- 0.388734 - 0.424855
- 0.424856 - 0.615863

DRAFT

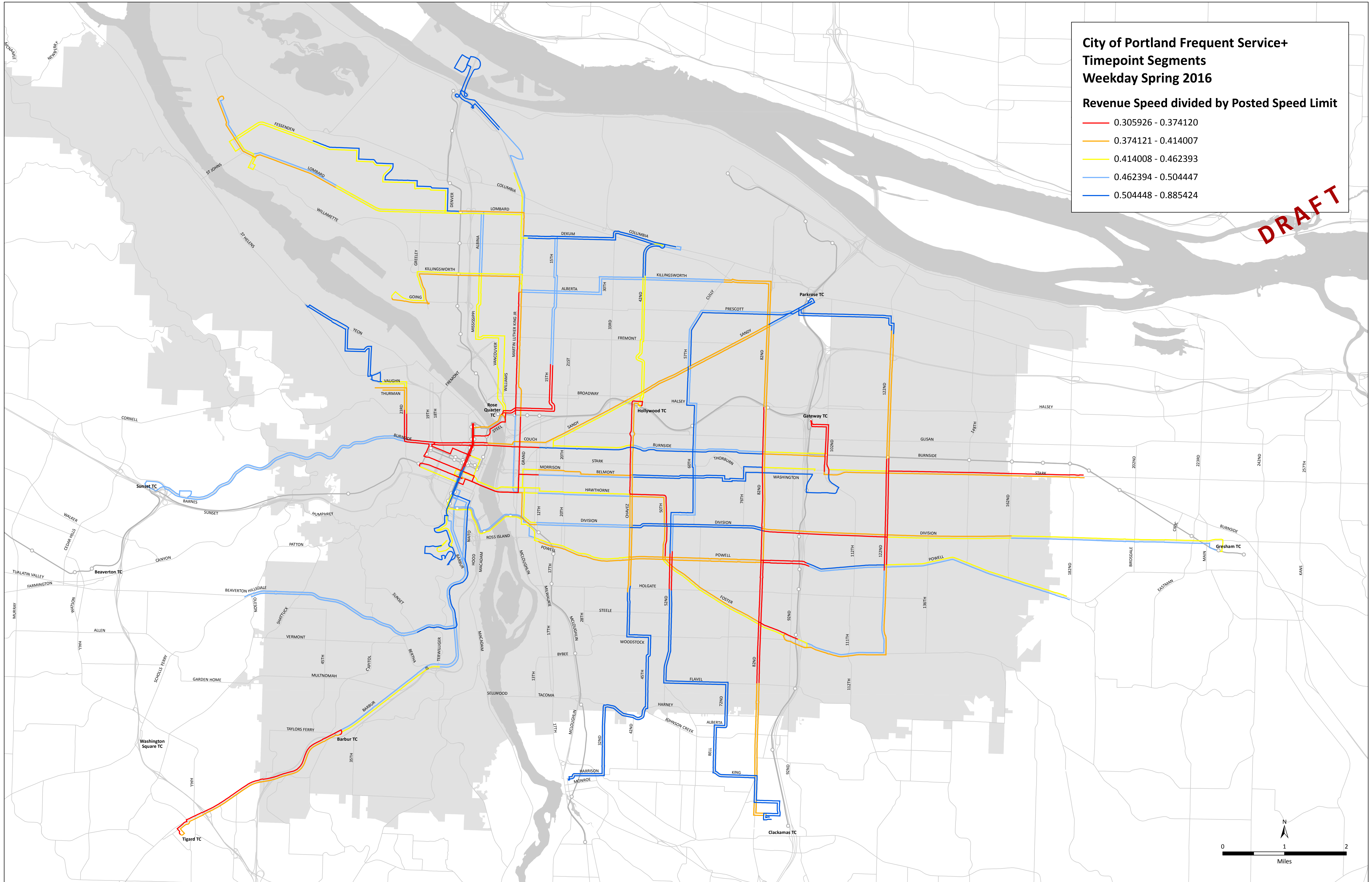


**City of Portland Frequent Service+
Timepoint Segments
Weekday Spring 2016**

Revenue Speed divided by Posted Speed Limit

- 0.305926 - 0.374120
- 0.374121 - 0.414007
- 0.414008 - 0.462393
- 0.462394 - 0.504447
- 0.504448 - 0.885424

