


East-West Passenger Rail Study

23 June 2020
Joint Transportation Committee Meeting




This study provided an update to previous studies for the corridor

- Key aspects of the study:

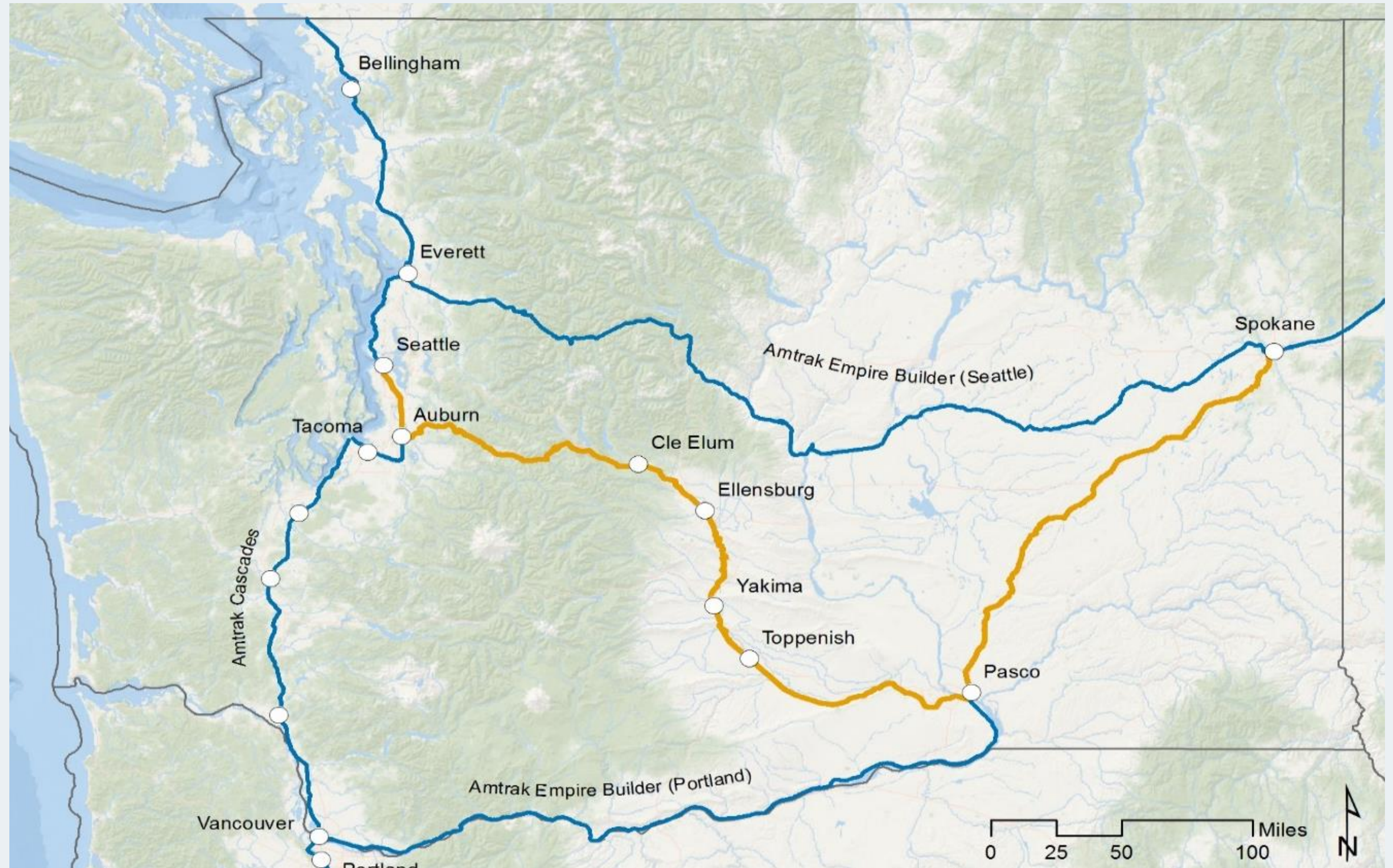
 Ridership and Revenue

