

**Technical Memorandum #3 Technical Appendices
Appendix C – Future No Build MMLOS worksheets**

MMLOS Segment Worksheets

Pedestrian MMLOS

- Number of lanes = Number of Traffic Lanes
- Sidewalk Width = 1 if $\geq 5'$; otherwise 0
- Speed Factor = 1 if posted speed ≥ 40 mph; otherwise 0
- High Directional Volume Factor = 1 if hourly volume > 1500 vph; otherwise zero
- Medium Directional Volume Factor = 1 if $500 \text{ vph} < (\text{hourly volume}) \leq 1500 \text{ vph}$; otherwise 0

Figure C-1: Future No Build AM Peak Hour Pedestrian Segment MMLOS

Roadway	Dir	From-To	Number of Lanes	Sidewalk Width	Speed Limit (mph)	Speed Factor	AM Peak Hr Volume	Directional Volume Factor		Final LOS
								High	Medium	
Barnett Rd	EB	OR 99 to Stewart	2	1	35	0	410	0	0	B-C
Barnett Rd	WB	Stewart to OR 99	2	1	35	0	700	0	1	C
OR 99	NB	Stewart to Barnett	2	1	35	0	1170	0	1	C
OR 99	SB	Barnett to Stewart	2	1	35	0	820	0	1	B-C
Stewart	EB	Myers to OR 99	2	1	35	0	1165	0	1	C
Stewart	WB	OR 99 to Myers	2	1	35	0	825	0	1	C
OR 99	NB	Garfield to Stewart	2	1	45	1	1320	0	1	E
OR 99	SB	Stewart to Garfield	2	0	45	1	880	0	1	E
Garfield	EB	Anton to OR 99	2	1	40	1	865	0	1	E
Garfield	WB	OR 99 to Anton	2	1	40	1	590	0	1	E
OR 99	NB	Charlotte Ann to Garfield	2	1	45	1	1235	0	1	E
OR 99	SB	Garfield to Charlotte Ann	2	0	45	1	885	0	1	E
Garfield	EB	OR 99 to Center	2	1	35	0	1550	1	0	E
Garfield	WB	Center to OR 99	2	1	35	0	1365	0	1	C
Center	NB	Garfield to Rogue Credit Union Ln	2	1	30	0	560	0	1	C
Center	SB	Rogue Credit Union Ln. to Garfield	1	1	30	0	355	0	0	B
Center	NB	Parking to Garfield	1	1	25	0	60	0	0	B
Center	SB	Garfield to Parking	1	0	25	0	120	0	0	B-C
Garfield	EB	Center to SPUI	2	1	35	0	1690	1	0	E
Garfield	WB	SPUI to Center	2	1	35	0	1770	1	0	E
Highland	NB	SPUI to Barnett	2	1	35	0	1890	1	0	E
Highland	SB	Barnett to SPUI	2	1	35	0	1560	1	0	E
Barnett Rd	EB	Alba to Highland	2	1	35	0	920	0	1	C
Barnett Rd	WB	Highland to Alba	2	1	35	0	825	0	1	C
Barnett Rd	EB	Stewart to Alba	2	1	35	0	910	0	1	C
Barnett Rd	WB	Alba to Stewart	2	1	35	0	830	0	1	C
Highland	NB	Barnett to Greenwood	1	1	35	0	710	0	1	B
Highland	SB	Greenwood to Barnett	2	1	35	0	815	0	1	C
Barnett Rd	EB	Highland to Ellendale	2	1	35	0	2135	1	0	E
Barnett Rd	WB	Ellendale to Highland	2	1	35	0	1605	1	0	E
Barnett Rd	EB	Ellendale to Hilldale	2	1	35	0	2055	1	0	E
Barnett Rd	WB	Hilldale to Ellendale	2	1	35	0	1475	0	1	C
Ellendale	NB	Hospitality Way to Barnett	1	1	25	0	155	0	0	B
Ellendale	SB	Barnett to Hospitality Way	1	1	25	0	190	0	0	B
Ellendale	NB	Barnett to Crestbrook	1	0	25	0	65	0	0	B-C
Ellendale	SB	Crestbrook to Barnett	1	0	25	0	150	0	0	B-C
Alba	NB	Barnett to Road's end	1	1	25	0	20	0	0	B
Alba	SB	Road's end to Barnett	1	1	25	0	35	0	0	B
Stewart	NB	OR 99 to Center	2	1	35	0	715	0	1	C
Stewart	SB	Center to OR 99	2	1	35	0	285	0	0	B-C
Stewart	NB	Center to Barnett	2	1	35	0	700	0	1	C
Stewart	SB	Barnett to Center	2	1	35	0	330	0	0	B-C