DRAFT



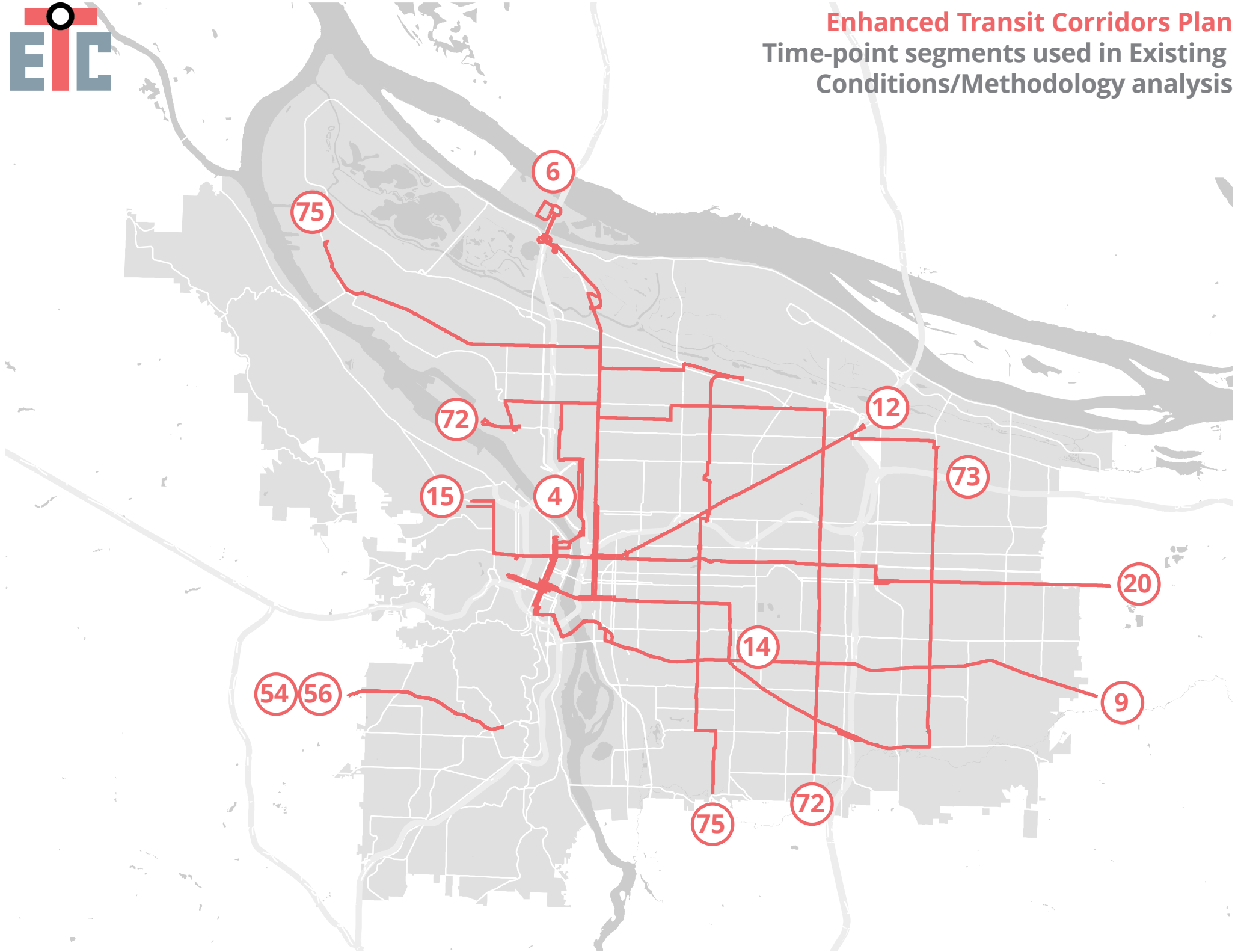


Appendix C: Existing Conditions/Methodology Maps



Enhanced Transit Corridors Plan

Time-point segments used in Existing Conditions/Methodology analysis



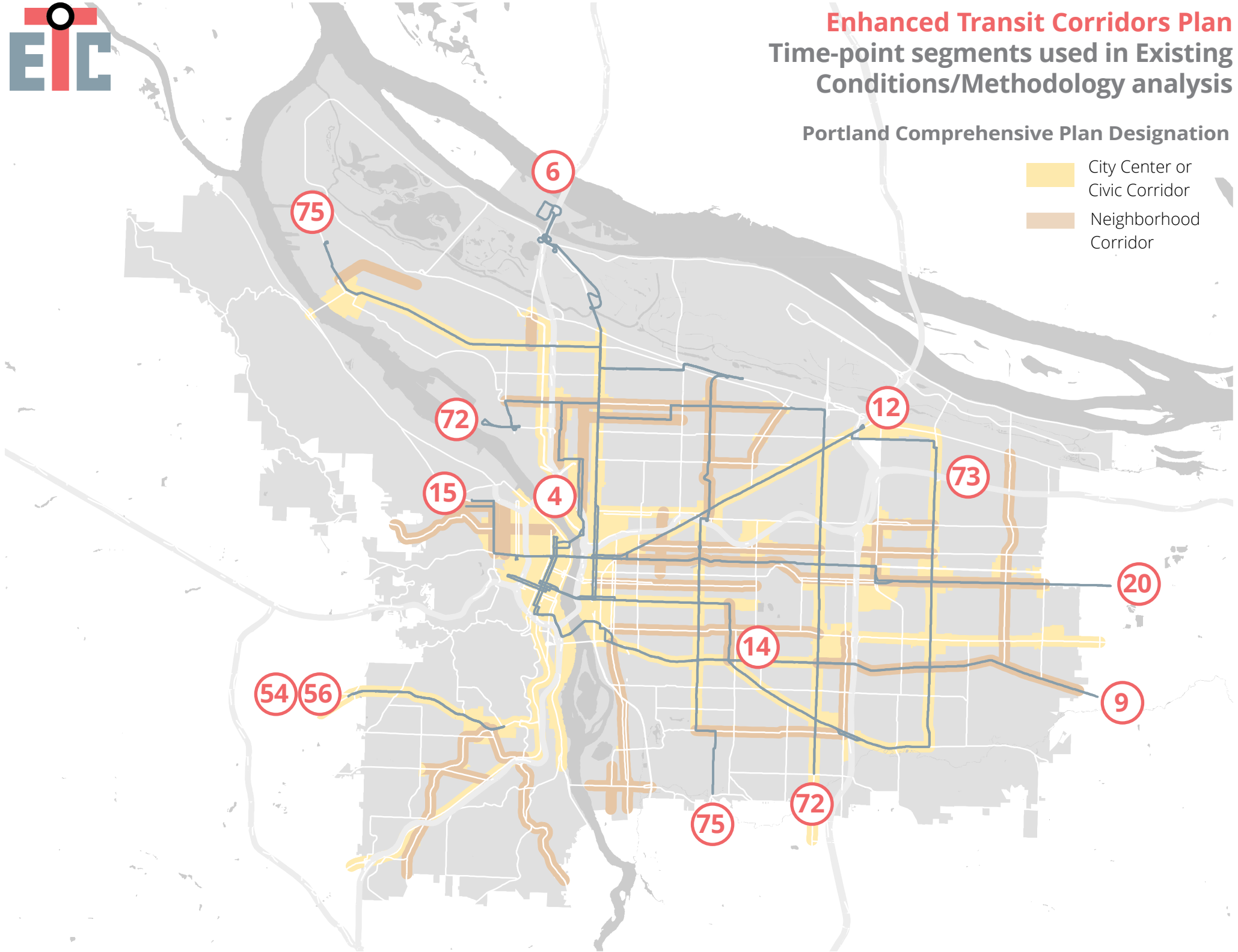


Enhanced Transit Corridors Plan

Time-point segments used in Existing Conditions/Methodology analysis

Portland Comprehensive Plan Designation

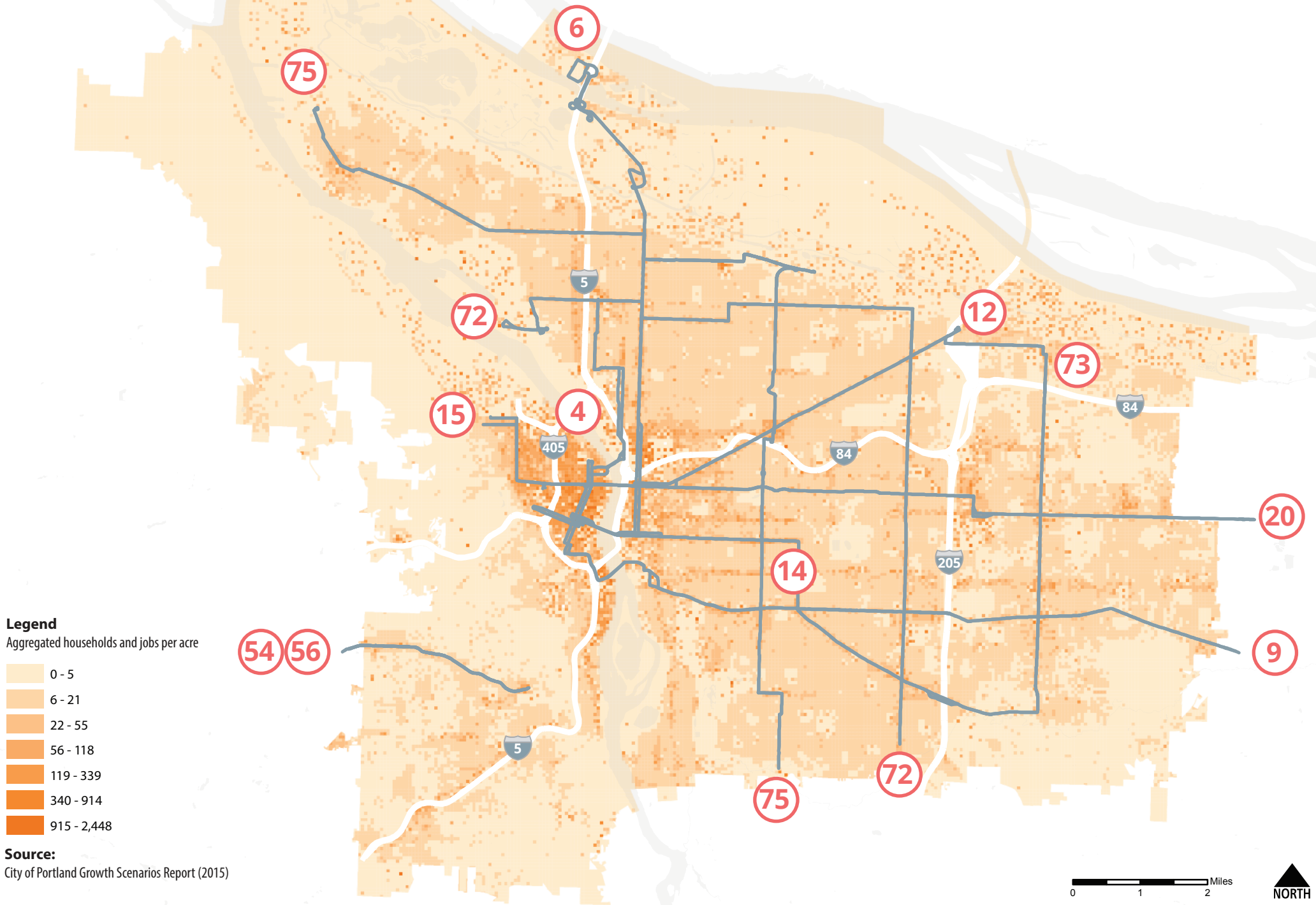
- City Center or Civic Corridor
- Neighborhood Corridor





Enhanced Transit Corridors Plan Forecasted Future Growth (2010 - 2035)

Aggregated jobs and households per acre in 2035



Legend
Aggregated households and jobs per acre

- 0 - 5
- 6 - 21
- 22 - 55
- 56 - 118
- 119 - 339
- 340 - 914
- 915 - 2,448

Source:
City of Portland Growth Scenarios Report (2015)

0 1 2 Miles

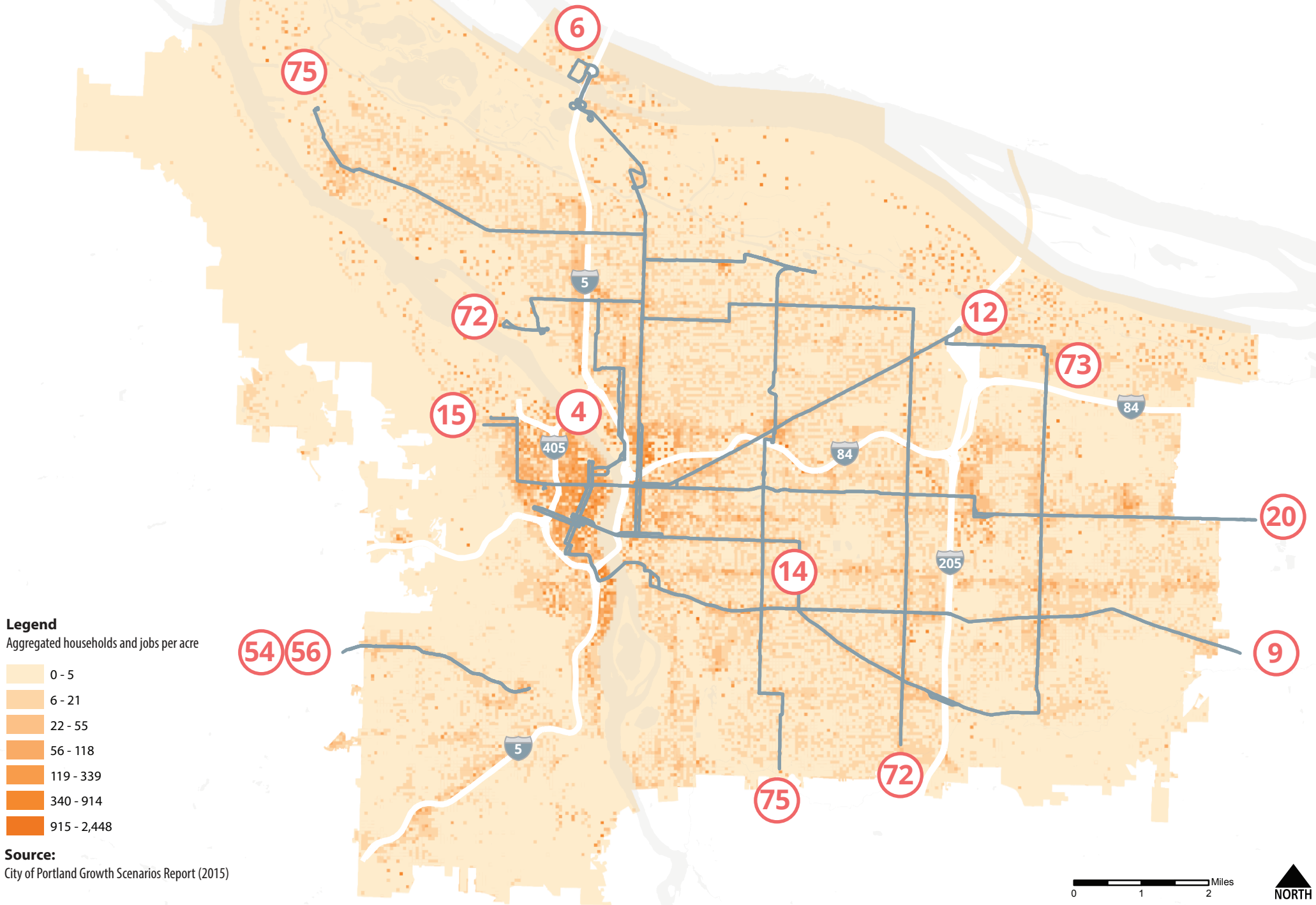




Enhanced Transit Corridors Plan

Forecasted Future Growth (2010 - 2035)

Net change between 2010 and 2035



Legend
Aggregated households and jobs per acre

- 0 - 5
- 6 - 21
- 22 - 55
- 56 - 118
- 119 - 339
- 340 - 914
- 915 - 2,448

Source:
City of Portland Growth Scenarios Report (2015)

