



PierceTransit
Stream

**SYSTEM EXPANSION STUDY
OPEN HOUSE**

June 29, 2022

Zoom Tips

Let's have a great meeting.



Everyone is muted by default.



We will monitor the chat function.



Click the “Interpretation” button below to listen to this presentation in Spanish.



Submit questions using the “Q&A” feature.



We will pause for questions after each topic.

Presione el botón de  “Interpretation” abajo para escuchar esta presentación en español.

Goals for this Open House



Share corridor alignment options



Present key findings from online survey



Summarize corridor evaluation results



Confirm results make sense to the community

WHAT IS STREAM?

- Pierce Transit's brand for Bus Rapid Transit (BRT).
- More frequent, reliable bus service.
- Improved passenger amenities and comfort.
- Distinct brand to differentiate from local bus service.



Frequent

Every 10-15 minutes



Fast

Transit priority streets



Accessible

Larger buses & better wheelchair access



Easy

Raised station platforms & multiple doors



Connected

Stations at key locations



Reliable

Real-time information

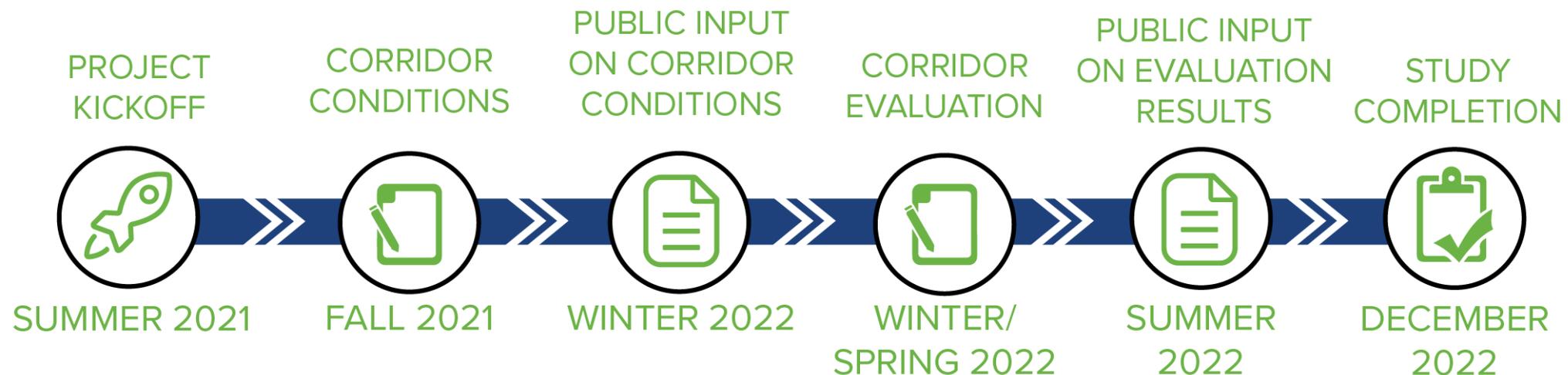
Stream 1

- Will be the first BRT service in Pierce County.
- 14.4-mile corridor between Downtown Tacoma and Spanaway.
- Construction begins Fall 2024.
- Service begins in 2027.



STREAM SYSTEM EXPANSION STUDY (SSES)

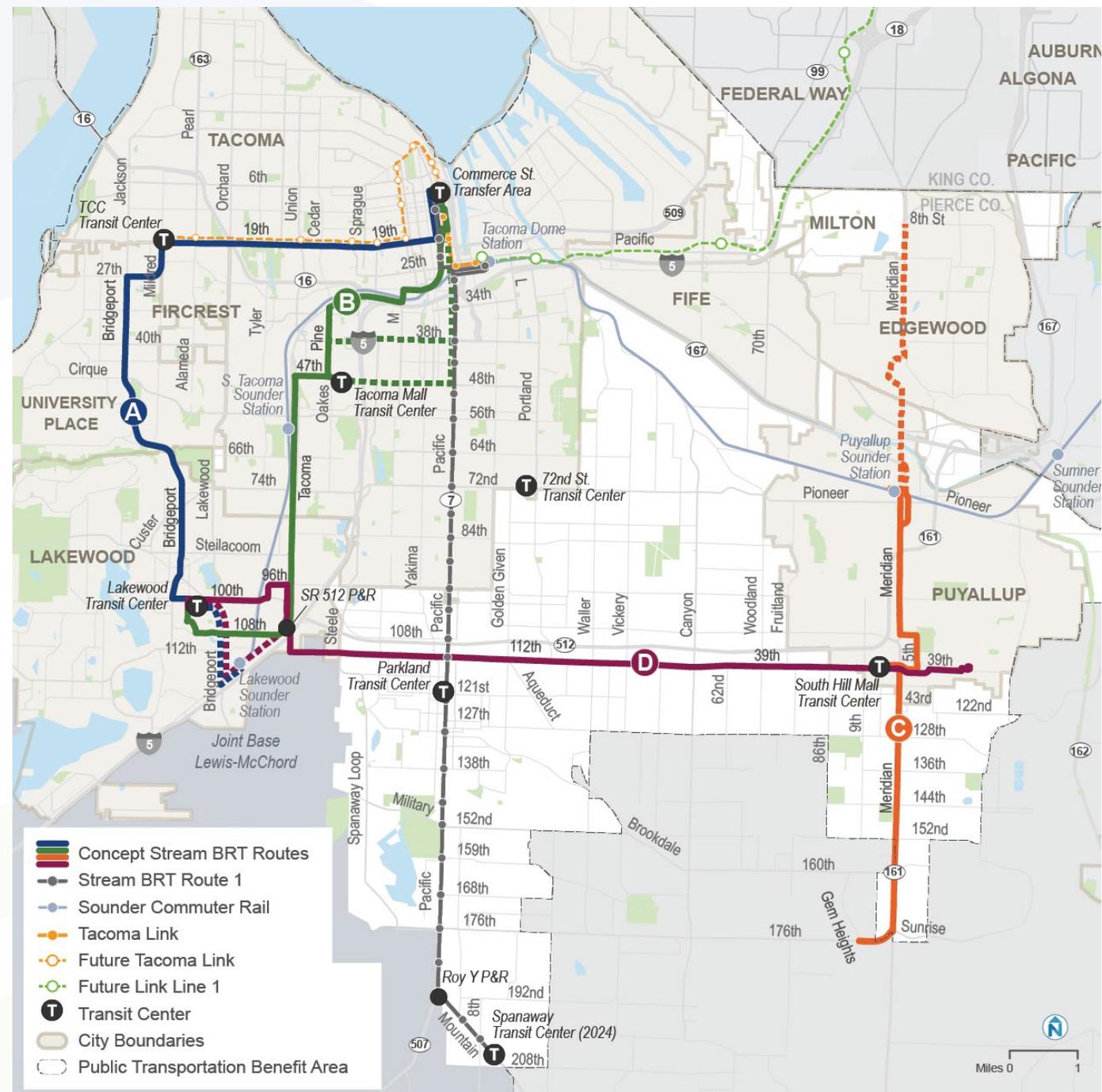
- The SSES uses a data-driven approach to evaluate and prioritize four candidate Bus Rapid Transit corridors identified in *Destination 2040 Update* (Pierce Transit's Long-Range Plan).