Figure C-2: Future No Build PM Peak Hour Pedestrian Segment MMLOS

Roadway	Dir	From-To	Number of Lanes	Sidewalk Width	Speed Limit (mph)	Speed Factor	PM Peak Hr Volume	Directional Volume Factor		Final LOS
								High	Medium	
Barnett Rd	EB	OR 99 to Stewart	2	1	35	0	965	0	1	C
Barnett Rd	WB	Stewart to OR 99	2	1	35	0	1025	0	1	C
OR 99	NB	Stewart to Barnett	2	1	35	0	1390	0	1	C
OR 99	SB	Barnett to Stewart	2	1	35	0	1420	0	1	C
Stewart	EB	Myers to OR 99	2	1	35	0	1060	0	1	C
Stewart	WB	OR 99 to Myers	2	1	35	0	1345	0	1	C
OR 99	NB	Garfield to Stewart	2	1	45	1	1530	1	0	E
OR 99	SB	Stewart to Garfield	2	0	45	1	1385	0	1	E
Garfield	EB	Anton to OR 99	2	1	40	1	750	0	1	E
Garfield	WB	OR 99 to Anton	2	1	40	1	765	0	1	E
OR 99	NB	Charlotte Ann to Garfield	2	1	45	1	1715	1	0	E
OR 99	SB	Garfield to Charlotte Ann	2	0	45	1	1645	1	0	F
Garfield	EB	OR 99 to Center	2	1	35	0	1405	0	1	C
Garfield	WB	Center to OR 99	2	1	35	0	1495	0	1	C
Center	NB	Garfield to Rogue Credit Union Ln	2	1	30	0	835	0	1	C
Center	SB	Rogue Credit Union Ln. to Garfield	1	1	30	0	975	0	1	B
Center	NB	Parking to Garfield	1	1	25	0	145	0	0	B
Center	SB	Garfield to Parking	1	0	25	0	200	0	0	B-C
Garfield	EB	Center to SPUI	2	1	35	0	1900	1	0	E
Garfield	WB	SPUI to Center	2	1	35	0	1905	1	0	E
Highland	NB	SPUI to Barnett	2	1	35	0	1675	1	0	E
Highland	SB	Barnett to SPUI	2	1	35	0	1970	1	0	E
Barnett Rd	EB	Alba to Highland	2	1	35	0	1135	0	1	C
Barnett Rd	WB	Highland to Alba	2	1	35	0	1255	0	1	C
Barnett Rd	EB	Stewart to Alba	2	1	35	0	1115	0	1	C
Barnett Rd	WB	Alba to Stewart	2	1	35	0	1240	0	1	C
Highland	NB	Barnett to Greenwood	1	1	35	0	930	0	1	B
Highland	SB	Greenwood to Barnett	2	1	35	0	1030	0	1	C
Barnett Rd	EB	Highland to Ellendale	2	1	35	0	1600	1	0	E
Barnett Rd	WB	Ellendale to Highland	2	1	35	0	1915	1	0	E
Barnett Rd	EB	Ellendale to Hilldale	2	1	35	0	1425	0	1	C
Barnett Rd	WB	Hilldale to Ellendale	2	1	35	0	1765	1	0	E
Ellendale	NB	Hospitality Way to Barnett	1	1	25	0	260	0	0	B
Ellendale	SB	Barnett to Hospitality Way	1	1	25	0	295	0	0	B
Ellendale	NB	Barnett to Crestbrook	1	0	25	0	75	0	0	B-C
Ellendale	SB	Crestbrook to Barnett	1	0	25	0	85	0	0	B-C
Alba	NB	Barnett to Road's end	1	1	25	0	55	0	0	B
Alba	SB	Road's end to Barnett	1	1	25	0	60	0	0	B
Stewart	NB	OR 99 to Center	2	1	35	0	655	0	1	C
Stewart	SB	Center to OR 99	2	1	35	0	765	0	1	C
Stewart	NB	Center to Barnett	2	1	35	0	605	0	1	C
Stewart	SB	Barnett to Center	2	1	35	0	670	0	1	C