 Options Review

 Current Infrastructure Assessment

 Community Survey

 Operator Assessment



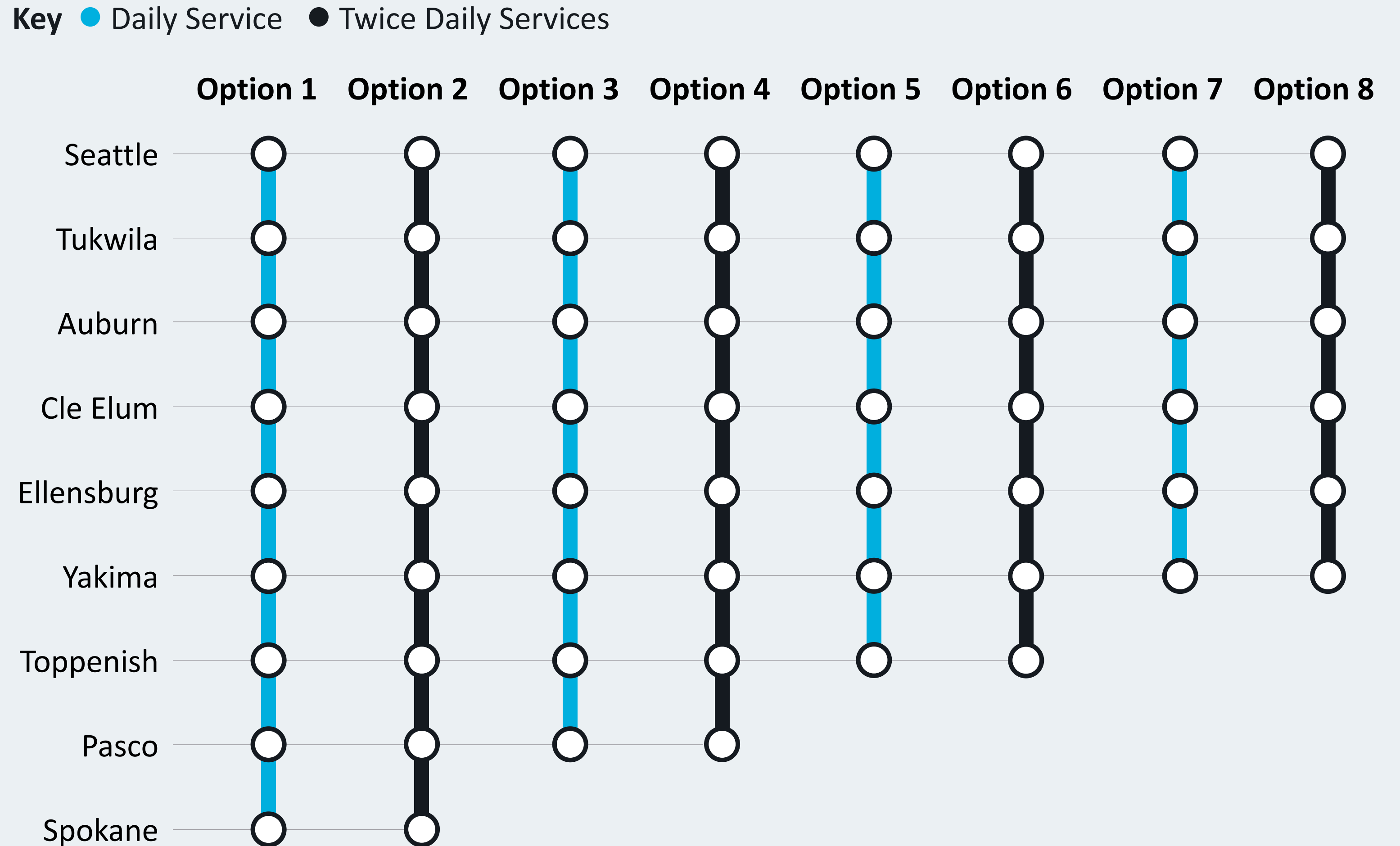
Source: Steer (2020) analysis.

Base Map: Steer (2020) with Esri, Garmin, GEBCO, NOAA NGDC and other contributors.