0 1 2 Miles



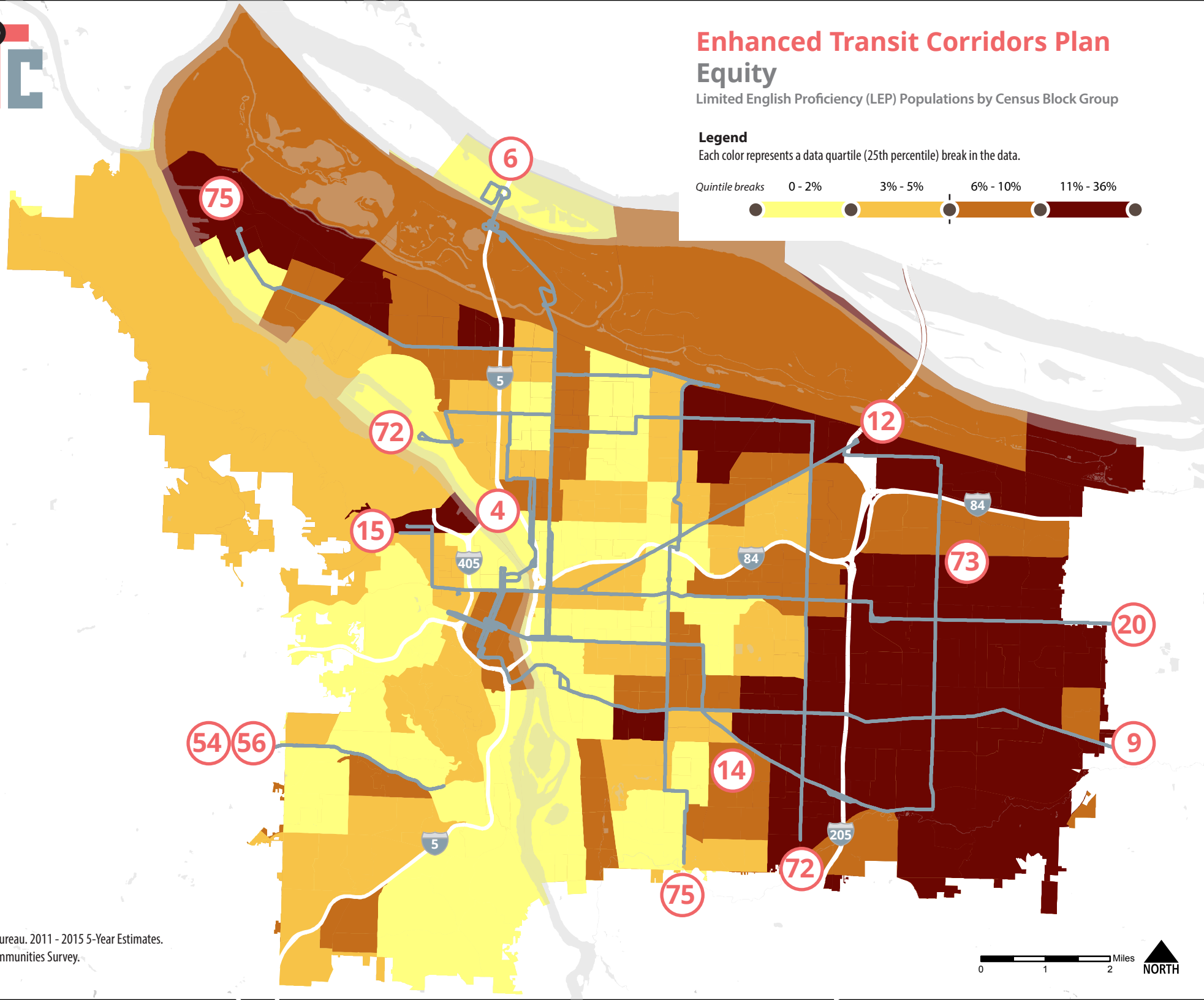
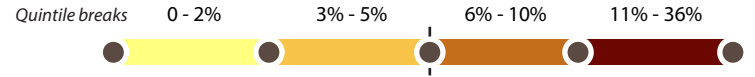


Enhanced Transit Corridors Plan Equity

Limited English Proficiency (LEP) Populations by Census Block Group

Legend

Each color represents a data quartile (25th percentile) break in the data.



Source:
U.S. Census Bureau. 2011 - 2015 5-Year Estimates.
American Communities Survey.



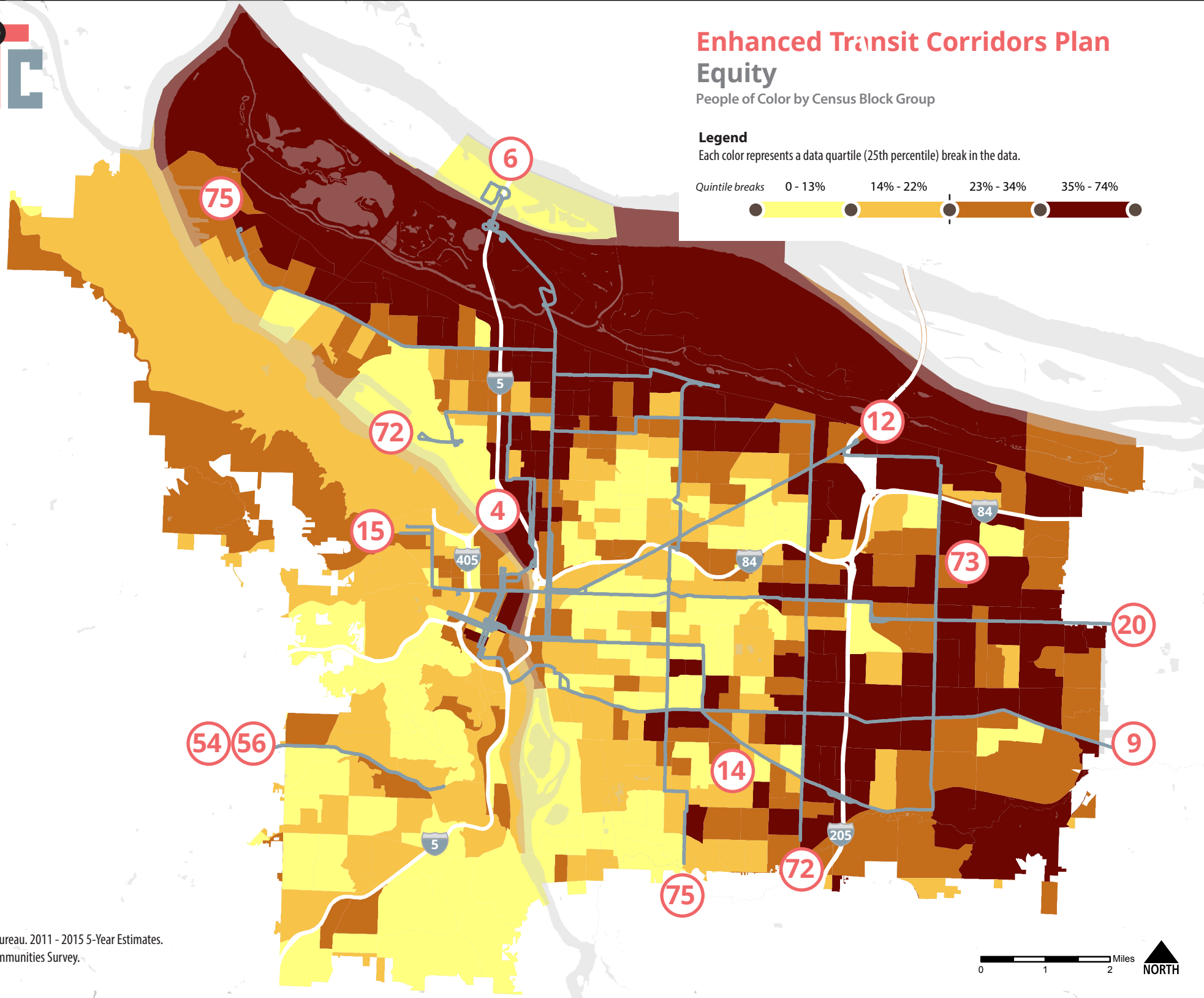
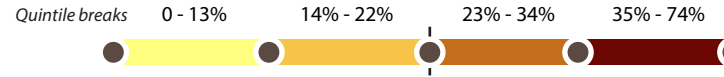


Enhanced Transit Corridors Plan Equity

People of Color by Census Block Group

Legend

Each color represents a data quartile (25th percentile) break in the data.



Source:
U.S. Census Bureau. 2011 - 2015 5-Year Estimates.
American Communities Survey.