SSES CORRIDORS

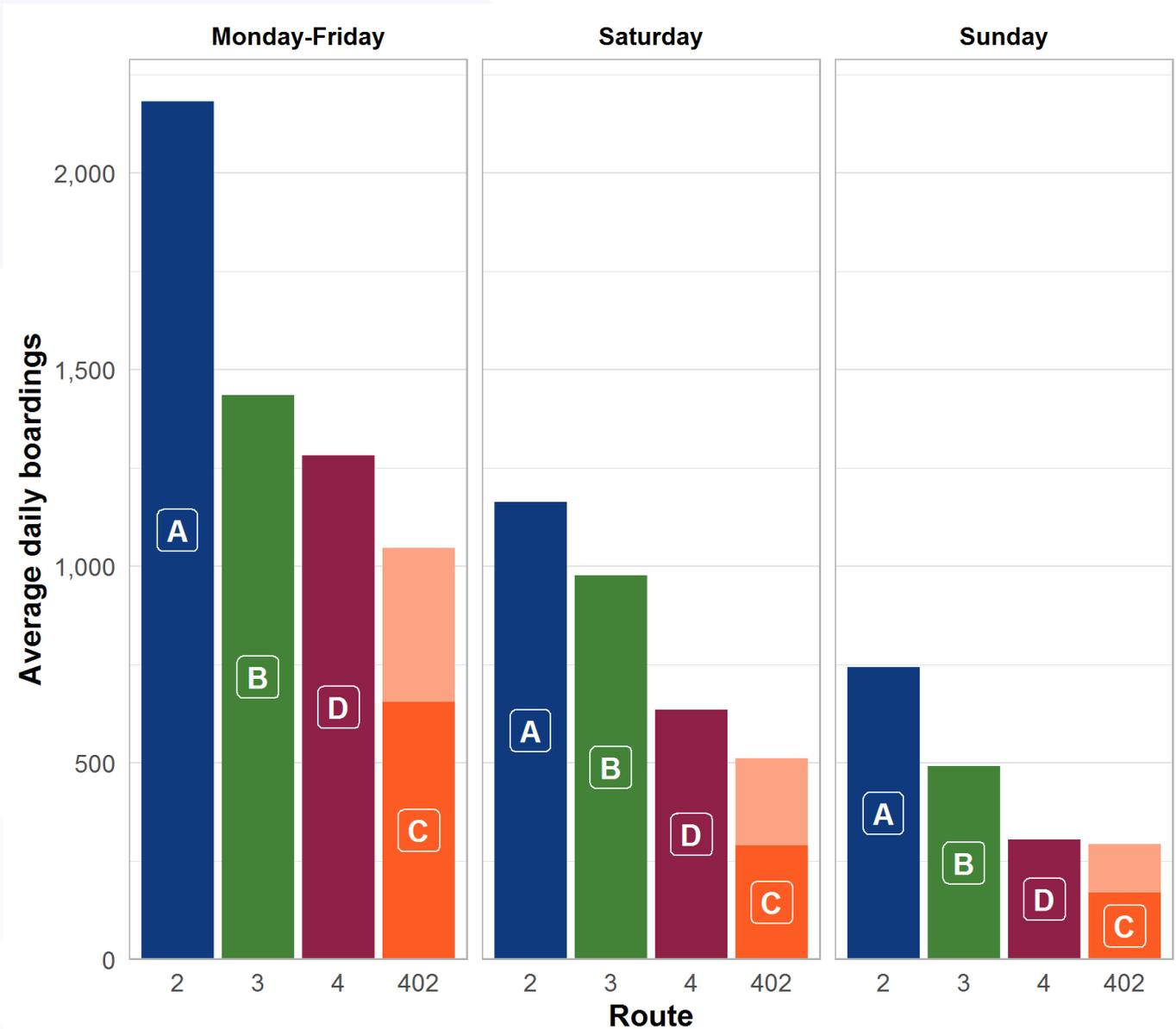
Four candidate BRT corridors.

- **Corridor A:** Downtown Tacoma to Lakewood (current Route 2).
- **Corridor B:** Downtown Tacoma to Lakewood (current Route 3).
- **Corridor C:** Puyallup to Sunrise (part of current Route 402).
- **Corridor D:** Lakewood to Pierce College (current Route 4).



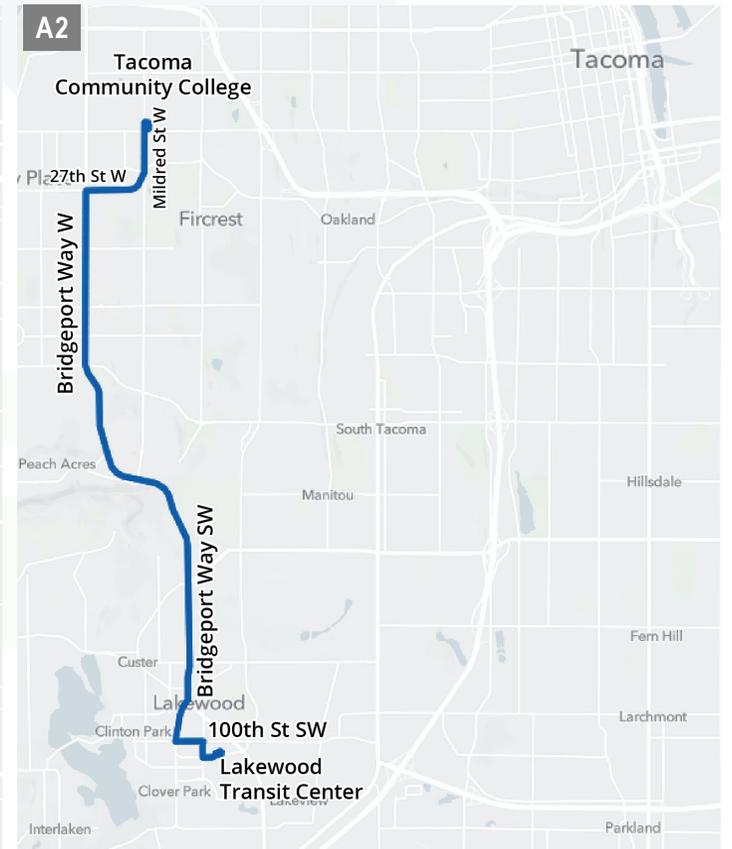
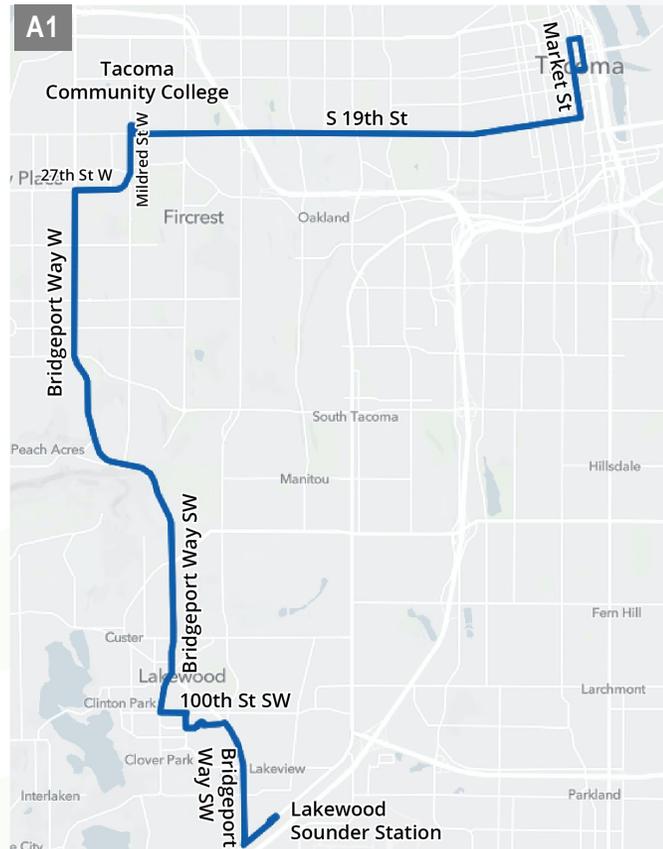
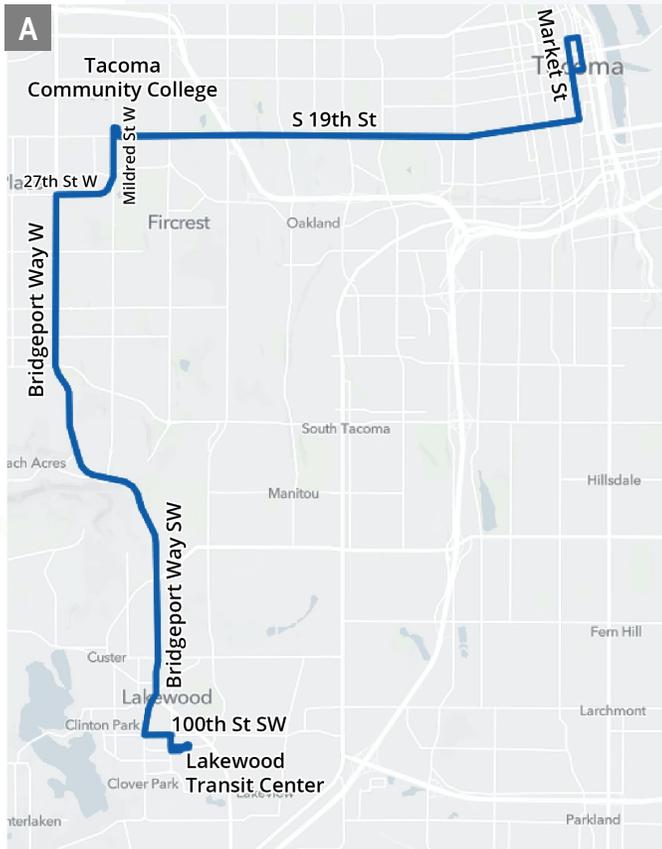
AVERAGE DAILY RIDERSHIP BY ROUTE

- Based on Fall 2019 data:
 - Corridor A (Route 2) has the highest daily ridership.
 - Corridor C (Route 402) and D (Route 4) have lower ridership.
- Transit centers have the highest average daily ridership.