Journey times will be long due to slow speeds and current freight services



- Services considered including daily and twice-daily services to Spokane or between Seattle and Yakima/Toppenish
- Journey times of 8 hours and 35 minutes expected between Seattle to Spokane
- Journey times much longer than by auto for most city-to-city pairs due to slow speeds and rail freight movements
- Stampede Pass has significant gradients and sharp curves
- Operations were validated using strategic timetabling software (ATTune)



Source: Steer (2020) analysis.

Low expected ridership

- Annual ridership for year 2020 ranged from 31,000 to 205,000 annual trips
- One hour journey time reduction adds an additional 10,000 trips
- Most journeys to/from Yakima Valley locations, in particular between Yakima and Toppenish – suggests opportunity to improve intercity transit services within the Kittitas and Yakima valleys
- While comparable to some Amtrak State Supported Services (e.g. North Carolina Piedmont) but less than 25% of trips on the Amtrak Cascades
- Revenues of between \$0.6 million and \$4.6 million depending on service option

Source: Steer (2020) analysis

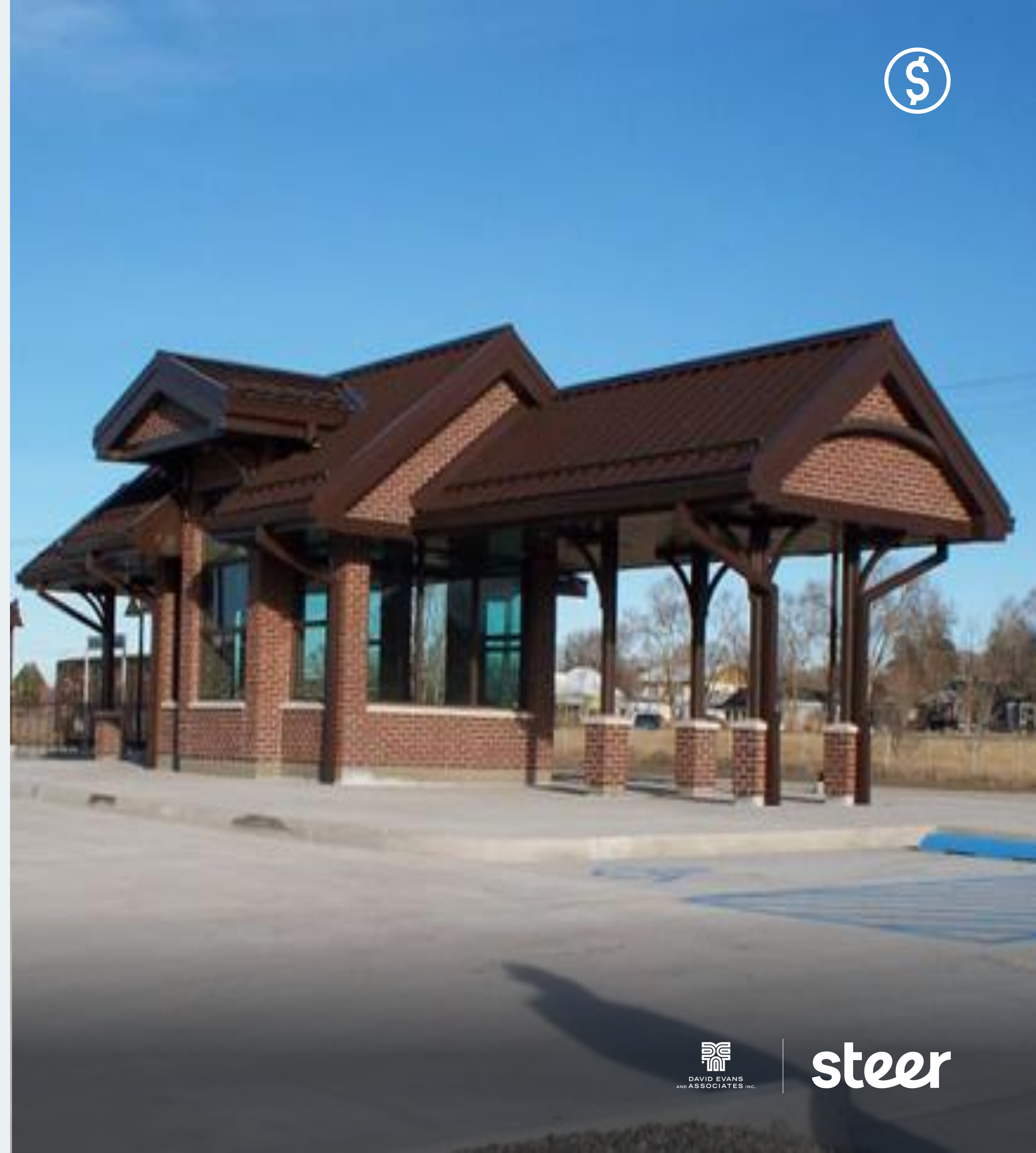
Image Source: SubwayNut/Creative Commons