Bicycle MMLOS

Number of lanes = 1 for one directional lane, 2 for >1 directional lanes
Bicycle Lane/Shoulder Presence = 1 if bicycle lane or paved shoulder $\geq 4'$ is present;
otherwise 0
Speed Limit = 1 if posted speed ≤ 30 mph; otherwise 2
Unsignalized Conflicts = 1 if there are any unsignalized intersection
or driveway conflicts (on analysis side); otherwise 0

Figure C-3: Future No Build AM Peak Hour Bicycle Segment MMLOS

Roadway	Dir	From-To	Number of Lanes	Bicycle Lane / Shoulder Presence	Speed Limit	Unsignalized Conflicts	Final LOS
Barnett Rd	EB	OR 99 to Stewart	2	1	2	1	E-F
Barnett Rd	WB	Stewart to OR 99	2	1	2	1	E-F
OR 99	NB	Stewart to Barnett	2	0	2	1	F
OR 99	SB	Barnett to Stewart	2	0	2	1	F
Stewart	EB	Myers to OR 99	2	0	2	0	F
Stewart	WB	OR 99 to Myers	2	0	2	1	F
OR 99	NB	Garfield to Stewart	2	1	2	1	E-F
OR 99	SB	Stewart to Garfield	2	1	2	1	E-F
Garfield	EB	Anton to OR 99	2	1	2	0	C-E
Garfield	WB	OR 99 to Anton	2	1	2	0	C-E
OR 99	NB	Charlotte Ann to Garfield	2	1	2	1	E-F
OR 99	SB	Garfield to Charlotte Ann	2	1	2	0	C-E
Garfield	EB	OR 99 to Center	2	1	2	0	C-E
Garfield	WB	Center to OR 99	2	1	2	0	C-E
Center	NB	Garfield to Rogue Credit Union Ln	2	1	1	0	B
Center	SB	Rogue Credit Union Ln. to Garfield	1	1	1	0	B
Center	NB	Parking to Garfield	1	0	1	0	C
Center	SB	Garfield to Parking	1	0	1	0	C
Garfield	EB	Center to SPUI	2	1	2	0	C-E
Garfield	WB	SPUI to Center	2	1	2	0	C-E
Highland	NB	SPUI to Barnett	2	1	2	0	C-E
Highland	SB	Barnett to SPUI	2	1	2	0	C-E
Barnett Rd	EB	Alba to Highland	2	1	2	1	E-F
Barnett Rd	WB	Highland to Alba	2	1	2	1	E-F
Barnett Rd	EB	Stewart to Alba	2	1	2	0	C-E
Barnett Rd	WB	Alba to Stewart	2	1	2	0	C-E
Highland	NB	Barnett to Greenwood	1	1	2	1	C-D
Highland	SB	Greenwood to Barnett	2	1	2	1	E-F
Barnett Rd	EB	Highland to Ellendale	2	1	2	1	E-F
Barnett Rd	WB	Ellendale to Highland	2	1	2	1	E-F
Barnett Rd	EB	Ellendale to Hilldale	2	0	2	1	F
Barnett Rd	WB	Hilldale to Ellendale	2	0	2	1	F
Ellendale	NB	Hospitality Way to Barnett	1	0	1	1	C
Ellendale	SB	Barnett to Hospitality Way	1	0	1	1	C
Ellendale	NB	Barnett to Crestbrook	1	0	1	1	C
Ellendale	SB	Crestbrook to Barnett	1	0	1	1	C
Alba	NB	Barnett to Road's end	1	0	1	1	C
Alba	SB	Road's end to Barnett	1	0	1	1	C
Stewart	NB	OR 99 to Center	2	0	2	1	F
Stewart	SB	Center to OR 99	2	0	2	1	F
Stewart	NB	Center to Barnett	2	1	2	1	E-F
Stewart	SB	Barnett to Center	2	1	2	1	E-F