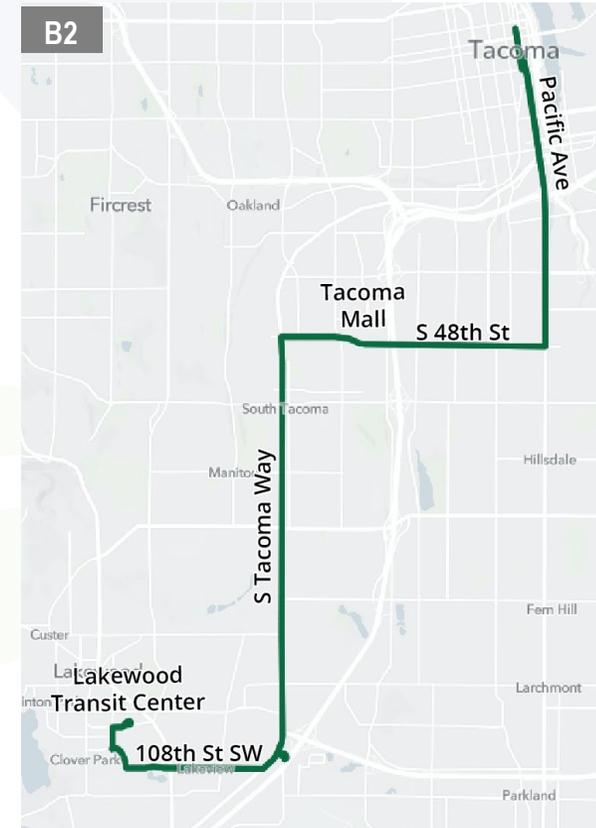
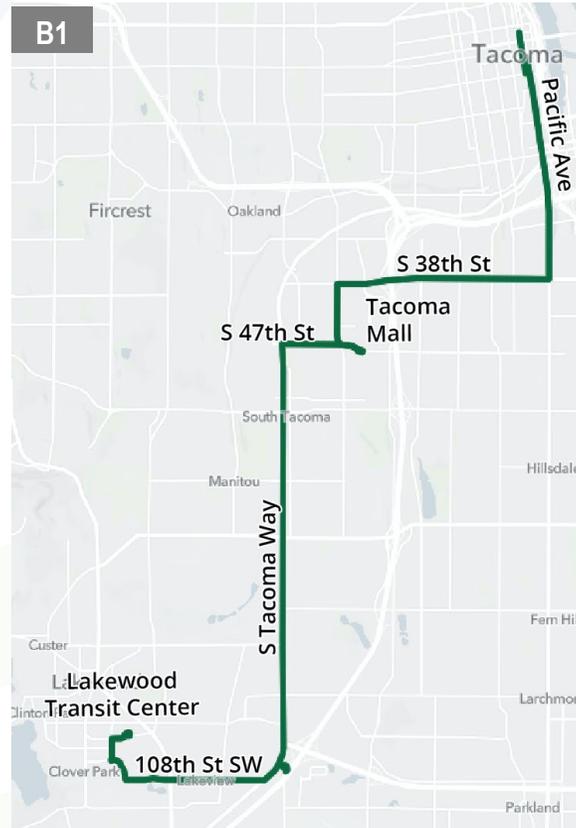
Corridor A

- **A:** Downtown Tacoma to Lakewood.
- **A1:** Extension to Lakewood Sounder.
- **A2:** Shorter route from Tacoma Community College to Lakewood.



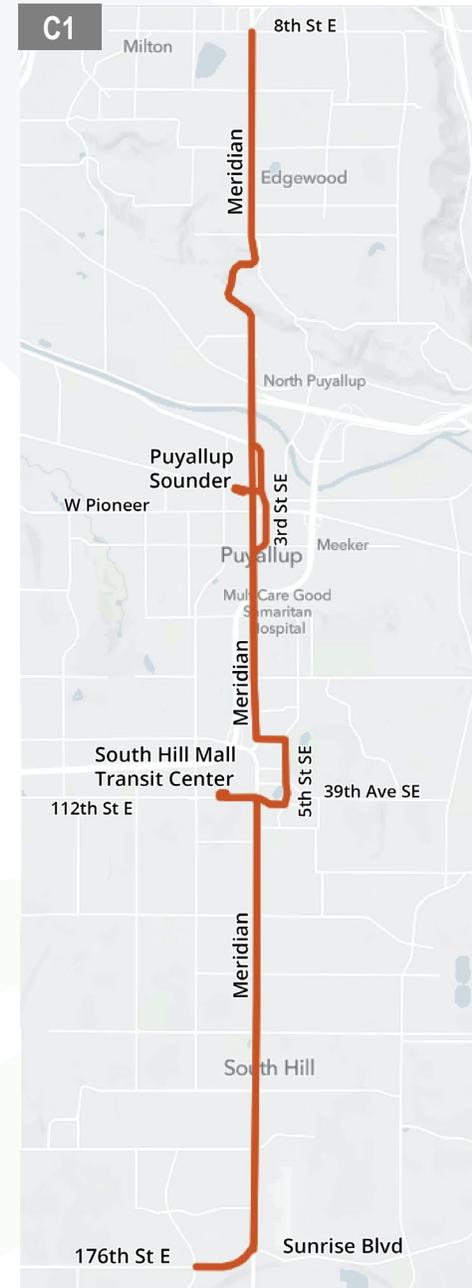
Corridor B

- **B:** Downtown Tacoma to Lakewood.
- **B1:** Via S. 38th Street.
- **B2:** Via S. 48th Street.



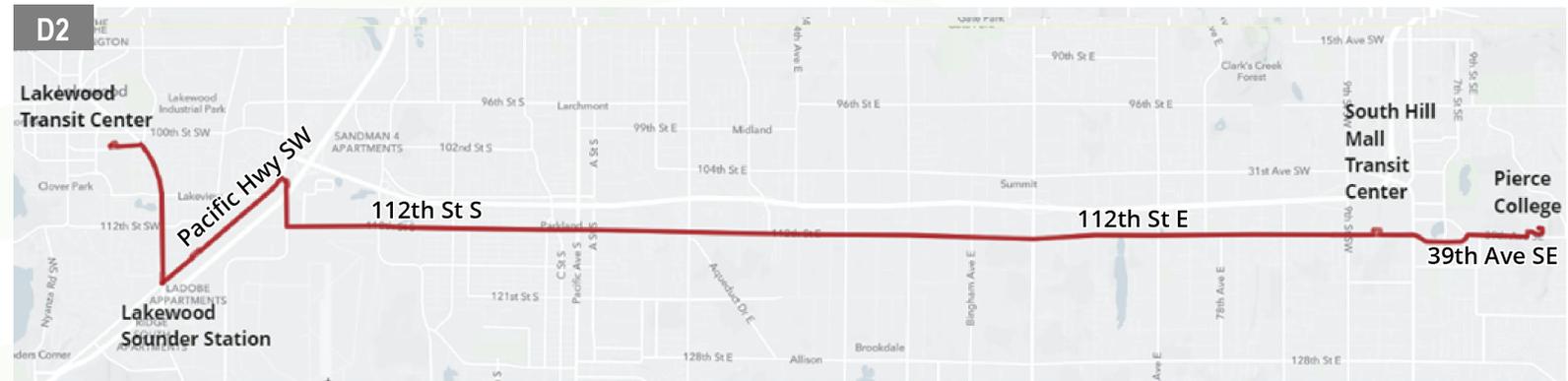
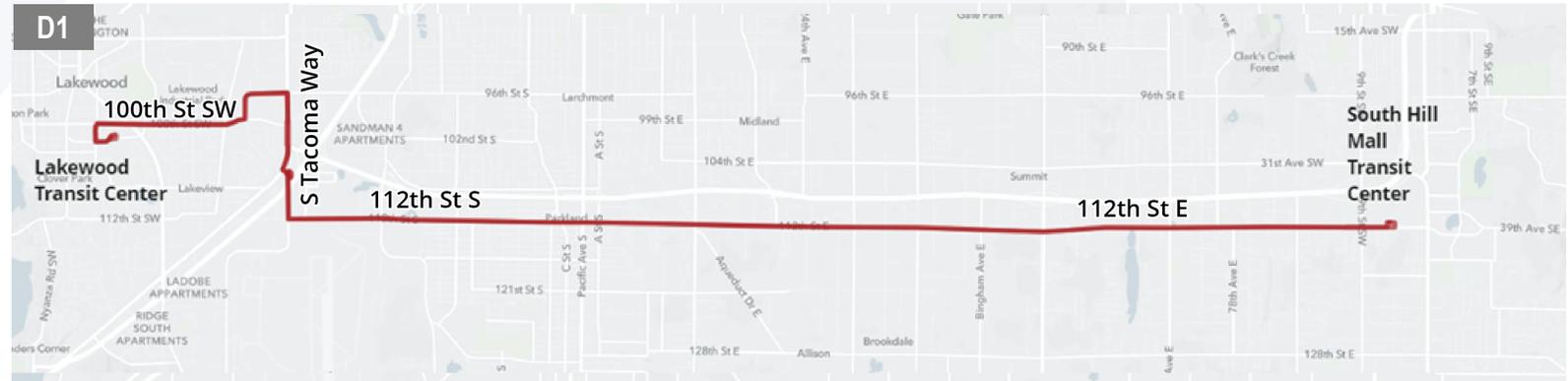
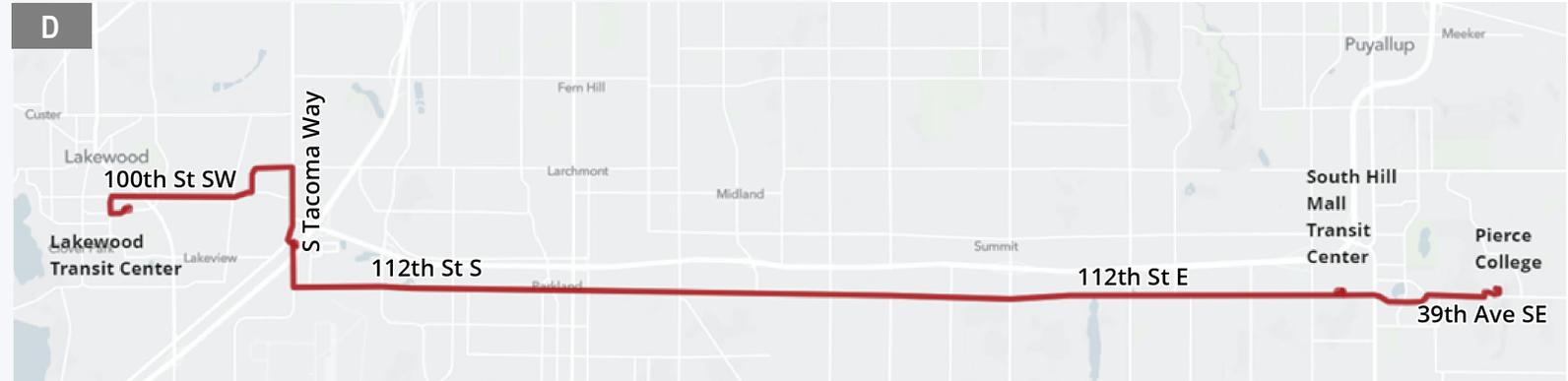
Corridor C