Significant upfront costs required



- Significant infrastructure improvements including additional passing loops, winter resilience and stations to support interaction between freight and passenger trains
- Limited opportunity for speed improvements
- Up to 4 additional train sets required
- Estimated Costs:
 -  *Additional Passing Tracks and Sidings*
 - Between \$64M and \$75M
 -  *Stations Works*
 - Around \$50M for four-coach service
 - Around \$120M for eight-coach service
 -  *Equipment Costs of between \$144M and \$252M*
 -  *Operating Costs*
 - Between \$6M and \$30M depending on service option

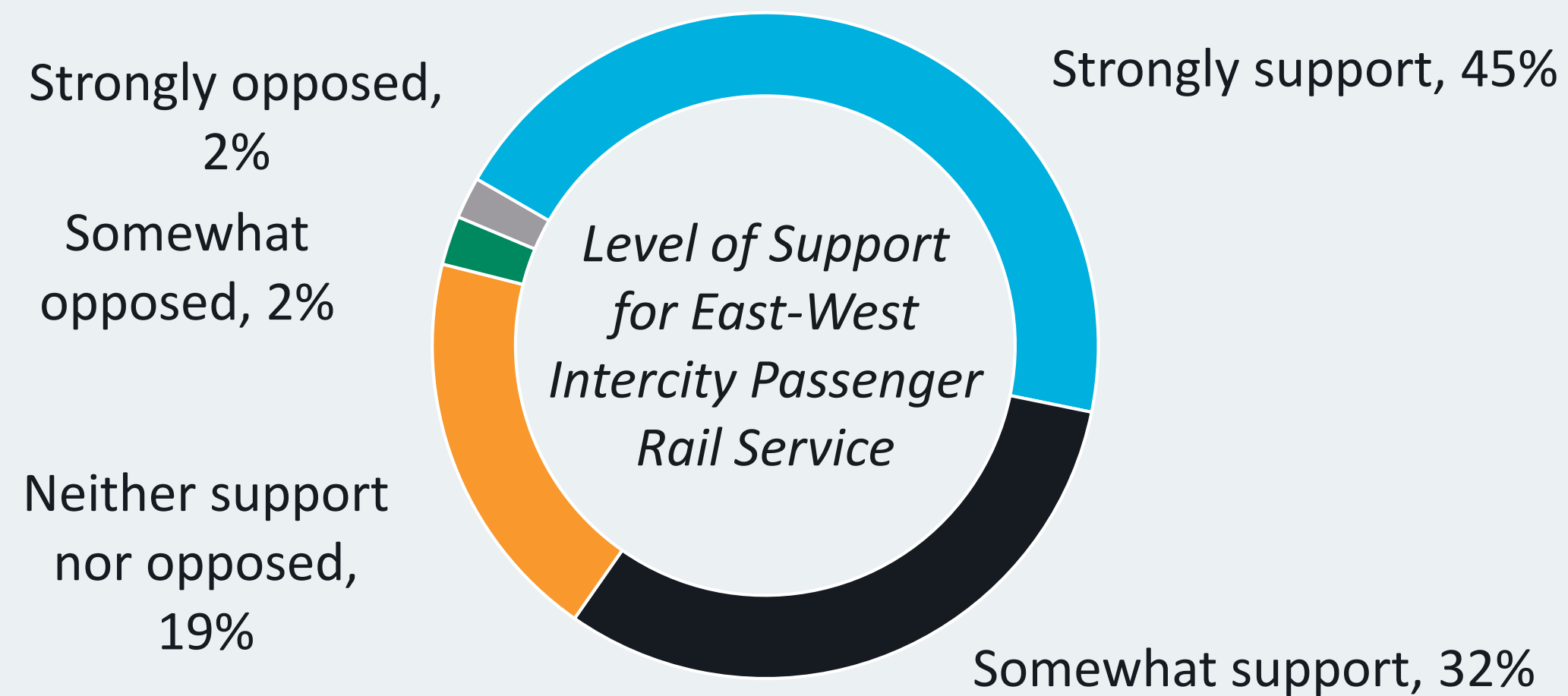


Source: Steer (2020) analysis.

Image Source: Amtrak. (Winnemucca Nevada)

Strong community support

- Over 76.4% participants were supportive of the project
- Meanwhile only 4.4% were somewhat opposed or strong opposed to the project



Source: Steer (2020) analysis.



Three possible operation models



Public Outsourcing

- Contracts operation to Amtrak
- Similar to State Supported services across the United States including the Cascades
- Assets including rolling stock, stations, etc. funded and owned by Washington



Private Outsourcing

- Contracts to a third-party/private operator
- Alternative procurement approaches available including the possibility of a P3



State Operated

- State establishes an internal company to design, deliver and operate (significant step-up)
- Sub-options where WSDOT has more control over certain activities (akin to California)

Source: Steer (2020) analysis.



Summary

Daily Service Options		Option 1	Option 3	Option 5	Option 7
Service	From	Spokane	Pasco	Toppenish	Yakima
	To	Seattle	Seattle	Seattle	Seattle
	End to End Journey Time (hh:mm)	8:35	6:05	4:59	4:43
	Average Speed (miles per hour)	44	39	35	33
	Number of Locomotives	6	6	6	6
	Number of Coaches	10	10	10	10
Infrastructure	New Stations	4	4	4	3
	New Passing Tracks	4	4	4	4