Figure C-4: Future No Build PM Peak Hour Bicycle Segment MMLOS

Roadway	Dir	From-To	Number of Lanes	Bicycle Lane / Shoulder	Speed Limit	Unsignalized Conflicts	Final LOS
Barnett Rd	EB	OR 99 to Stewart	2	1	2	1	E-F
Barnett Rd	WB	Stewart to OR 99	2	1	2	1	E-F
OR 99	NB	Stewart to Barnett	2	0	2	1	F
OR 99	SB	Barnett to Stewart	2	0	2	1	F
Stewart	EB	Myers to OR 99	2	0	2	0	F
Stewart	WB	OR 99 to Myers	2	0	2	1	F
OR 99	NB	Garfield to Stewart	2	1	2	1	E-F
OR 99	SB	Stewart to Garfield	2	1	2	1	E-F
Garfield	EB	Anton to OR 99	2	1	2	0	C-E
Garfield	WB	OR 99 to Anton	2	1	2	0	C-E
OR 99	NB	Charlotte Ann to Garfield	2	1	2	1	E-F
OR 99	SB	Garfield to Charlotte Ann	2	1	2	0	C-E
Garfield	EB	OR 99 to Center	2	1	2	0	C-E
Garfield	WB	Center to OR 99	2	1	2	0	C-E
Center	NB	Garfield to Rogue Credit Union Ln	2	1	1	0	B
Center	SB	Rogue Credit Union Ln. to Garfield	1	1	1	0	B
Center	NB	Parking to Garfield	1	0	1	0	C
Center	SB	Garfield to Parking	1	0	1	0	C
Garfield	EB	Center to SPUI	2	1	2	0	C-E
Garfield	WB	SPUI to Center	2	1	2	0	C-E
Highland	NB	SPUI to Barnett	2	1	2	0	C-E
Highland	SB	Barnett to SPUI	2	1	2	0	C-E
Barnett Rd	EB	Alba to Highland	2	1	2	1	E-F
Barnett Rd	WB	Highland to Alba	2	1	2	1	E-F
Barnett Rd	EB	Stewart to Alba	2	1	2	0	C-E
Barnett Rd	WB	Alba to Stewart	2	1	2	0	C-E
Highland	NB	Barnett to Greenwood	1	1	2	1	C-D
Highland	SB	Greenwood to Barnett	2	1	2	1	E-F
Barnett Rd	EB	Highland to Ellendale	2	1	2	1	E-F
Barnett Rd	WB	Ellendale to Highland	2	1	2	1	E-F
Barnett Rd	EB	Ellendale to Hilldale	2	0	2	1	F
Barnett Rd	WB	Hilldale to Ellendale	2	0	2	1	F
Ellendale	NB	Hospitality Way to Barnett	1	0	1	1	C
Ellendale	SB	Barnett to Hospitality Way	1	0	1	1	C
Ellendale	NB	Barnett to Crestbrook	1	0	1	1	C
Ellendale	SB	Crestbrook to Barnett	1	0	1	1	C
Alba	NB	Barnett to Road's end	1	0	1	1	C
Alba	SB	Road's end to Barnett	1	0	1	1	C
Stewart	NB	OR 99 to Center	2	0	2	1	F
Stewart	SB	Center to OR 99	2	0	2	1	F
Stewart	NB	Center to Barnett	2	1	2	1	E-F
Stewart	SB	Barnett to Center	2	1	2	1	E-F

Transit MMLOS

Route(s)	No service if no transit routes on that segment
Schedule Speed (mph)	calculated from distance, schedule time between stops, where more than one route, weighted average was calculated
Frequency (veh/hr)	is determined from schedule rather than on the ground number of vehicles. Routes on the same links were assumed to duplicate schedules, route frequency was the highest frequency of the route(s) on a given segment.
Headway factor	is calculated from Frequency.