- **C:** Puyallup to Sunrise neighborhood.
- **C1:** Edgewood to Sunrise neighborhood.



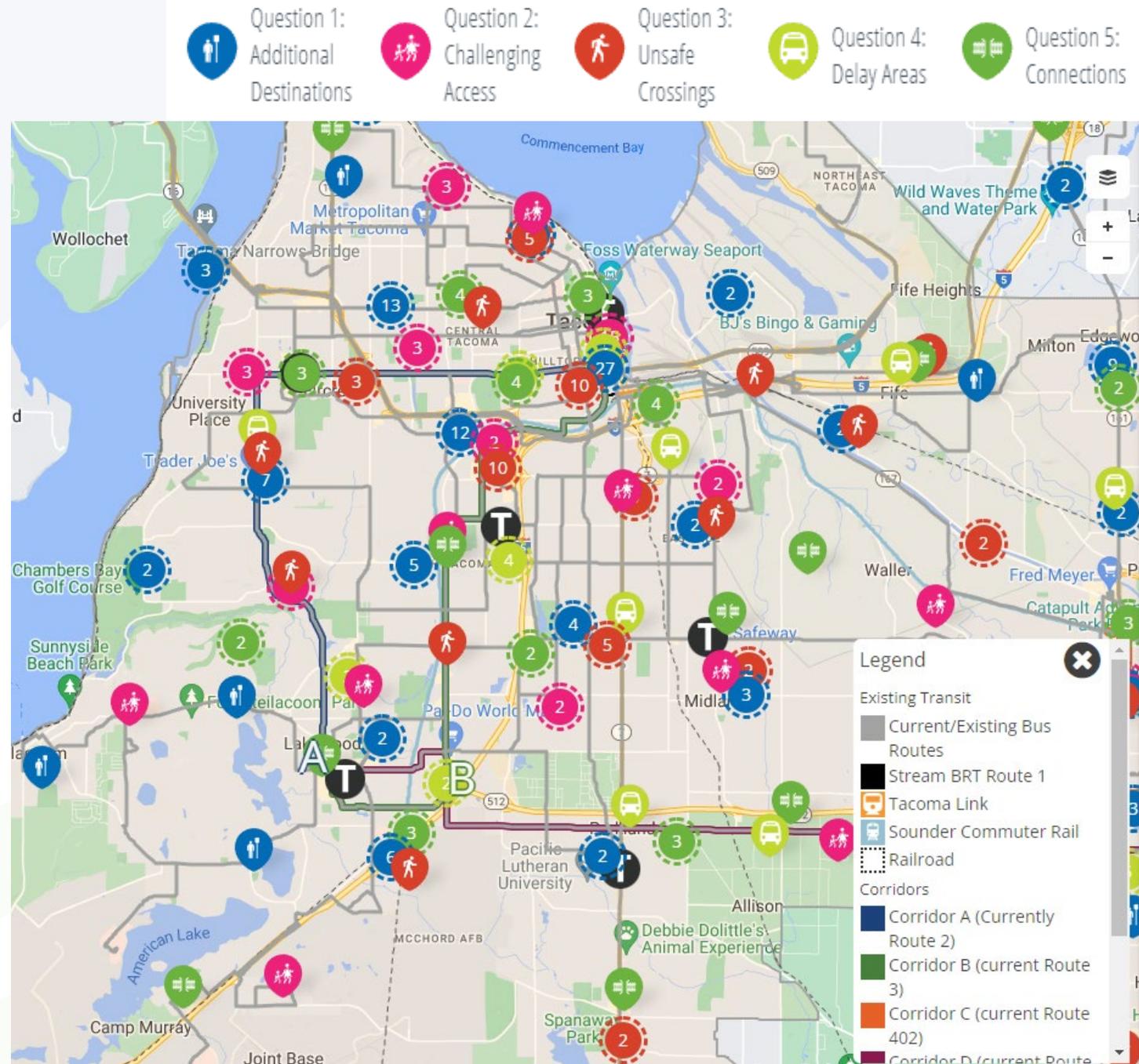
Corridor D

- **D:** Lakewood Transit Center to Pierce College.
- **D1:** Lakewood Transit Center to South Hill Mall.
- **D2:** Lakewood Transit Center *and Lakewood Sounder Station* to Pierce College.



ONLINE SURVEY

- Online Survey: Social Pinpoint; online community engagement tool.
- Survey was open for five weeks (January 25-March 1, 2022).
- 418 unique responses.
- 472 map comments.
- 14 people emailed comments.
- 72% of respondents live in Tacoma.



WHAT WE HEARD



Pedestrian Safety: Additional pedestrian crossings or signals are needed.



Routing and Stations: Improve routing access or connections.



Congestion and Delay: Transit speed and reliability improvements are needed in congested and high delay areas (e.g., Meridian).