Financials Costs	Infrastructure (\$Millions)	\$136.5	\$136.5	\$136.5	\$119.2
	Equipment (\$Millions)	\$144.3	\$144.3	\$144.3	\$144.3
	Operating Per Annum (\$Millions)	\$14.5	\$9.2	\$6.7	\$6.1
Financial Revenue	Catering (\$Millions)	\$0.8	\$0.5	\$0.4	\$0.3
	Ticket Sales (\$Millions)	\$4.0	\$3.8	\$2.3	\$0.6
Ridership	Annual Trips (Thousands in 2020)	192	189	150	31

Summary

Twice Daily Service Options		Option 2	Option 4	Option 6	Option 8
Service	From	Spokane	Pasco	Toppenish	Yakima
	To	Seattle	Seattle	Seattle	Seattle
	End to End Journey Time (hh:mm)	8:35	6:05	4:59	4:43
	Average Speed (miles per hour)	44	39	35	33
	Number of Locos	10	10	10	8
	Number of Coaches	19	19	19	16
Infrastructure	New Stations	4	4	4	3
	New Passing Tracks	4	4	4	4
Financials Costs	Infrastructure (\$Millions)	\$136.5	\$136.5	\$136.5	\$119.2
	Equipment (\$Millions)	\$252.5	\$252.5	\$252.5	\$180.7
	Operating Per Annum (\$Millions)	\$29.5	\$18.4	\$13.4	\$12.2
Financial Revenue	Catering (\$Millions)	\$1.6	\$1.1	\$0.8	\$0.7
	Ticket Sales (\$Millions)	\$4.6	\$4.1	\$2.8	\$1.0
Ridership	Annual Trips (Thousands in 2020)	205	198	166	43

Thank you



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Study Provisio

(3) (a) \$250,000 of the multimodal transportation account—state appropriation is for the joint transportation committee to conduct a study of the feasibility of an east-west intercity passenger rail system. The study must include the following elements:

- (i) Projections of potential ridership;
- (ii) Review of relevant planning studies;
- (iii) Establishment of an advisory group and associated meetings;
- (iv) Development of a Stampede Pass corridor alignment to maximize ridership, revenue, and rationale, considering service to population centers: Auburn, Cle Elum, Yakima, Tri-Cities, Ellensburg, Toppenish, and Spokane;
- (v) Assessment of current infrastructure conditions, including station stop locations;
- (vi) Identification of equipment needs; and
- (vii) Identification of operator options.