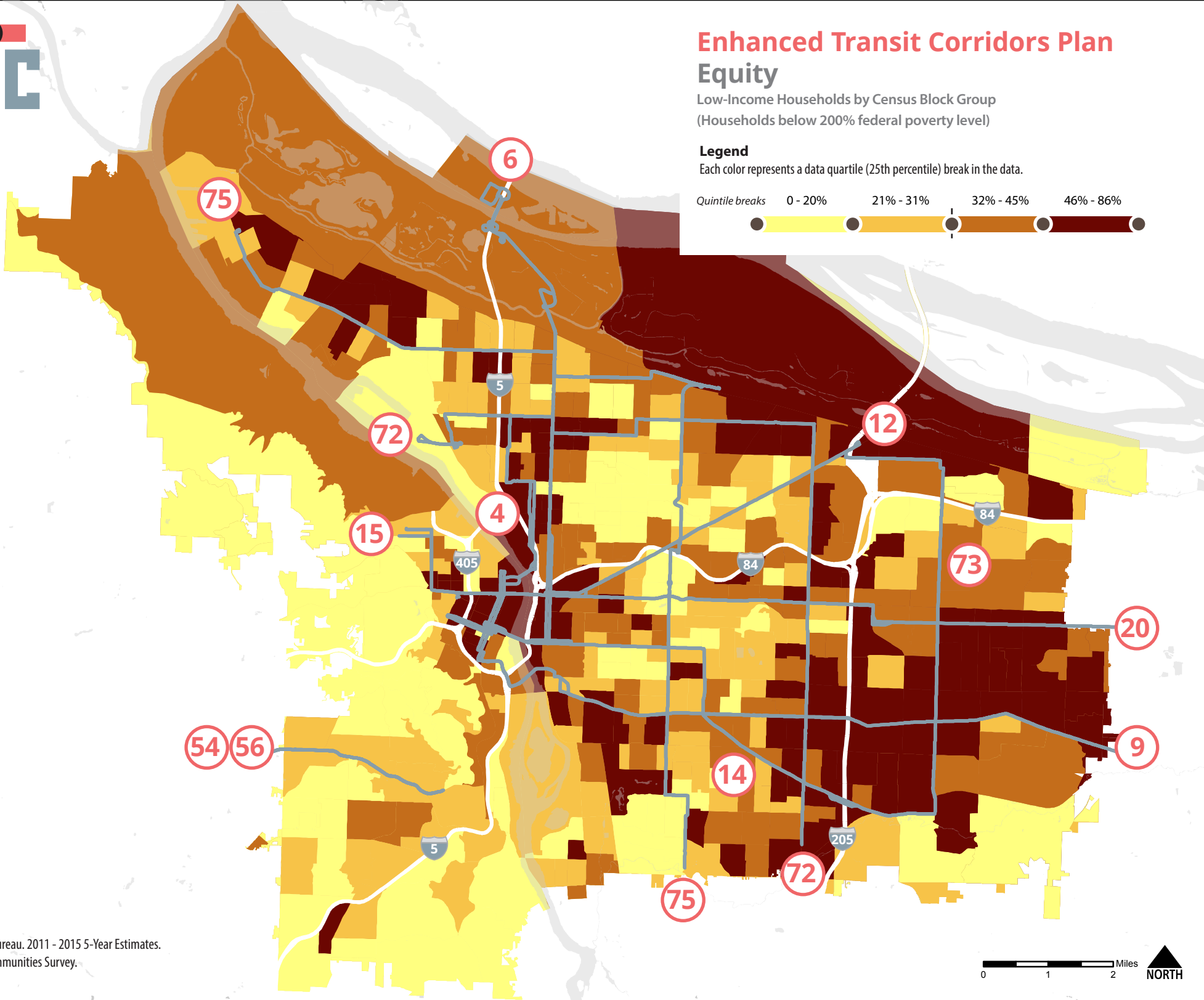
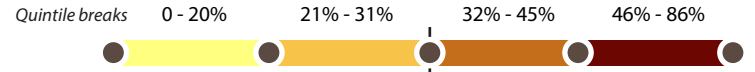


Enhanced Transit Corridors Plan Equity

Low-Income Households by Census Block Group
(Households below 200% federal poverty level)

Legend

Each color represents a data quartile (25th percentile) break in the data.



Source:
U.S. Census Bureau. 2011 - 2015 5-Year Estimates.
American Communities Survey.



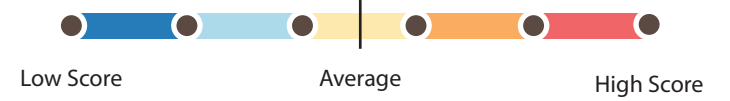


Enhanced Transit Corridors Plan Equity

Low-income, people of color, and LEP Populations

Legend

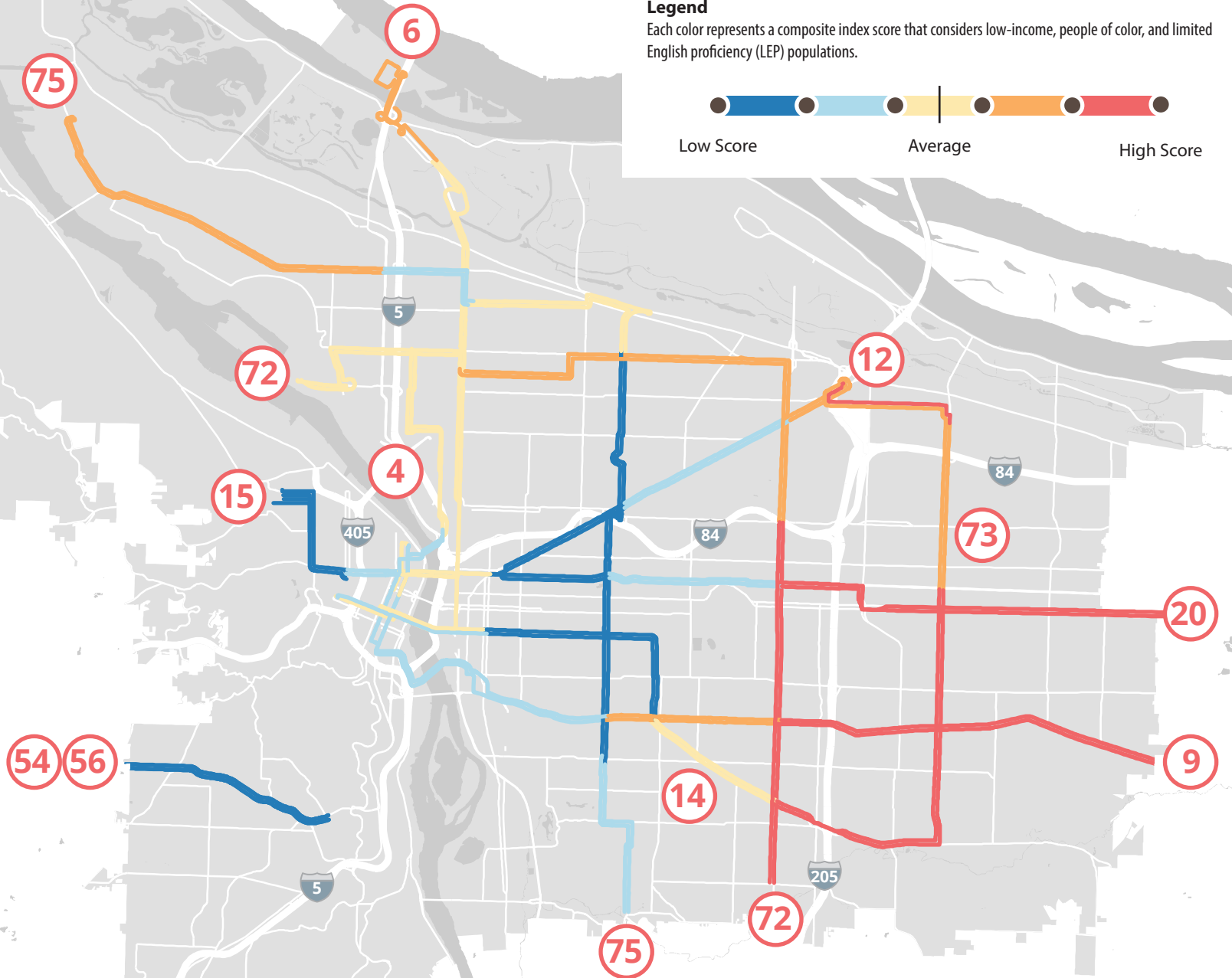
Each color represents a composite index score that considers low-income, people of color, and limited English proficiency (LEP) populations.



Notes

1. Equity reports a composite score that measures the percentage of people of color, low-income (households below 200% federal poverty level), and limited English proficiency (LEP) populations. Scores are weighted towards areas with equity populations above the city-wide average.

2. A higher score indicates a greater concentration of equity priority communities and a greater need for transit improvements.



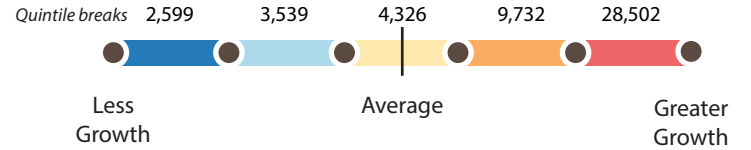


Enhanced Transit Corridors Plan Future Growth (2010 - 2035)

Aggregated household and job growth

Legend

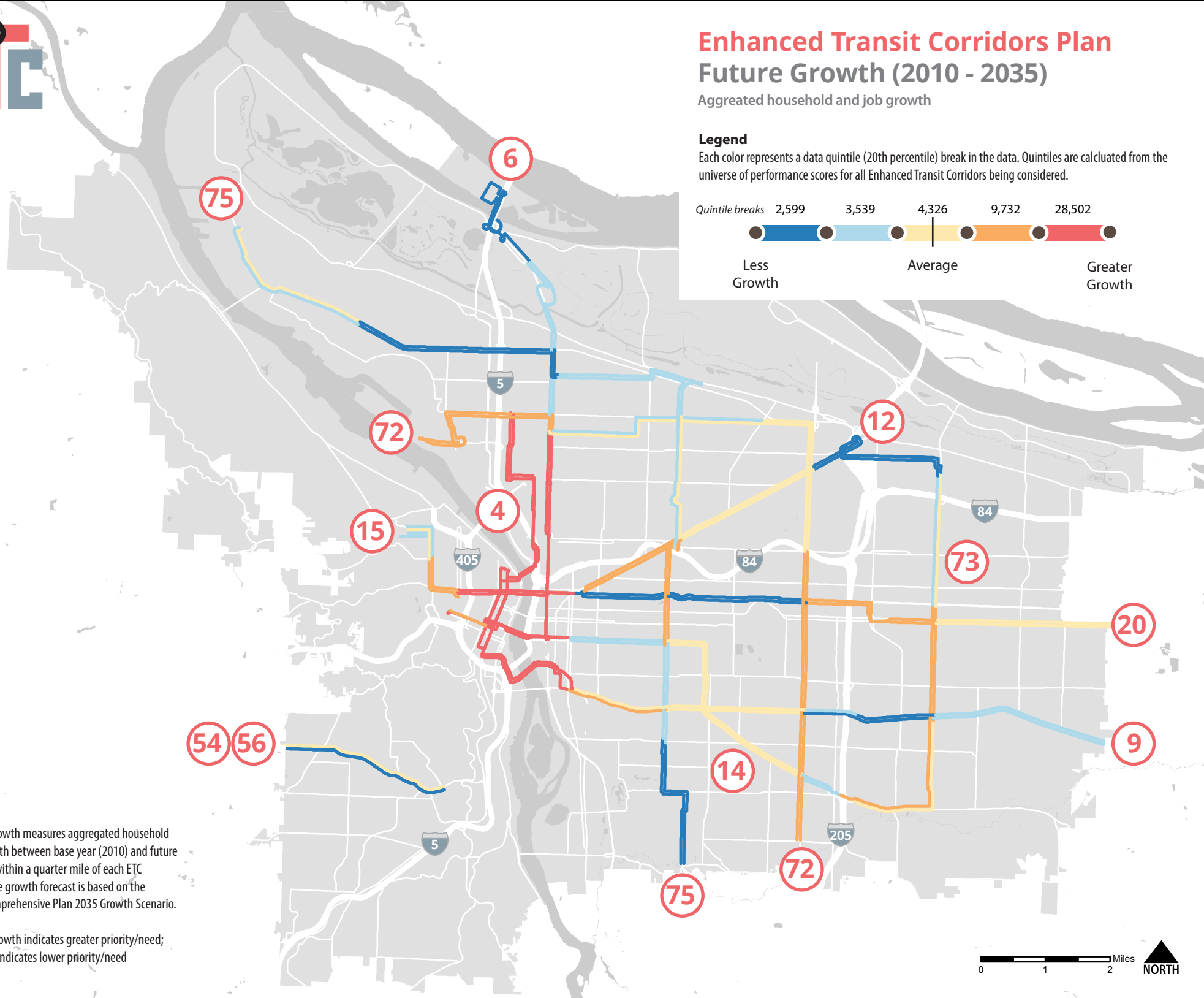
Each color represents a data quintile (20th percentile) break in the data. Quintiles are calculated from the universe of performance scores for all Enhanced Transit Corridors being considered.