Equity Index

Serving Priority Populations

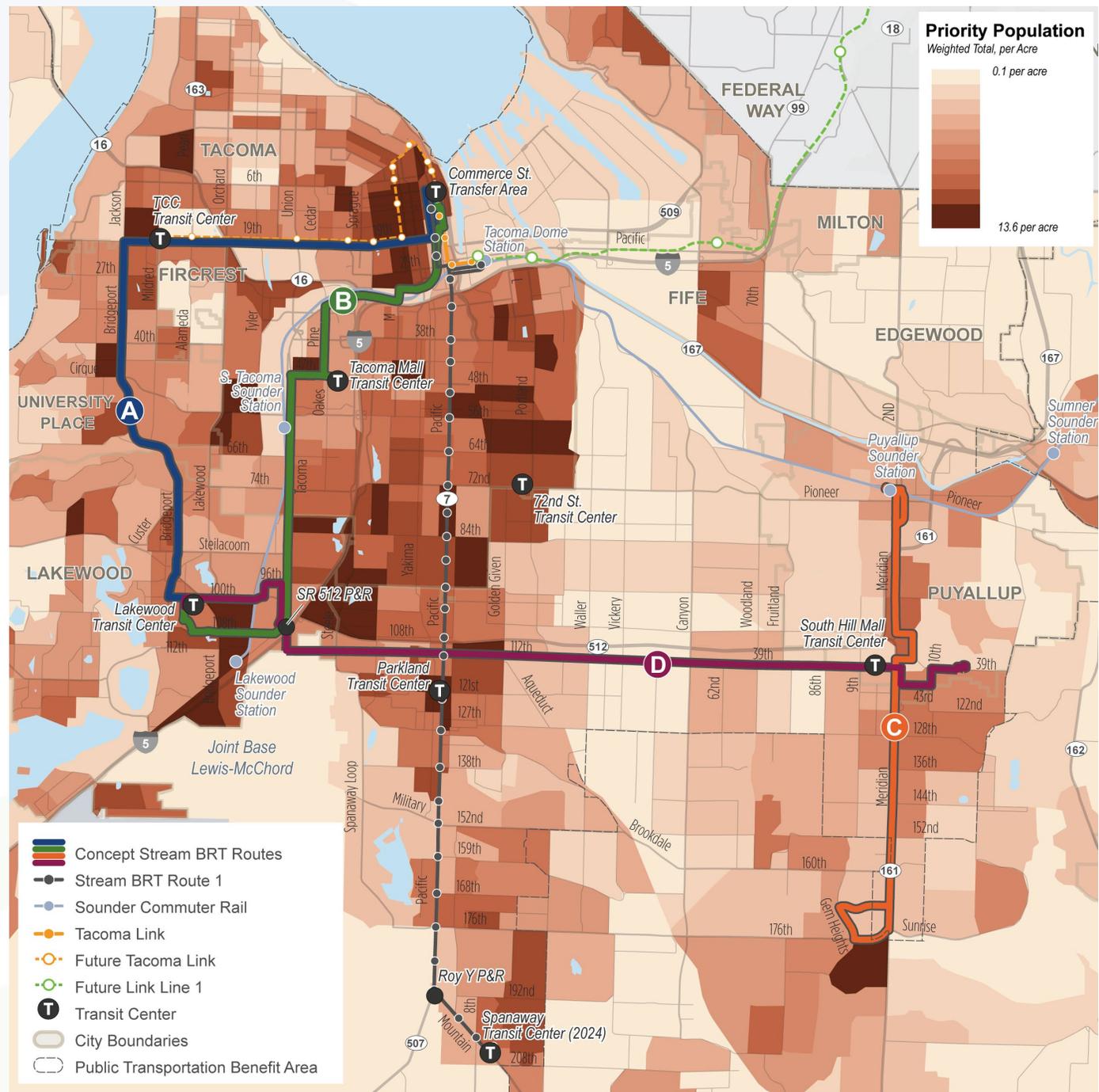
Equity Index Score

Weighted sum of priority populations:

- Non-White or Hispanic (40% weight)
- Low-income households (30%)
- Foreign-born population (10%)
- Limited English-speaking households (10%)
- People with disabilities (10%)

Outcome

Corridor	Weighted Sum of Priority Pop. per Corridor Mile	Equity Index Score
A	1,037	10
B	1,016	9
C	482	1
D	625	3



EVALUATION ACCOUNTS

SSES prioritization criteria are organized in five accounts that were used to evaluate the potential performance of the four corridors.

ENHANCE

Provide BRT service to Pierce County's highest demand, highest need corridors.

CONNECT

Connect residents with jobs, services, and other daily activities.

GROW & PROSPER

Provide BRT services to areas with transit supportive land use, areas of growth, and locations that support local businesses.

SUSTAIN

Reduce carbon emissions and promote sustainable travel.

DELIVER

Develop BRT projects that are fundable, effective, and implementable.

EVALUATION RESULTS

A = Current Route 2
 B = Current Route 3
 C = Current Route 402
 D = Current Route 4

EQUALLY-WEIGHTED CRITERIA

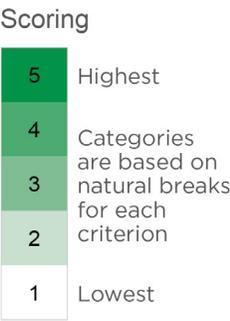
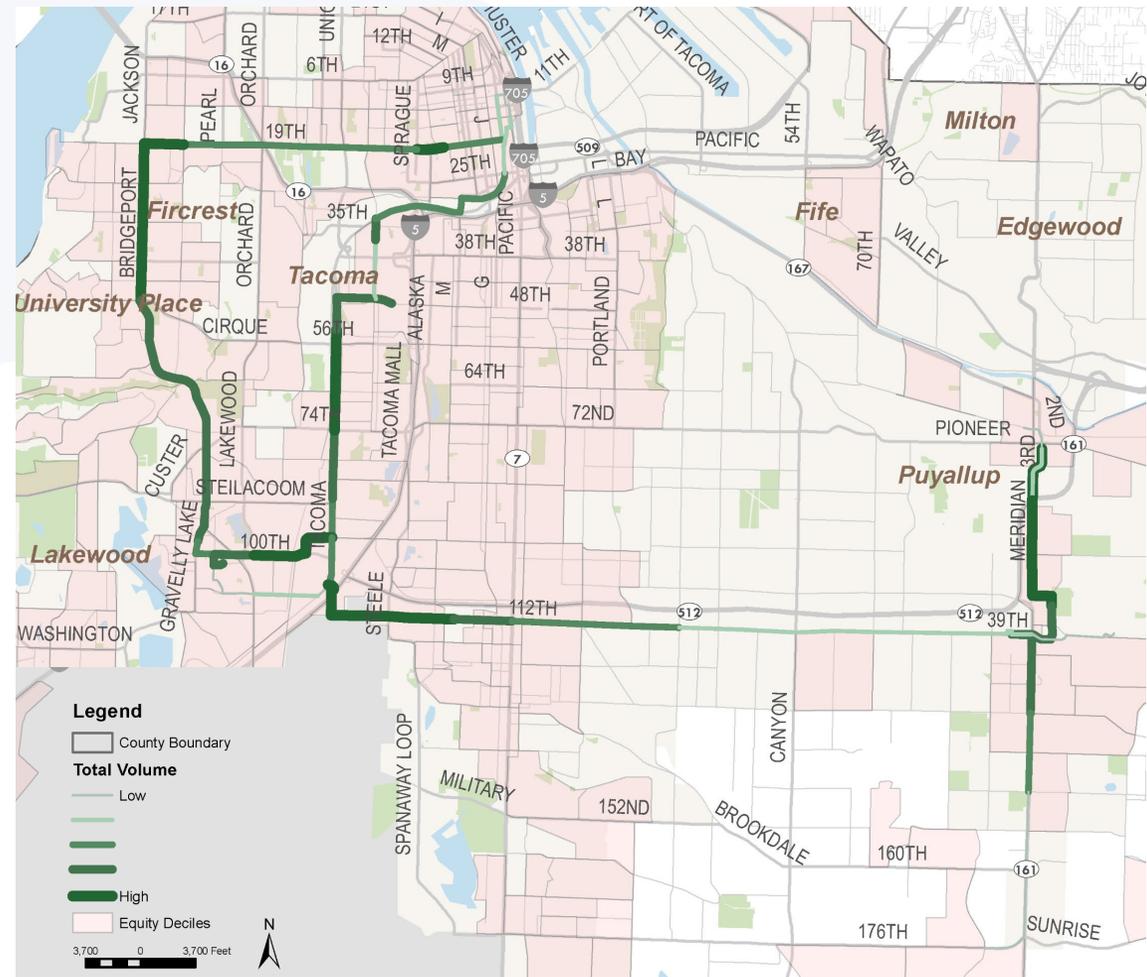
Account	A	A1	A2	B	B1	B2	C	C1	D	D1	D2	Scoring
Enhance	3.3	3.3	2.3	4.0	4.0	4.7	1.3	1.3	2.7	2.7	2.3	5 Highest
Connect	3.2	3.8	2.2	4.2	4.0	4.3	2.8	2.3	1.3	1.3	2.5	4 Categories are based on natural breaks for each criterion
Grow & Prosper	2.5	2.5	1.8	3.3	3.1	3.2	1.3	1.2	0.7	0.8	1.0	3
Sustain	3.7	3.3	2.3	4.0	4.3	5.0	1.7	2.0	1.0	1.0	1.0	2
Deliver	2.7	2.0	1.3	2.7	2.5	2.3	1.5	1.3	1.5	2.8	1.2	1 Lowest
TOTAL	15.3	15.0	10.0	18.1	17.9	19.5	8.6	8.2	7.2	8.6	8.0	
Rank - overall	4	5	6	2	3	1	7	9	11	7	10	
Rank - by corridor	1	2	3	2	3	1	1	2	3	1	2	

ENHANCE

Future Daily Boardings in 2040 with Stream.

Future Additional Daily Boardings
– Increase in boardings compared to future without Stream.

Future Daily Boardings in Equity Locations – Share of future (2040) boardings in equity areas. →



