

West Eugene EmX Extension Alternatives Analysis: Key Results; Revised: January 3, 2010

Alt. Number	Alternative Name/Design Options	Year 2031 System-wide Boardings		Year 2031 Estimated Transit Travel Time		Year 2031 Estimated Auto Travel Time		Year 2031 Transit travel time as percentage of auto travel time	Capital Cost (in millions)	Year 2031 Operating Cost		Year 2031 System-wide Operating Cost per Boarding		Potential Property Acquisitions		Transit Priority Lanes			On-Street Parking		Trees	
		Total Boardings	Additional Boardings Compared to No-Build	PM Round Trip Travel Time between the Eugene Station and Commerce St. (in minutes)	Percent Change Compared to No-Build	PM Round Trip Travel Time between the Eugene Station and Commerce St. (in minutes)	Percent Change Compared to No-Build			Annual cost for the system (in millions)	Change in Cost Compared to No-Build (in millions)	Actual Cost Per Boarding	Cost per added boarding (compared to No-Build)	Partial	Full	Percent Exclusive	Percent BAT	Percent with Priority (total)	Spaces potentially displaced	Utilization Rate	Street Trees	Landscape Trees
1	No-Build	14,355,000	N/A	56.1	N/A	32.2	N/A	174%	\$0.0	\$41.46	N/A	\$2.89	N/A	0	0	0%	0%	0%	0	N/A	0	0
2	Transportation Systems Management	14,445,000	90,000	45.9	-18%	28.0	-13%	164%	\$15.1	\$41.71	\$0.25	\$2.89	\$2.78	34	0	0%	20%	20%	0	N/A	25	0
W 13th Avenue to W 11th Avenue																						
3	Frontage Alley Design Option	14,928,000	573,000	27.4	-51%	27.9	-13%	98%	\$95.0	\$40.97	(\$0.49)	\$2.74	No Cost	116	5	18%	71%	89%	119	Low	107	57
3-MC	Frontage Alley Design Option	14,928,000	573,000	29.2	-48%	28.9	-10%	101%	\$79.4	\$41.04	(\$0.42)	\$2.75	No Cost	88	0	18%	58%	76%	124	Low	97	46
4	Two-Way Transitway Design Option	14,928,000	573,000	27.4	-51%	27.9	-13%	98%	\$95.4	\$40.97	(\$0.49)	\$2.74	No Cost	112	9	18%	71%	89%	119	Low	107	55
W 6th/7th Avenue to W 11th Avenue																						
5	Charnelton Two-Way, Reassign-A-Lane DOs	15,000,000	645,000	32.1	-43%	31.5	-2%	102%	\$105.2	\$41.70	\$0.24	\$2.78	\$0.37	145	8	0%	89%	89%	57	Medium	138	35
5-MC	Charnelton Two-Way, Reassign-A-Lane DOs	15,000,000	645,000	33.4	-40%	31.6	-2%	106%	\$88.9	\$41.75	\$0.29	\$2.78	\$0.45	114	2	0%	76%	76%	63	Medium	131	35
6	Charnelton Two-Way, Add-A-Lane DOs	15,000,000	645,000	32.1	-43%	31.5	-2%	102%	\$112.0	\$41.70	\$0.24	\$2.78	\$0.37	207	11	0%	89%	89%	57	Medium	257	39
7	Lincoln/Charnelton, Reassign-A-Lane DOs	15,000,000	645,000	32.1	-43%	31.5	-2%	102%	\$106.2	\$41.70	\$0.24	\$2.78	\$0.37	147	7	0%	89%	89%	29	Medium	144	36
8	Lincoln/Charnelton, Add-A-Lane DOs	15,000,000	645,000	32.1	-43%	31.5	-2%	102%	\$113.0	\$41.70	\$0.24	\$2.78	\$0.37	208	11	0%	89%	89%	29	Medium	263	38
W 6th/7th Avenue to W 7th Place																						
9	Charnelton Two-Way, Reassign-A-Lane DOs	14,892,000	537,000	36.1	-36%	32.7	2%	110%	\$92.4	\$42.39	\$0.93	\$2.85	\$1.73	123	5	0%	92%	92%	57	Medium	103	31
10	Charnelton Two-Way, Add-A-Lane DOs	14,892,000	537,000	36.1	-36%	32.7	2%	110%	\$99.2	\$42.39	\$0.93	\$2.85	\$1.73	185	8	0%	92%	92%	57	Medium	222	35
11	Lincoln/Charnelton, Reassign-A-Lane DOs	14,892,000	537,000	36.1	-36%	32.7	2%	110%	\$93.4	\$42.39	\$0.93	\$2.85	\$1.73	124	5	0%	92%	92%	29	Medium	109	32
12	Lincoln/Charnelton, Add-A-Lane DOs	14,892,000	537,000	36.1	-36%	32.7	2%	110%	\$100.1	\$42.39	\$0.93	\$2.85	\$1.73	186	8	0%	92%	92%	29	Medium	228	34