Notes

1. Future Growth measures aggregated household and job growth between base year (2010) and future year (2035) within a quarter mile of each ETC segment. The growth forecast is based on the Portland Comprehensive Plan 2035 Growth Scenario.

2. Greater growth indicates greater priority/need; Less Growth indicates lower priority/need



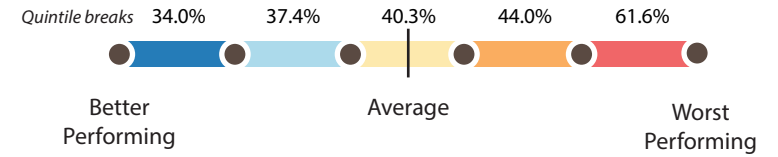


Enhanced Transit Corridors Plan Reliability

Difference between 90th and 10th percentile revenue speeds

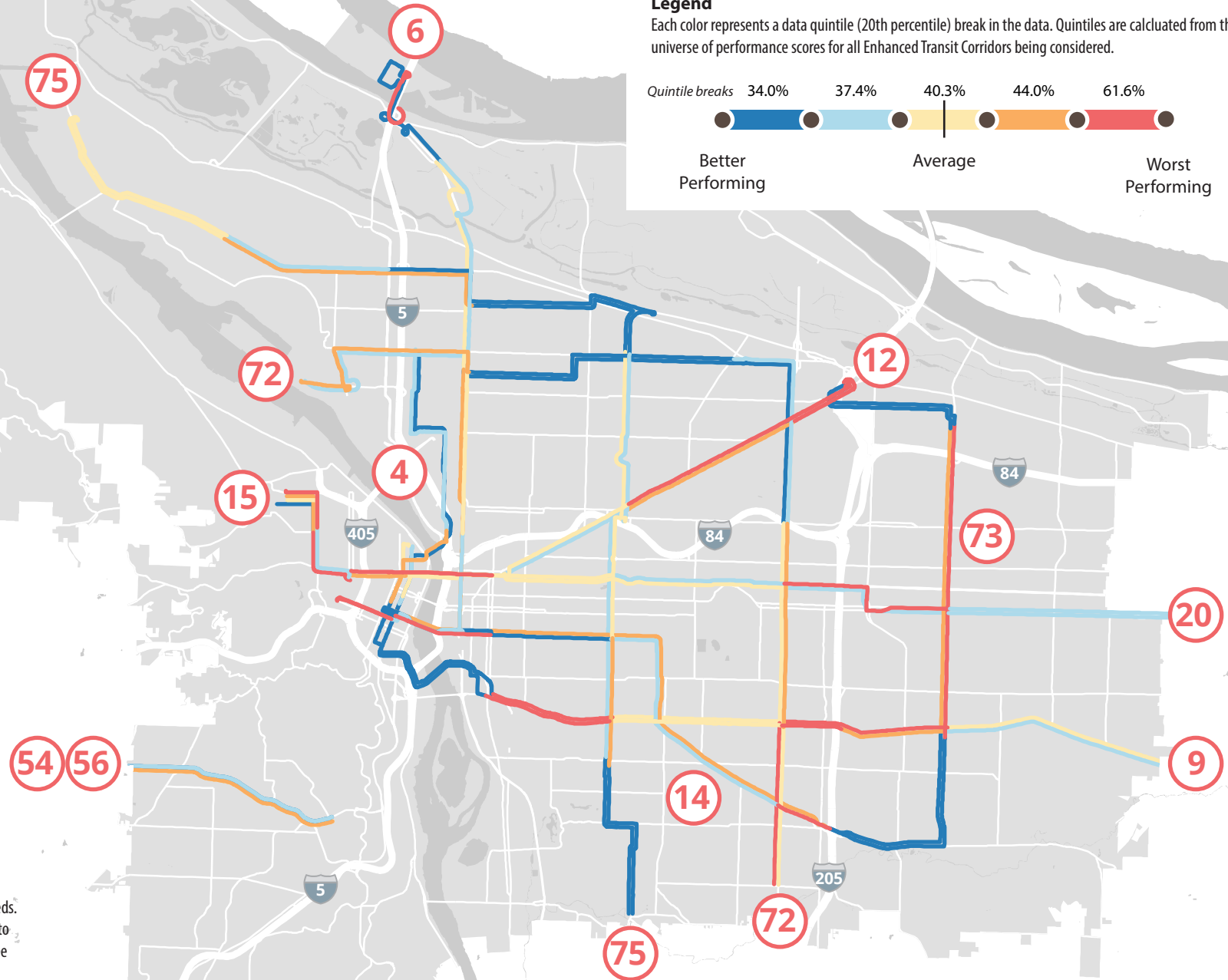
Legend

Each color represents a data quintile (20th percentile) break in the data. Quintiles are calculated from the universe of performance scores for all Enhanced Transit Corridors being considered.



Notes

1. Reliability is defined as the percent difference between the 90th and 10th percentile operating speeds. The greater the percentage, the longer the bus takes to travel during peak congested periods compared to free flow traffic conditions.
2. A higher percentage value indicates lower reliability -- and therefore a greater need for improvement.



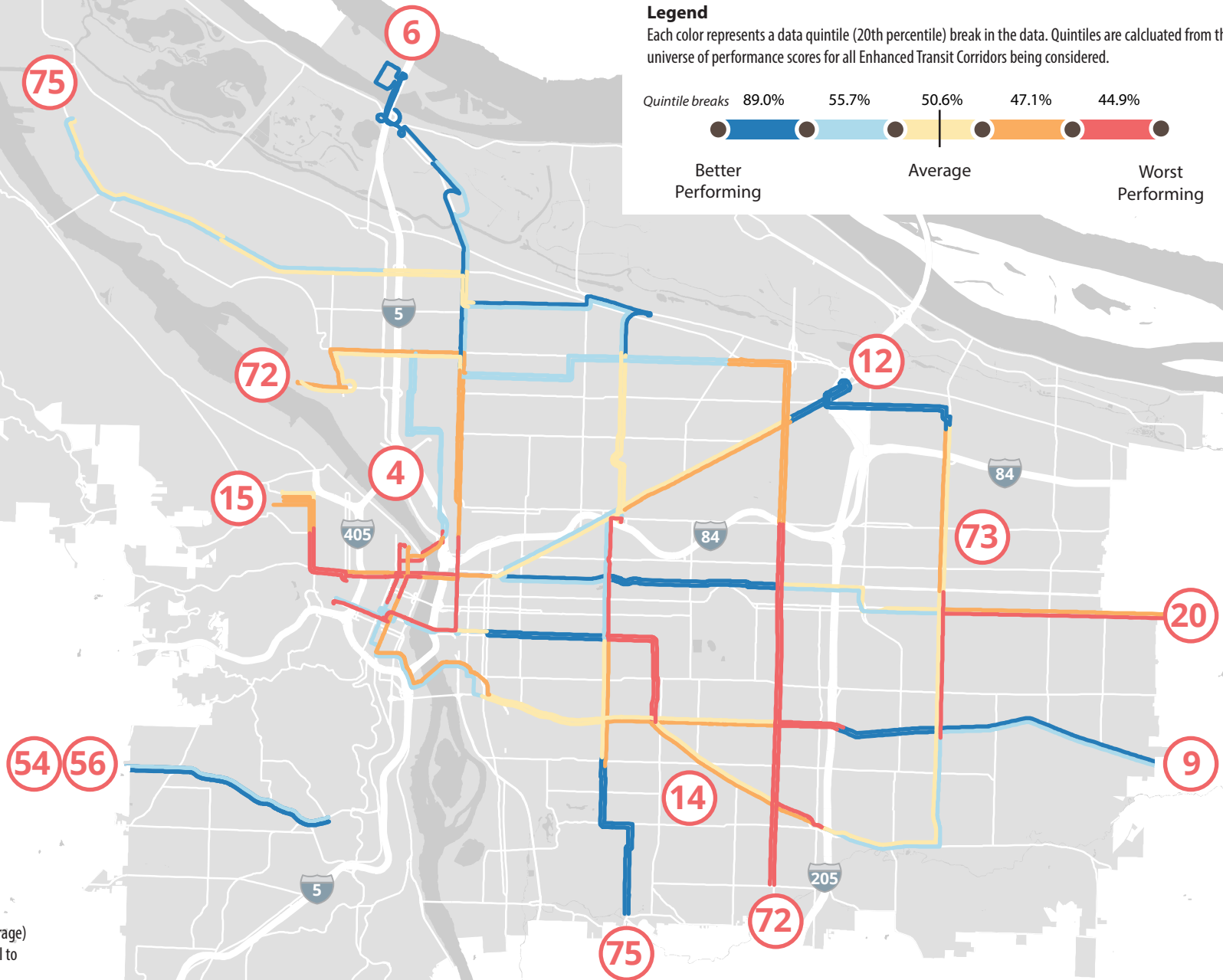
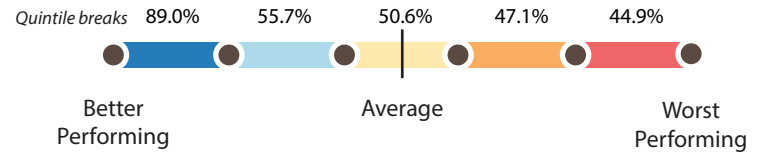


Enhanced Transit Corridors Plan Transit Speed

Average speed as percentage of posted speed limit

Legend

Each color represents a data quintile (20th percentile) break in the data. Quintiles are calculated from the universe of performance scores for all Enhanced Transit Corridors being considered.