Passenger Load factor = 1.00
Threshold Late Time = 5.0 minutes
Percent arrival on-time = 0.75

Figure C-5: Future No Build AM Peak Hour Transit Segment MMLoS

Roadway	Dir	From-To	Route(s)	Schedule Speed (mph)	Frequency (veh/hr)	Headway Factor	Pedestrian LOS	Transit LOS
							Score	
<i>(Enter description on Pedestrian tab)</i>								
Barnett Rd	EB	OR 99 to Stewart	24x	14.80	6	3.15	2.50	B
Barnett Rd	WB	Stewart to OR 99	24x	14.80	6	3.15	3.00	B
OR 99	NB	Stewart to Barnett	1x, 10x	19.78	6	3.15	3.00	A
OR 99	SB	Barnett to Stewart	1x, 10x	19.78	6	3.15	2.50	A
Stewart	EB	Myers to OR 99	29	14.57	2	1.95	3.00	D
Stewart	WB	OR 99 to Myers	No service	0.00	0	0.00	3.00	No service
OR 99	NB	Garfield to Stewart	10x	15.00	6	3.15	5.00	B
OR 99	SB	Stewart to Garfield	10x	15.00	6	3.15	5.00	B
Garfield	EB	Anton to OR 99	No service	0.00	0	0.00	5.00	No service
Garfield	WB	OR 99 to Anton	29	14.57	2	1.95	5.00	D
OR 99	NB	Charlotte Ann to Garfield	10x	15.00	6	3.15	5.00	B
OR 99	SB	Garfield to Charlotte Ann	10x	15.00	6	3.15	5.00	B
Garfield	EB	OR 99 to Center	No service	0.00	0	0.00	5.00	No service
Garfield	WB	Center to OR 99	29	14.57	2	1.95	3.00	D
Center	NB	Garfield to Rogue Credit Union Ln	1x	24.56	1	0.95	3.00	E
Center	SB	Rogue Credit Union Ln. to Garfield	29,24,1x	17.34	3	2.48	2.00	B
Center	NB	Parking to Garfield	No service	0.00	0	0.00	2.00	No service
Center	SB	Garfield to Parking	No service	0.00	0	0.00	2.50	No service
Garfield	EB	Center to SPUI	24, 1x	18.72	3	2.48	5.00	C
Garfield	WB	SPUI to Center	1x	24.56	1	0.95	5.00	F
Highland	NB	SPUI to Barnett	24	12.89	3	2.48	5.00	C
Highland	SB	Barnett to SPUI	No service	0.00	0	0.00	5.00	No service
Barnett Rd	EB	Alba to Highland	24x	14.80	6	3.15	3.00	B
Barnett Rd	WB	Highland to Alba	24, 24x	13.84	6	3.15	3.00	B
Barnett Rd	EB	Stewart to Alba	24x	14.80	6	3.15	3.00	B
Barnett Rd	WB	Alba to Stewart	24, 24x	13.84	6	3.15	3.00	B
Highland	NB	Barnett to Greenwood	No service	0.00	0	0.00	2.00	No service
Highland	SB	Greenwood to Barnett	No service	0.00	0	0.00	3.00	No service
Barnett Rd	EB	Highland to Ellendale	24, 24x	13.84	6	3.15	5.00	B
Barnett Rd	WB	Ellendale to Highland	24, 24x	13.84	6	3.15	5.00	B
Barnett Rd	EB	Ellendale to Hilldale	24, 24x	13.84	6	3.15	5.00	B
Barnett Rd	WB	Hilldale to Ellendale	24, 24x	13.84	6	3.15	3.00	B
Ellendale	NB	Hospitality Way to Barnett	No service	0.00	0	0.00	2.00	No service
Ellendale	SB	Barnett to Hospitality Way	No service	0.00	0	0.00	2.00	No service
Ellendale	NB	Barnett to Crestbrook	No service	0.00	0	0.00	2.50	No service
Ellendale	SB	Crestbrook to Barnett	No service	0.00	0	0.00	2.50	No service
Alba	NB	Barnett to Road's end	No service	0.00	0	0.00	2.00	No service
Alba	SB	Road's end to Barnett	No service	0.00	0	0.00	2.00	No service
Stewart	NB	OR 99 to Center	1x, 29	19.57	2	1.95	3.00	C
Stewart	SB	Center to OR 99	1x	24.56	1	0.95	2.50	E
Stewart	NB	Center to Barnett	No service	0.00	0	0.00	3.00	No service
Stewart	SB	Barnett to Center	24	12.89	3	2.48	2.50	C