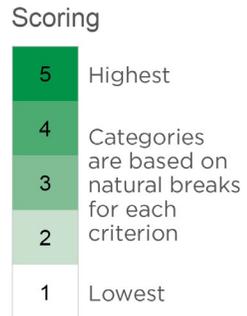
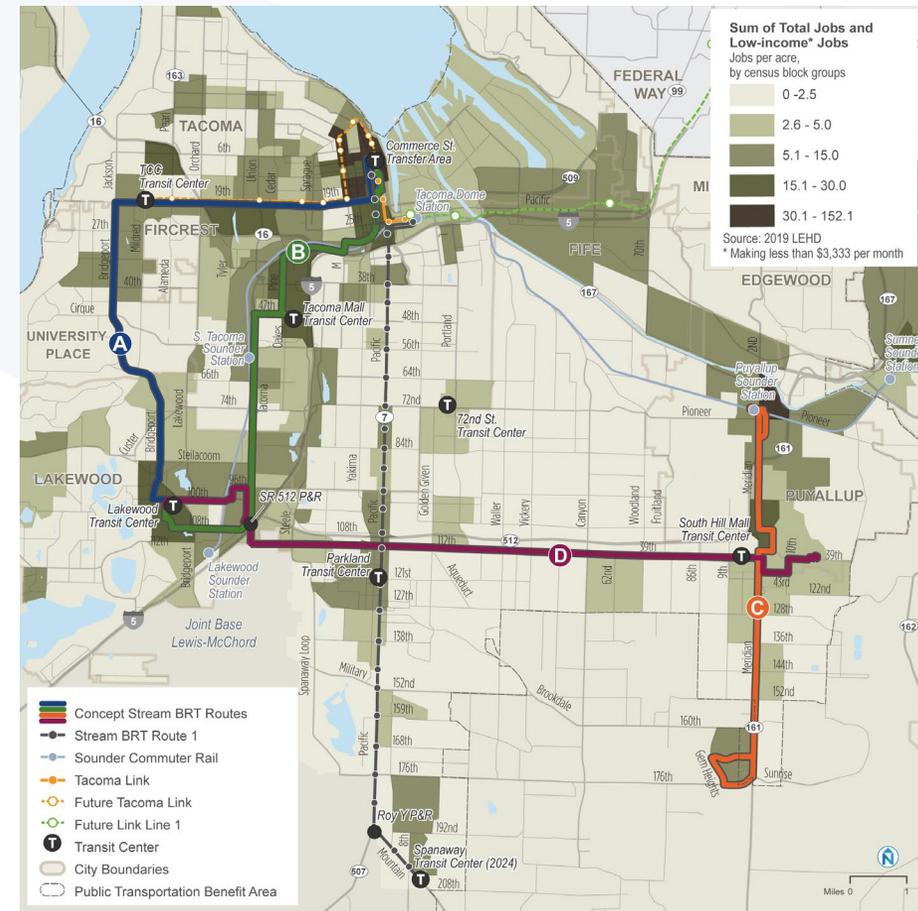
Account	Criteria	Description	Lakewood - Tacoma (Bridgeport/19th)			Lakewood - Tacoma (S. Tacoma Way and/or 38th/48th)			South Hill - Puyallup and/or Edgewood (Meridian)		Lakewood - Puyallup (112th)		
			A	A1	A2	B	B1	B2	C	C1	D	D1	D2
Enhance	Future Daily Boardings	Average future (2040) weekday daily transit boardings for proposed corridor	3,200	3,300	1,700	4,700	5,100	5,800	1,000	1,300	2,700	2,600	2,400
	Future Additional Daily Boardings	Change in future (2040) weekday daily transit boardings for proposed corridor, compared to 2040 "No-Build" bus route	1,100	1,200	400	2,600	3,000	3,700	300	700	1,200	1,100	900
	Future Daily Boardings in Equity Locations	Share of average future (2040) weekday daily transit boardings in equity areas (median or higher equity index score)	97%	97%	100%	97%	97%	97%	70%	64%	80%	77%	73%

CONNECT

Population & Employment Density – Current (2019) density within ½ mile of each corridor, adjusted for corridor length.

Density of Equity Populations and Low-Income Jobs – Current (2019).

Connectivity with Regional Services – Number of daily Sounder commuter rail trips in 2040 accessible from corridor.

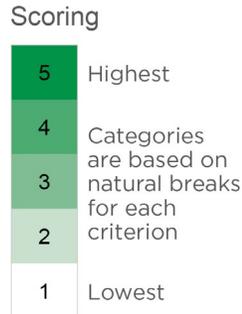
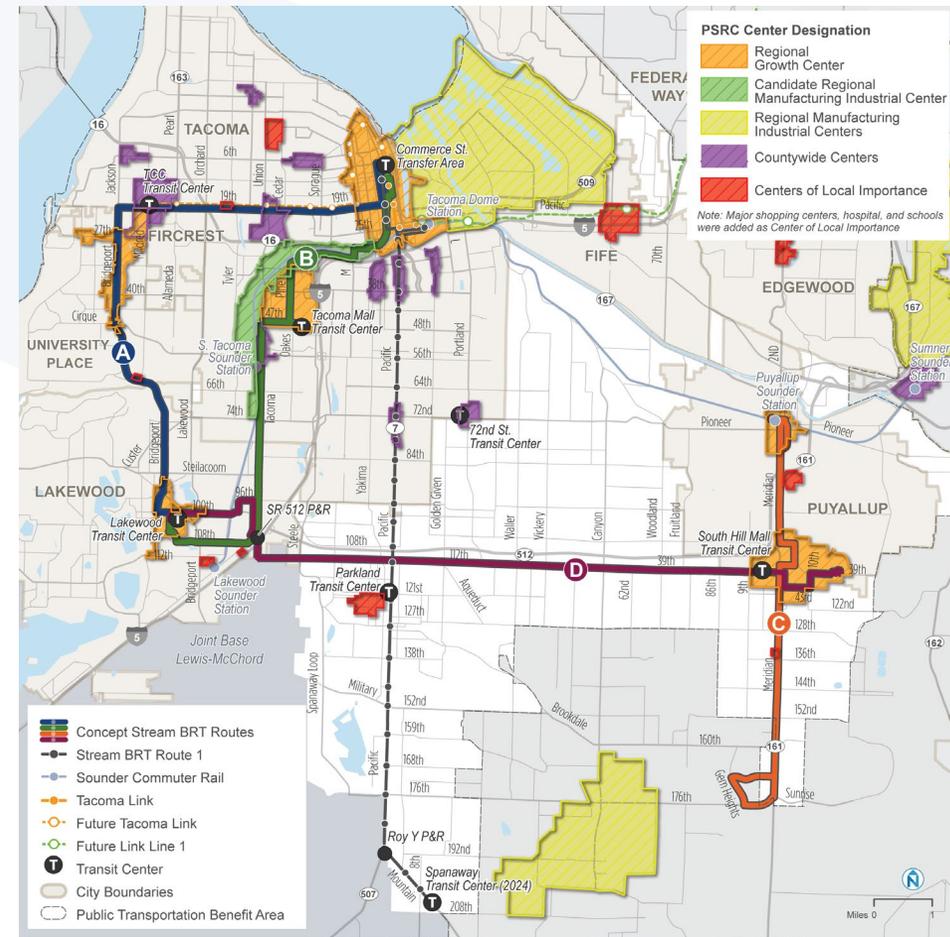


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			A	A1	A2	B	B1	B2	C	C1	D	D1	D2
Connect	Population and Employment Density	Current (2019) households within 1/2 mile of each corridor, per corridor mile	2,100	2,000	1,700	1,800	1,900	2,100	1,200	900	1,000	1,000	1,100
		Current (2019) jobs within 1/2 mile of each corridor, per corridor mile	4,200	3,900	2,100	4,800	4,500	4,300	1,700	1,300	1,600	1,500	1,500
	Density of Equity Populations and Low-Income Jobs	Density of current (2019) equity-weighted populations, per corridor mile	1,300	1,300	1,200	1,300	1,300	1,500	800	600	900	1,000	1,000
		Density of current (2019) weighted jobs and low-income jobs, per corridor mile	5,900	5,400	2,600	6,600	6,100	5,900	2,800	2,200	2,000	2,000	1,900
Connectivity with Regional Transit Services	Future (2040) transit connections available on regional transit lines (e.g., Sounder). No direct connections to Link at Tacoma Dome Station.		0	24	0	24	24	24	32	32	0	0	24

GROW & PROSPER

Population and Employment Growth
 – Future (2040) households and jobs within 1/2 mile of corridors, adjusted for corridor length.

Centers of Regional and Local Importance – Number of Pierce County centers served.



Account	Criteria	Description	Lakewood - Tacoma (Bridgeport/19th)			Lakewood - Tacoma (S. Tacoma Way and/or 38th/48th)			South Hill - Puyallup and/or Edgewood (Meridian)		Lakewood - Puyallup (112th)		
			A	A1	A2	B	B1	B2	C	C1	D	D1	D2
Grow & Prosper	Population and Employment Growth	Future (2040) households within 1/2 mile of each corridor, per corridor mile	4,300	4,000	2,700	4,100	4,200	4,500	1,900	1,500	1,500	1,400	1,600
		Percentage change in households within 1/2 mile of each corridor, 2019 to 2040	107%	102%	60%	129%	122%	116%	57%	56%	42%	39%	44%
		Future (2040) jobs within 1/2 mile of each corridor, per corridor mile	6,800	6,300	3,300	8,200	7,500	7,400	2,600	2,000	2,300	2,300	2,100
		Percentage change in jobs within 1/2 mile of each corridor, 2019 to 2040	63%	62%	57%	70%	69%	70%	51%	50%	43%	48%	41%
	Centers of Regional and Local Importance Served	Number of identified Regional Growth Centers and Centers of Local Importance within 1/2 mile of conceptual station locations. Regional Centers weighted higher than Countywide Centers and Centers of Local Importance.	62	64	36	67	67	67	22	23	21	21	22