Notes

1. Transit speed is defined as the 50th percentile (average) operating speed (exclusive of dwell time) proportional to the posted speed limit along each ETC segment.
2. Lower percentage values indicate slower transit speeds -- and therefore a greater need for improvement.





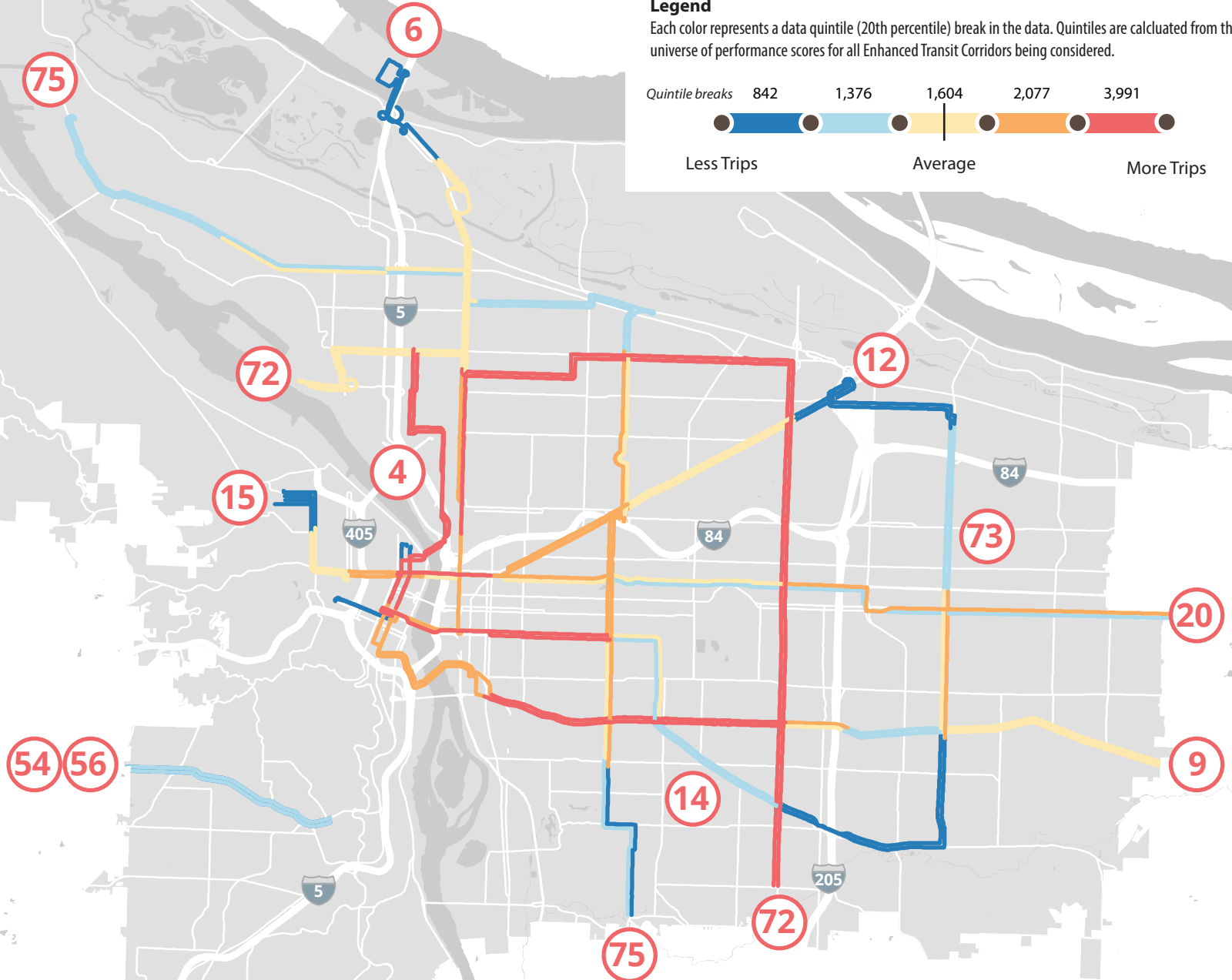
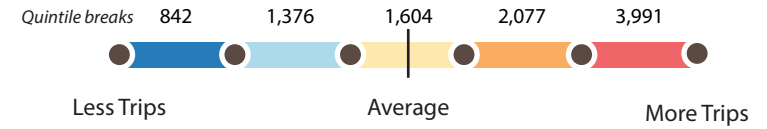
Enhanced Transit Corridors Plan

Average Existing Weekday Transit Trips

Entering load plus stop-level boardings in each direction

Legend

Each color represents a data quintile (20th percentile) break in the data. Quintiles are calculated from the universe of performance scores for all Enhanced Transit Corridors being considered.



Notes

1. Average Existing Weekday Transit Trips are calculated using the Federal Transit Administration (FTA) Warrants ridership methodology. Trips are calculated by summing the average weekday passenger load entering the corridor and stop-level boardings along the line.
2. More trips indicates a greater priority/need; Less trips indicates lower priority/need



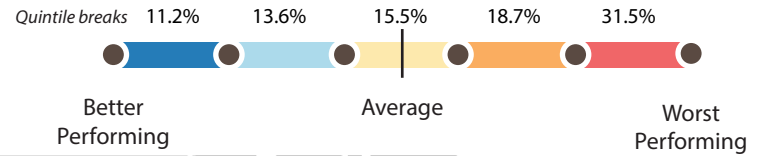
Enhanced Transit Corridors Plan

Dwell Time

Time spent stopped at bus stops

Legend

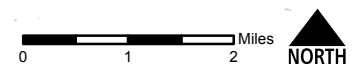
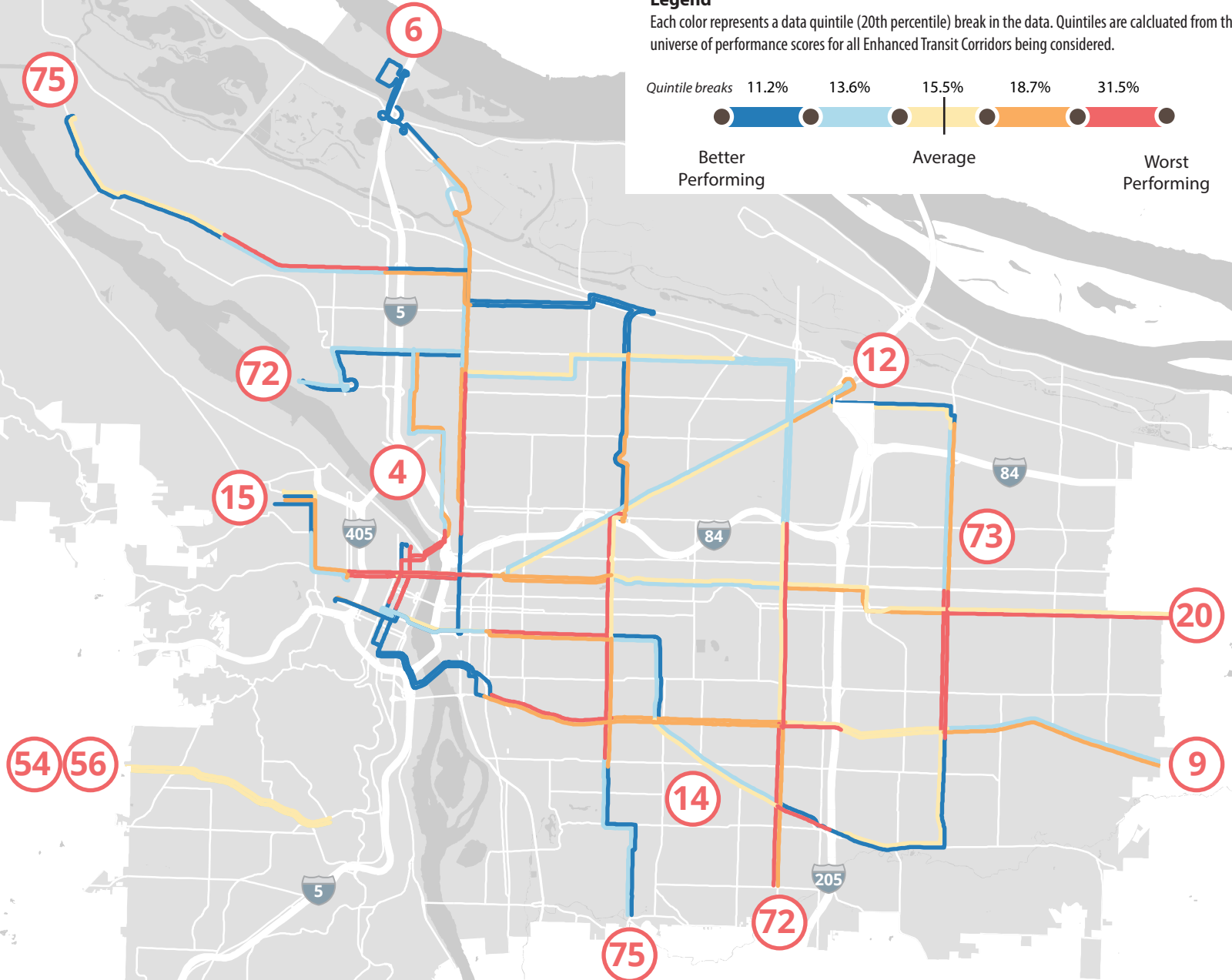
Each color represents a data quintile (20th percentile) break in the data. Quintiles are calculated from the universe of performance scores for all Enhanced Transit Corridors being considered.



Notes

1. Dwell time is defined as the 50th percentile dwell time proportional to the 50th percentile overall running time. This indicator describes open door time spent at bus stops.

2. A higher percentage value indicates greater time spent stopped at bus stops -- and therefore a greater need for improvement.