Figure C-6: Future No Build PM Peak Hour Transit Segment MMLOS

Roadway	Dir	From-To	Route(s)	Schedule Speed	Frequency (veh/hr)	Headway Factor	Transit LOS
<i>(Enter description on Pedestrian tab)</i>							
Barnett Rd	EB	OR 99 to Stewart	24x	14.80	6	3.15	B
Barnett Rd	WB	Stewart to OR 99	24x	14.80	6	3.15	B
OR 99	NB	Stewart to Barnett	1x, 10x	19.78	6	3.15	A
OR 99	SB	Barnett to Stewart	1x, 10x	19.78	6	3.15	A
Stewart	EB	Myers to OR 99	29	14.57	1	0.95	F
Stewart	WB	OR 99 to Myers	No service	0.00	0	0.00	No service
OR 99	NB	Garfield to Stewart	10x	15.00	6	3.15	B
OR 99	SB	Stewart to Garfield	10x	15.00	6	3.15	B
Garfield	EB	Anton to OR 99	No service	0.00	0	0.00	No service
Garfield	WB	OR 99 to Anton	29	14.57	1	0.95	F
OR 99	NB	Charlotte Ann to Garfield	10x	15.00	6	3.15	B
OR 99	SB	Garfield to Charlotte Ann	10x	15.00	6	3.15	B
Garfield	EB	OR 99 to Center	No service	0.00	0	0.00	No service
Garfield	WB	Center to OR 99	29	14.57	1	0.95	F
Center	NB	Garfield to Rogue Credit Union Ln	1x	24.56	2	1.95	C
Center	SB	Rogue Credit Union Ln. to Garfield	29,24,1x	17.34	3	2.48	B
Center	NB	Parking to Garfield	No service	0.00	0	0.00	No service
Center	SB	Garfield to Parking	No service	0.00	0	0.00	No service
Garfield	EB	Center to SPUI	24, 1x	18.72	3	2.48	C
Garfield	WB	SPUI to Center	1x	24.56	2	1.95	D
Highland	NB	SPUI to Barnett	24	12.89	3	2.48	C
Highland	SB	Barnett to SPUI	No service	0.00	0	0.00	No service
Barnett Rd	EB	Alba to Highland	24x	14.80	6	3.15	B
Barnett Rd	WB	Highland to Alba	24, 24x	13.84	6	3.15	B
Barnett Rd	EB	Stewart to Alba	24x	14.80	6	3.15	B
Barnett Rd	WB	Alba to Stewart	24, 24x	13.84	6	3.15	B
Highland	NB	Barnett to Greenwood	No service	0.00	0	0.00	No service
Highland	SB	Greenwood to Barnett	No service	0.00	0	0.00	No service
Barnett Rd	EB	Highland to Ellendale	24, 24x	13.84	6	3.15	B
Barnett Rd	WB	Ellendale to Highland	24, 24x	13.84	6	3.15	B
Barnett Rd	EB	Ellendale to Hilldale	24, 24x	13.84	6	3.15	B
Barnett Rd	WB	Hilldale to Ellendale	24, 24x	13.84	6	3.15	B
Ellendale	NB	Hospitality Way to Barnett	No service	0.00	0	0.00	No service
Ellendale	SB	Barnett to Hospitality Way	No service	0.00	0	0.00	No service
Ellendale	NB	Barnett to Crestbrook	No service	0.00	0	0.00	No service
Ellendale	SB	Crestbrook to Barnett	No service	0.00	0	0.00	No service
Alba	NB	Barnett to Road's end	No service	0.00	0	0.00	No service
Alba	SB	Road's end to Barnett	No service	0.00	0	0.00	No service
Stewart	NB	OR 99 to Center	1x, 29	19.57	2	1.95	C
Stewart	SB	Center to OR 99	1x	24.56	2	1.95	C
Stewart	NB	Center to Barnett	No service	0.00	0	0.00	No service
Stewart	SB	Barnett to Center	24	12.89	3	2.48	C

Contact Information

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