Definitions/Sources/Descriptions

- Year 2031 System-wide Boardings: This figure is an estimate of total boardings for each alternative for the year 2031. The data was generated by the ridership forecasting model. The "Additional Ridership Compared to No-Build" shows the increase in boardings for each of the alternatives compared to the No-Build Alternative. One boarding is one passenger entering, riding and exiting one transit vehicle.
- Year 2031 Estimated Transit Travel Times: A traffic model was used to calculate pm peak hour transit travel time between downtown Eugene and West 11th & Commerce St (route terminus). The figures in the table represent the in-vehicle travel time. The "Percentage Decrease Compared to No-Build" indicates the percent that the travel time for each of the alternatives is less than No-Build.
- Year 2031 Estimated Auto Travel Time: A traffic model was used to calculate pm peak hour auto travel time between downtown Eugene and West 11th & Commerce St. The figures in the table represent the in-vehicle travel time. The "Percentage Decrease Compared to No-Build" indicates the percent that the travel time for each of the alternatives is less than No-Build.
- Year 2031 transit travel time as a percentage of auto travel time: This column indicates year 2031 transit travel time as a percentage of year 2031 auto travel time for each alternative. A number greater than 100% indicates that transit travel time is projected to be longer than auto travel times. A number less than 100% indicates that transit travel time is projected to be shorter than auto travel time.
- Capital Cost (in millions): This the total estimated cost to design and construct the project, including land, vehicles, permits, staff time, consultant costs, etc.
- Year 2031 Operating Cost: Operating cost is based on year 2031 system designs for No-Build, TSM, and the various BRT Alternatives. Cost is based on service hours, miles and peak buses needed to operate each alternative. Year 2009 dollars are used. The "Additional Cost Compared to No-Build" is the increase in operating cost for each of the alternatives compared to the No-Build Alternative.
- Year 2031 Operating Cost per Boarding: The Year 2031 operating cost per boarding is the annual operating cost divided by annual system-wide boardings. The "Cost per Added Boarding" is a measure of the added cost for each alternative compared to No-Build, divided by the added boardings for each alternative compared to No-Build. This essentially reflects how cost-effective each alternative is in adding ridership to the system.
- Potential Property Acquisitions: This is an estimate of the properties impacted by each of the alternatives. Partial acquisitions are those which do not displace the business or residence. Full acquisitions could displace the business or residence, either because the building is directly impacted, parking is reduced to the point that the business is no longer viable, or access to the property has been eliminated. Assumes worst-case need to acquire property for all acquisitions; in final design stage, design impact modifications and property negotiations between LTD and owners, would result in the need for fewer acquisitions.
- Transit Priority Lanes: This data indicates, for each alternative, the percentage of the route that is in exclusive transit lanes, in BAT (Business Access/Transit - lanes shared with turning traffic) lanes, and the total in either type of transit priority.
- On-Street Parking: The first column shows the estimated number of on-street parking places that would be eliminated for each of the alternatives. The estimate was based on an overlay of the designs with aerial photos. Parking counts were confirmed with field investigations. The second column is the estimated utilization rate of the on-street parking. A technician counted parked cars in the morning, afternoon, and evening on two separate days. A low utilization rate indicates that no more than 25 percent of the on-street spaces were used at any one of those six observations. A medium utilization rate indicates that on at least one count, more than 25 percent, but no more than 50 percent of the spaces were used. A high utilization rate (not observed in any of these situations) would have been noted if more than 50 percent of the on-street spaces were used on any of the observations.
- Trees: The data shows an estimate of the number of trees that could be eliminated with each alternative. Street trees are those within the street right-of-way. Landscape trees are those outside the street right-of-way.
- 3-MC: Current Mitigation Concept for the West 13th/West 11th Alternative using the Frontage Alley Design Option.
- 5-MC: Current Mitigation Concept for the West 6th/7th-11th Alternative using the Charnelton two-way and Reassign-a-Lane Design Options.
- DO: Design Option
- BAT: Business Access and Transit lane. An EmX lane shared with vehicles turning from regular travel lanes. Removes EmX and slow turning vehicles from regular travel lanes.