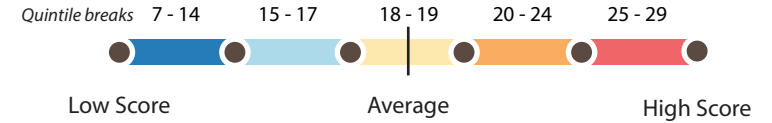




Enhanced Transit Corridors Plan Methodology Total Score

Legend

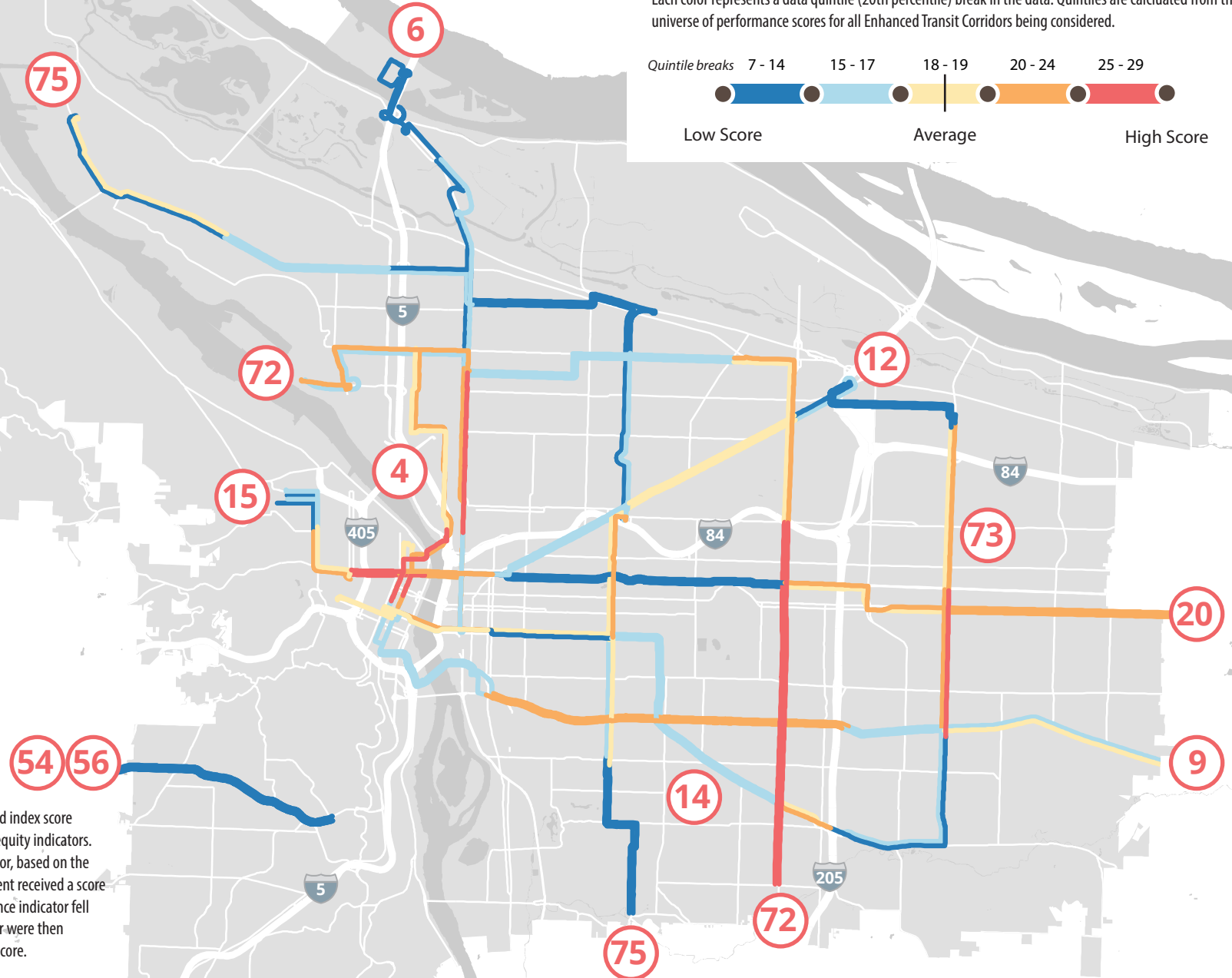
Each color represents a data quintile (20th percentile) break in the data. Quintiles are calculated from the universe of performance scores for all Enhanced Transit Corridors being considered.



Notes

1. The Methodology Total Score reports an aggregated index score comprising transit performance, future growth, and equity indicators. Five percentile breaks were identified for each indicator, based on the indicator values for all ETC segments. Each ETC segment received a score between 1 and 5, depending on where the performance indicator fell within the percentile breaks. Scores for each indicator were then aggregated for each ETC segment to produce a Total Score.

2. A higher score indicates greater transit performance deficiency and a greater need for improvement based on future growth and equity considerations.





Appendix D: Evaluation Results



Appendix D: Evaluation Results

Line-Level Candidate Corridor Ranking

Candidate	Sum Score	Rank
4	41.94	1
72	41.80	2
9	37.90	3
20	37.71	4
12	36.46	5
14	34.85	6
73	34.40	7
6	34.16	8
15	31.36	9
75	27.95	10
54-56	21.99	11

Corridor-Level Portions of Candidate Corridor Ranking

Top 5 Candidate Corridors
<ul style="list-style-type: none"> • Line 72 – 82nd Ave • Line 4 – Vancouver/Williams/Mississippi • Line 9 – Inner Powell • Line 20 – Burnside/Stark • Line 12 - Sandy

Segment-Level Individual Segment Ranking

Top 5 Segments
<ul style="list-style-type: none"> • Line 72 – 82nd Ave (Flavel to Powell) • Line 72 – 82nd Ave (Powell to MAX Station) • Line 73 – 122nd Ave (Burnside to Powell) • Line 20 – Burnside (NW 5th to NW 19th) • Line 6 – MLK (Holladay to Alberta)

Enhanced Transit Corridors

Appendix D: Performance Breakdown by Segment – Quintile Classification

The specific quintile breaks used to color-code the “thermometer” graphics in the ETC Profile Sheets are provided below. The quintile breaks are rounded to the tenths place.

Reliability Quintiles

	Class (as indicated by colors)	Percentile	Break (rounded to the tenths place)
Better Performing	5	20%	34.0%
	4	40%	37.4%
Average	3	60%	40.3%
	2	80%	44.0%
Worst Performing	1	100%	61.6%

Transit Speed Quintiles

	Class (as indicated by colors)	Percentile	Break (rounded to the tenths place)
Worst Performing	1	20%	44.9%
	2	40%	47.1%
Average	3	60%	50.6%
	4	80%	55.7%
Better Performing	5	100%	89.0%

Due to rounding, there are certain corridor segments that are classified in different percentiles despite appearing to have the same whole percentage value on the ETC Profile Sheets. The specific instances where this occurs are detailed below:

Line 20 - Reliability

- E Burnside & SE 82nd - SE Stark & 122nd (44% on graphics, actually 44.3%) – Class 1
- W Burnside & NW 5th - W Burnside & NW 19th (44% on graphics, actually 43.6%) – Class 2

Line 12 – Transit Speed

- NE Sandy & 82nd - NE Sandy & 42nd (45% on graphics, actually 45.3%) – Class 2
- W Burnside & Burnside Bridge - SW 5th & Morrison (45% on graphics, actually 44.7%) – Class 1

Line 73 – Transit Speed

- NE 122nd & Shaver - SE 122nd & Burnside (47% on graphics, actually 47.5%) – Class 3
- SE 122nd & E Burnside - NE 122nd & Shaver (47% on graphics, actually 46.7%) – Class 2

Line 75 – Transit Speed

- SE Cesar Chavez Blvd & Hawthorne - Hollywood Transit Center – (51% on graphics, actually 50.61%) – Class 4
 - SE Cesar Chavez Blvd & Mall - SE Cesar Chavez Blvd & Hawthorne – (51% on graphics, actually 50.59%) – Class 3