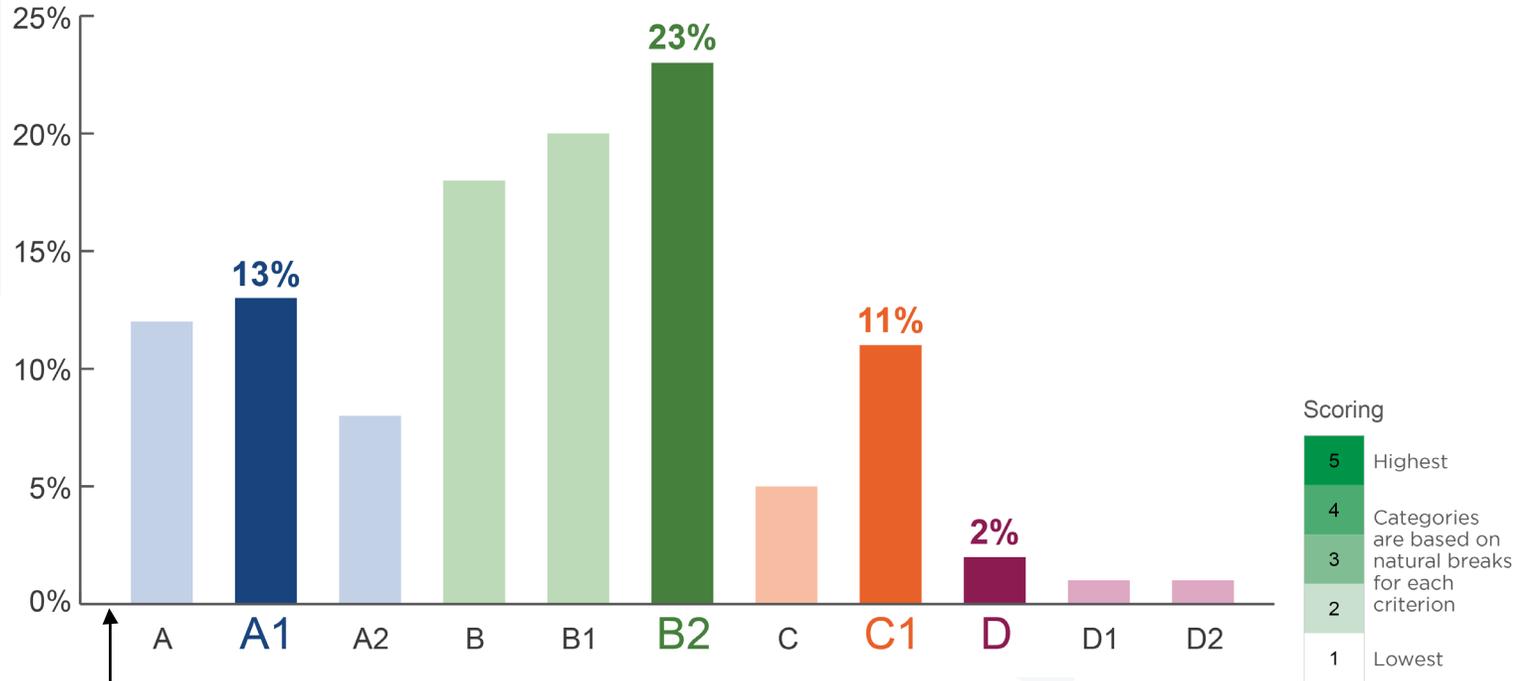
SUSTAIN

Reduce Greenhouse Gas Emissions – Estimated reduction of greenhouse gases (in kilograms).

Quality of Walking/Bicycle Network – Density of street connections, as an indicator of better opportunities for walking and biking access.

Increase Transit Mode Share in Corridor – Increase in mode share at busiest point along the corridor.

PERCENTAGE INCREASE IN TRANSIT MODE SHARE



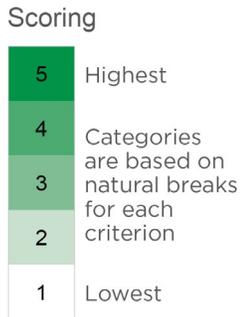
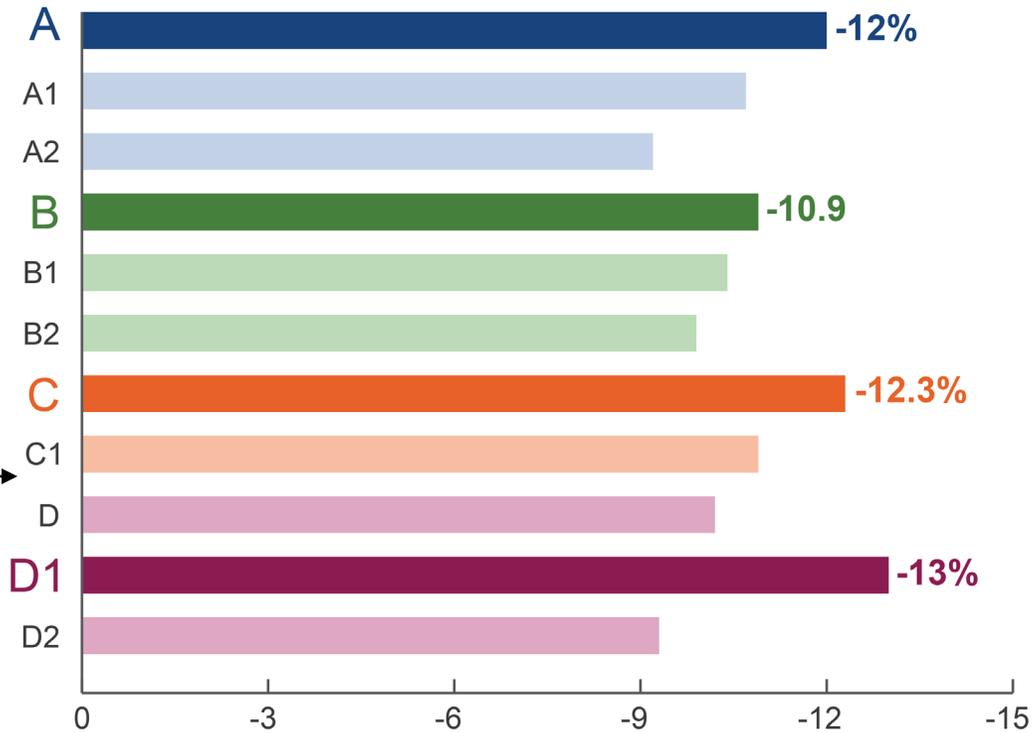
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			A	A1	A2	B	B1	B2	C	C1	D	D1	D2
Sustain	Reduce Greenhouse Gas Emissions	Total kg of daily greenhouse gas emissions reduced based on future transit trips, average trip length, and average speed at a screenline location (where transit passenger load is highest)	1,000	1,000	700	1,200	1,400	1,800	400	800	200	200	100
	Quality of Walking/Bicycling Network	Intersection density of local street network within 1/2 mile of each corridor	120	117	109	114	119	123	78	69	71	71	72
	Increase transit mode share in corridor	Potential increase in transit mode share at a screenline location (where transit passenger load is highest)	12%	13%	8%	18%	20%	23%	5%	11%	2%	1%	1%

DELIVER

Cost Effectiveness –
Capital and operating costs per passenger.

Passenger Travel Times
– Potential travel time reductions compared with current service.