(b) A report of the study findings and recommendations is due to the transportation committees of the legislature by June 30, 2020.

Complex questions
Powerful answers

steer

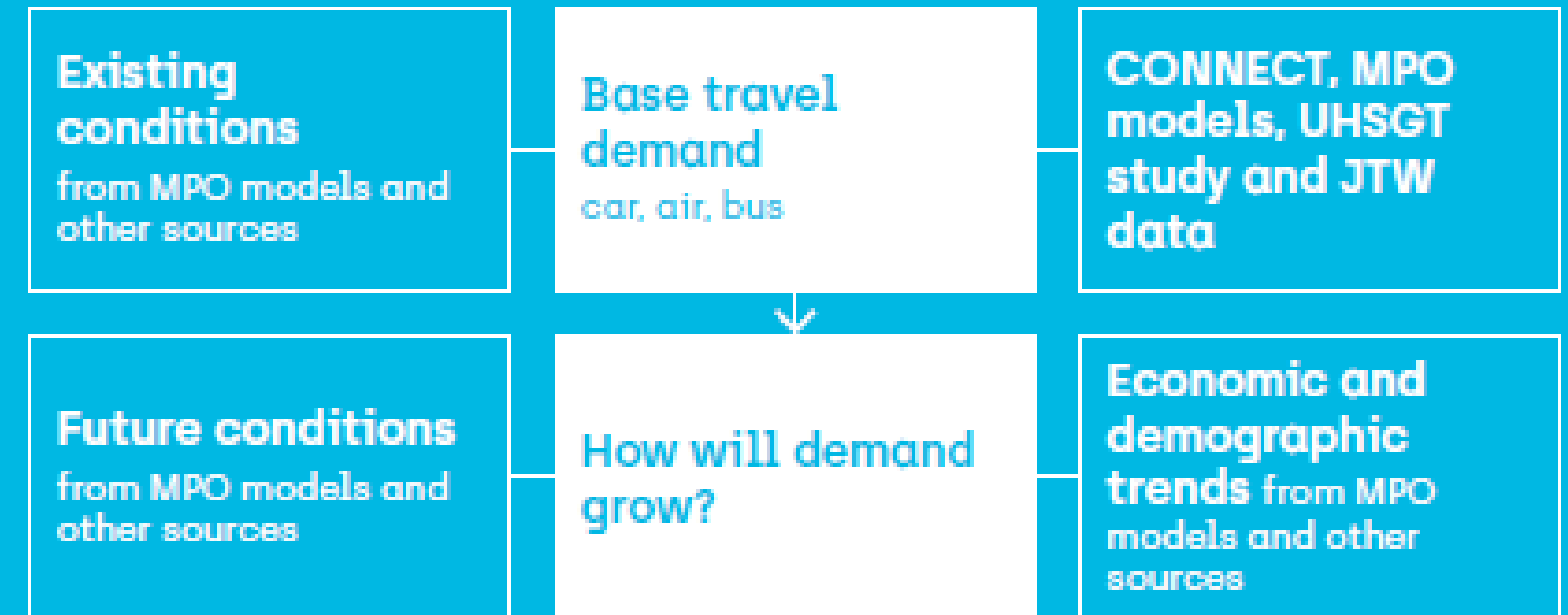


Ridership and Revenue

1. What are today's **travel patterns** and needs, or base demand?
2. How will this **demand grow** in the future?
3. If given the option to take rail instead of driving, what **choices** would people make?

Demand Model Structure and Inputs

DEMAND AND GROWTH



MODE CHOICE / SHARE



OUTPUTS