Line Information										Indicator Value Inputs					Indicator Values					Individual Indicator Scores					Weighting				
ROUTE NUMBER	DIRECTION	Segment	SEG_ID	BEGIN_LOCATION_ID	END_LOCATION_ID	SEQUENCE	DAILY_TRIPS	SEGMENT_DISTANCES	MAXIMUM_LOAD50	REVENUE_SPEED50	Speed_Limit	REVENUE_SPEED50	Transit_Riders_FTA	DIFF_REVSP_D_90_10_P	REV_SPEED50_NoDw	Percent_Dwell	Equity_PB_OT	Growth_Value_HH	Ridership	Reliability	Variance	Dwell	Equity	Growth	Sum Score	Weighted Score	Seg_Dist	Percent_Total	
4	0	N Albina & Killingsworth - Rose Quarter Transit Center	4_0_89_2592	89	2592	50	79	2.70808	22	10.8	25.0	13.1	2621	30%	52%	17%	4	12335	5	1	2	4	3	5	20.00	13.70	2.70808	68%	
4	0	Rose Quarter Transit Center - SW 5th & Salmon	4_0_2592_7634	2592	7634	60	85	1.24662	16	8.2	21.9	10.3	2705	31%	47%	20%	2	17646	5	1	4	5	2	5	22.00	6.93	1.24662	32%	
4	1	SW 6th & Taylor - Rose Quarter Transit Center	4_1_7800_1097	7800	1097	70	81	1.3395	17	8.2	23.5	10.3	2551	41%	44%	20%	2	19941	5	4	5	5	2	5	26.00	8.57	1.3395	33%	
4	1	Rose Quarter Transit Center - N Albina & Killingsworth	4_1_1097_88	1097	88	80	81	2.72461	24	11.5	25.0	13.2	2599	34%	53%	13%	4	13600	5	2	2	2	3	5	19.00	12.74	2.72461	67%	
6	0	SW 18th & Goose Hollow MAX Station - SW Columbia between 6th & 5th	6_0_1114_12793	1114	12793	10	75	0.64644	5	9.4	21.9	11.4	479	47%	52%	17%	3	9593	1	5	2	4	3	4	19.00	1.20	0.64644	6%	
6	0	SW Columbia between 6th & 5th - NE Grand & Holladay	6_0_12793_2175	12793	2175	20	75	2.2779	13	10.1	29.8	11.6	1428	44%	39%	13%	3	27845	3	4	5	2	3	5	22.00	4.90	2.2779	22%	
6	0	NE Grand & Holladay - NE M L King & Alberta	6_0_2175_5890	2175	5890	30	75	2.08352	20	11.3	30.0	13.7	1993	44%	46%	17%	3	16069	4	4	4	4	3	5	24.00	4.89	2.08352	20%	
6	0	NE M L King & Alberta - N Vancouver Way & Jubitz	6_0_5890_13635	5890	13635	40	75	3.05049	13	16.2	32.6	18.3	1377	37%	56%	11%	4	3050	3	3	1	2	3	2	14.00	4.17	3.05049	30%	
6	0	N Vancouver Way & Jubitz - Jantzen Beach Main Stop	6_0_13635_1026	13635	1026	50	75	2.17667	4	22.1	25.0	22.3	261	61%	89%	1%	5	1616	1	5	1	1	4	1	13.00	2.76	2.17667	21%	
6	1	Jantzen Beach Main Stop - N Vancouver Way & Jubitz	6_1_1026_13643	1026	13643	10	74	2.82232	5	21.3	33.5	21.8	408	21%	65%	3%	5	1271	1	1	1	1	4	1	9.00	2.34	2.82232	26%	
6	1	N Vancouver Way & Jubitz - NE M L King & Alberta	6_1_13643_5889	13643	5889	20	74	3.01001	14	14.0	31.4	16.7	1433	35%	53%	16%	4	3289	3	2	2	2	4	3	16.00	4.44	3.01001	28%	
6	1	NE M L King & Alberta - NE M L King & Holladay	6_1_5889_5917	5889	5917	30	74	1.98153	23	10.7	30.0	13.9	2135	39%	46%	23%	3	15768	5	3	4	4	3	5	25.00	4.56	1.98153	18%	
6	1	NE M L King & Holladay - SW Jefferson between 4th & 5th	6_1_5917_12790	5917	12790	40	74	2.30741	14	12.8	27.4	14.4	1987	36%	53%	11%	3	26633	4	2	2	2	1	3	5	17.00	3.61	2.30741	21%
6	1	SW Jefferson between 4th & 5th - SW 18th & Goose Hollow MAX Station	6_1_12790_1114	12790	1114	50	74	0.73721	4	8.7	24.4	9.3	611	49%	38%	7%	2	10164	1	5	5	1	3	5	19.00	1.29	0.73721	7%	
9	0	North Terminal 5th & Not A Stop - SW 5th & Taylor	9_0_9573_7640	9573	7640	10	81	0.73301	6	7.2	20.0	9.2	546	36%	46%	21%	2	13818	1	2	4	5	2	5	19.00	1.75	0.73301	9%	
9	0	SW 5th & Taylor - SE Powell & 12th	9_0_7640_13792	7640	13792	20	83	2.76605	20	10.2	24.5	11.2	1913	26%	46%	9%	1	25146	4	1	4	1	2	5	17.00	5.91	2.76605	35%	
9	0	SE Powell & 12th - SE Powell & Cesar Chavez Blvd	9_0_13792_4651	13792	4651	30	83	1.55851	23	13.8	35.0	17.3	2353	48%	49%	20%	2	4288	5	5	3	5	2	3	23.00	4.50	1.55851	20%	
9	0	SE Powell & Cesar Chavez Blvd - SE Powell & 82nd	9_0_4651_4693	4651	4693	40	83	2.14626	19	13.7	35.0	16.5	2242	39%	47%	17%	7	3773	5	3	3	4	4	3	22.00	5.93	2.14626	27%	
9	0	SE Powell & 82nd - SE Powell & Powell Garage Dr	9_0_4693_4542	4693	4542	50	80	0.7557	15	11.3	35.0	13.2	1784	62%	38%	14%	9	3004	4	5	5	3	5	2	24.00	2.28	0.7557	9%	
9	0	SE Powell & Powell Garage Dr - SE Powell & 122nd	9_0_4542_4573	4542	4573	60	77	1.27247	14	17.3	35.0	20.1	1308	50%	57%	14%	9	2254	2	5	1	3	5	1	17.00	4.97	1.27247	29%	
9	0	SE Powell & 122nd - W Powell & SW Highland	9_0_4573_4618	4573	4618	70	77	3.07704	11	17.1	35.0	19.7	1443	38%	56%	13%	8	2770	3	3	1	2	5	2	16.00	11.32	3.07704	71%	
9	1	W Powell & SW 181st - SE Powell & 122nd	9_1_4617_4572	4617	4572	20	75	3.06412	13	15.0	35.0	18.1	1384	35%	52%	17%	8	2904	3	2	2	2	4	2	18.00	12.69	3.06412	71%	
9	1	SE Powell & 122nd - SE Powell & Powell Garage Dr	9_1_4572_4543	4572	4543	30	75	1.28097	15	18.2	35.0	21.3	1354	43%	61%	14%	9	2448	2	4	1	1	3	5	1	16.00	4.72	1.28097	29%
9	1	SE Powell & Powell Garage Dr - SE Powell & 82nd	9_1_4543_4695	4543	4695	40	75	0.74654	16	10.7	35.0	14.7	1554	58%	42%	27%	9	2219	3	5	5	5	2	1	24.00	2.23	0.74654	9%	
9	1	SE Powell & 82nd - SE Powell & Cesar Chavez Blvd	9_1_4695_4653	4695	4653	50	81	2.13693	19	13.2	35.0	16.0	2106	38%	46%	18%	7	4162	5	3	4	4	4	3	23.00	6.12	2.13693	27%	
9	1	SE Powell & Cesar Chavez Blvd - SE Powell & Milwaukie	9_1_4653_4538	4653	4538	60	81	1.60043	23	14.5	35.0	17.4	2351	48%	50%	16%	2	4461	5	5	3	4	2	4	23.00	4.59	1.60043	20%	
9	1	SE Powell & Milwaukie - SW 6th & Alder	9_1_4538_7747	4538	7747	70	81	2.8671	20	10.6	22.1	11.6	2024	24%	52%	9%	2	28502	4	1	2	1	2	5	15.00	5.36	2.8671	36%	
9	1	SW 6th & Alder - North Terminal 5th & Not A Stop	9_1_7747_9573	7747	9573	80	70	0.67627	5	7.2	20.0	7.7	825	39%	38%	6%	3	13166	1	3	5	1	3	5	18.00	1.52	0.67627	8%	
12	0	Parkrose/ Sumner Transit Center - NE Sandy & 82nd	12_0_10855_5139	10855	5139	10	74	0.88394	5	18.2	35.0	21.9	461	44%	63%	17%	7	1082	1	5	1	4	4	1	1	16.00	2.19	0.88394	14%
12	0	NE Sandy & 82nd - NE Sandy & 42nd	12_0_5139_9756	5139	9756	20	74	2.33046	14	13.1	34.0	15.4	1396	41%	45%	15%	1	3962	3	4	4	3	2	3	19.00	6.85	2.33046	36%	
12	0	NE Sandy & 42nd - NE Couch & 12th	12_0_9756_13328	9756	13328	30	74	1.83698	17	12.0	29.7	14.0	1790	37%	47%	14%	0	6877	4	2	3	3	1	4	17.00	4.83	1.83698	28%	
12	0	NE Couch & 12th - W Burnside & Burnside Bridge	12_0_13328_689	13328	689	40	74	0.88817	17	13.2	30.2	14.7	1575	40%	49%	11%	3	9308	3	3	3	1	1	4	17.00	2.34	0.88817	14%	
12	0	W Burnside & Burnside Bridge - SW 5th & Morrison	12_0_689_7625	689	7625	50	74	0.52453	16	6.8	20.0	8.9	1629	39%	45%	24%	3	10700	4	3	5	5	3	5	25.00	2.03	0.52453	8%	
12	1	SW 6th & Yamhill - E Burnside & SE Sandy	12_1_7807_13327	7807	13327	40	75	1.51762	18	8.6	24.2	10.0	2277	43%	41%	14%	2	19208	5	4	5	3	2	5	24.00	5.42	1.51762	23%	
12	1	E Burnside & SE Sandy - NE Sandy & 42nd	12_1_13327_5087	13327	5087	50	75	1.98511	17	13.1	29.2	15.1	1771	40%	52%	13%	0	6950	4	3	2	2	1	4	16.00	4.73	1.98511	30%	
12	1	NE Sandy & 42nd - NE Sandy & 82nd	12_1_5087_5138	5087	5138	60	75	2.3078	13	14.2	34.4	16.3	1441	51%	47%	13%	1	3973	3	1	3	2	2	3	18.00	6.18	2.3078	34%	
12	1	NE Sandy & 82nd - NE Sandy & Parkrose Transit Center	12_1_5138_5050	5138	5050	70	57	0.90904	6	15.8	32.1	17.9	539	52%	56%	12%	7	1076	1	5	1	2	4	1	14.00	1.89	0.90904	14%	
14	0	SW Madison & 4th - SE Hawthorne & 12th	14_0_3639_2599	3639	2599	10	79	1.23644	17	12.3	28.9	14.5	1774	45%	50%	15%	2	9824	4	5	3	3	2	5	22.00	6.32	1.23644	29%	
14	0	SE Hawthorne & 12th - SE Hawthorne & Cesar Chavez Blvd	14_0_2599_2625	2599	2625	20	79	1.49615	18	11.7	25.0	14.4	2083	42%	58%	19%	0	2794	5	4	1	5	1	2	18.00	6.25	1.49615	35%	
14	0	SE Hawthorne & Cesar Chavez Blvd - SE Foster & Powell	14_0_2625_1792	2625	1792	30	81	1.57362	13	12.2	32.1	13.6	1503	43%	42%	11%	0	4052	3	4	5	1	1	3	17.00	6.21	1.57362	37%	
14	0	SE Foster & Powell - SE Foster & 82nd	14_0_1792_1819	1792	1819	40	81	1.84892	9	14.6	35.0	16.72	1067	42%	48%	13%	3	4069	2	4	3	2	3	3	17.00	10.79	1.84892	63%	
14	0	SE Foster & 82nd - SE Foster & 94th (I-205 Overpass)	14_0_1819_1831	1819	1831	50	81	1.06513	4	13.2	31.2	13.89	473	43%	44%	5%	8	3368	1	4	5	1							