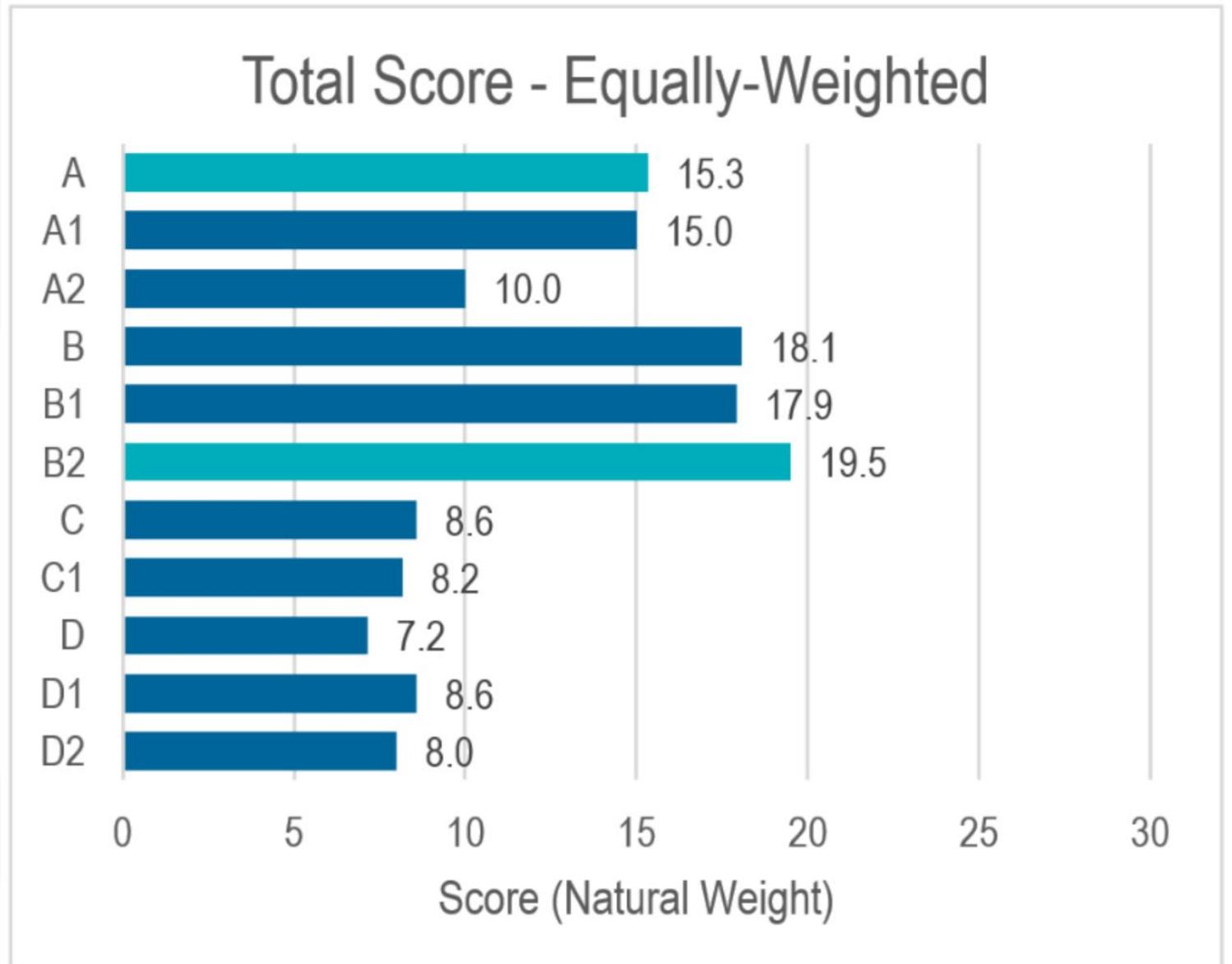
PASSENGER TRAVEL TIME REDUCTION



Account	Criteria	Description	Lakewood - Tacoma (Bridgeport/19th)			Lakewood - Tacoma (S. Tacoma Way and/or 38th/48th)			South Hill - Puyallup and/or Edgewood (Meridian)		Lakewood - Puyallup (112th)		
			A	A1	A2	B	B1	B2	C	C1	D	D1	D2
Deliver	Cost Effectiveness	Total capital cost (2022 \$) per annual rider	\$65.80	\$71.80	\$75.10	\$39.30	\$39.30	\$33.20	\$157.80	\$164.80	\$72.90	\$62.10	\$82.30
		Total annualized capital cost plus net annual operating cost (2022 \$) per annual rider	\$9.60	\$11.90	\$11.50	\$6.30	\$6.70	\$5.20	\$32.40	\$33.40	\$14.00	\$11.00	\$16.00
	Passenger Travel Times	Reduction in travel time from transit signal priority, all-door boarding, and stop consolidation, as a share of existing travel time	-9%	-8%	-7%	-9%	-8%	-8%	-9%	-8%	-8%	-10%	-8%
		Reduction in travel time from transit signal priority, all-door boarding, stop consolidation, and other running way treatments, as a share of existing travel time	-12%	-11%	-9%	-11%	-10%	-10%	-12%	-11%	-10%	-13%	-9%

Total Score

- Top corridor:
B2 (via S. 48th St)
- 2nd-highest corridor:
A (to Lakewood Transit Center)



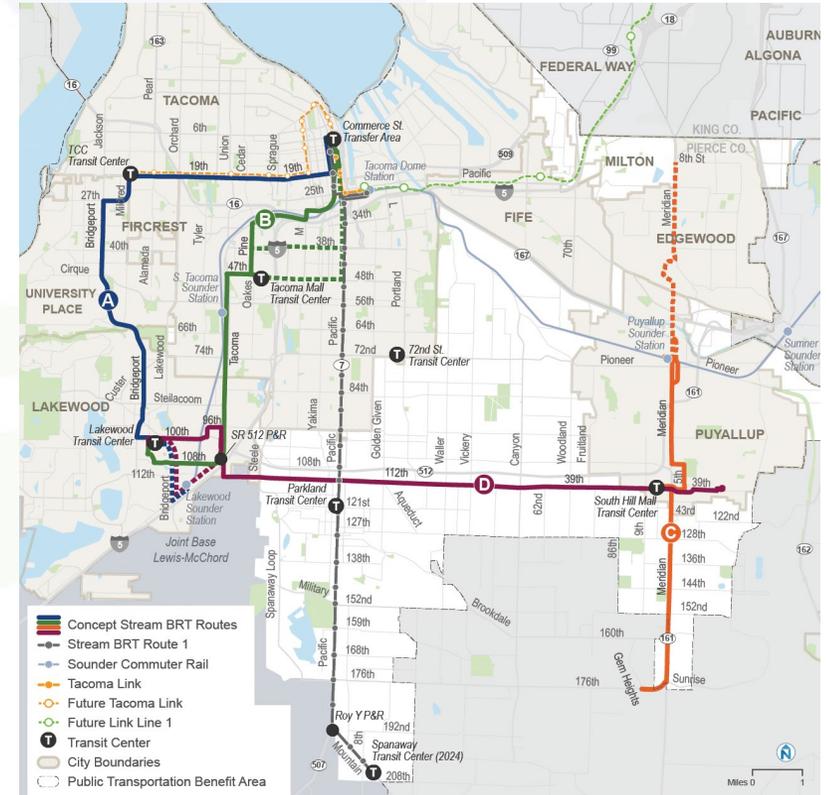
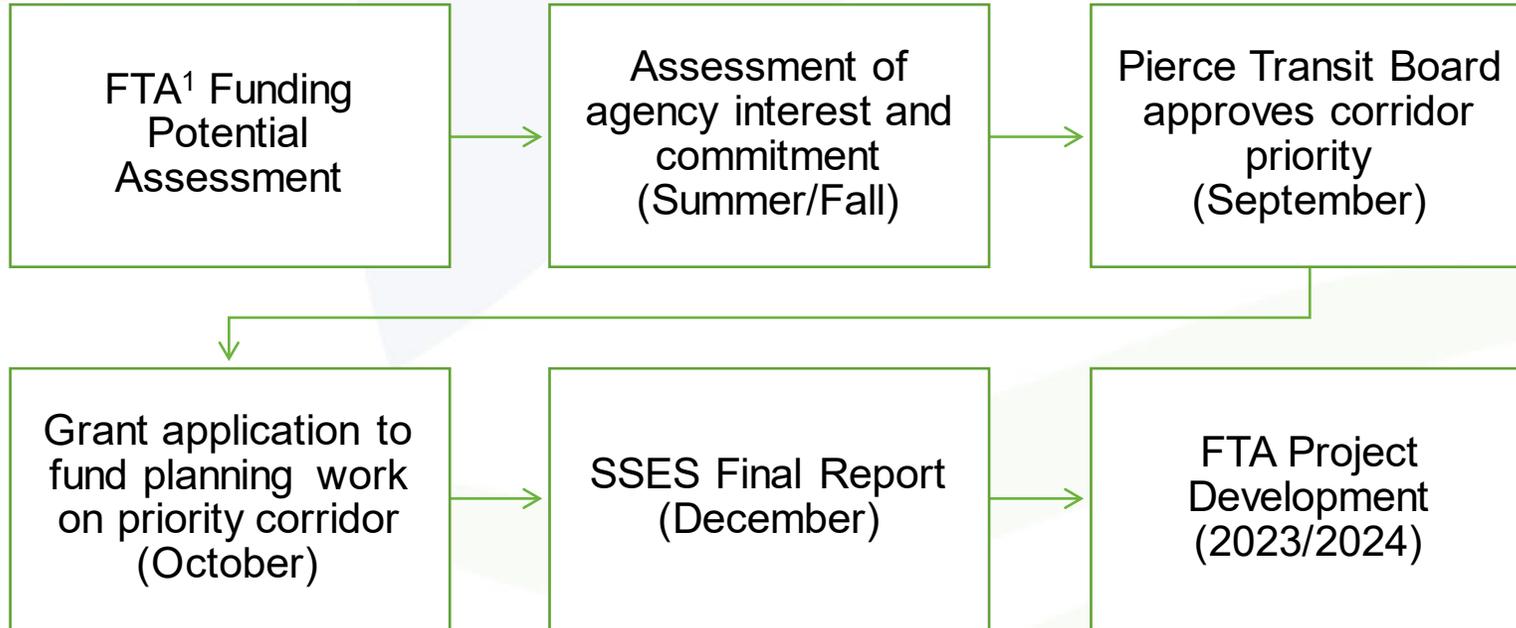
Getting to Implementation

Stream 1 Pacific Ave/SR-7 construction to begin in 2024



Next Steps

Stream 2 enters project development 2023/2024



1 – FTA: Federal Transit Administration

QUESTIONS?



THANK YOU

Please share additional questions
or comments by July 15:

brt@piercetransit.org

