

Round 2 Combination Mode Alternatives
Initial Alternatives Identification and Evaluation Report

May 2012

APPENDIX G

Summary of Round 2 Combination Mode Evaluation Results

I-290 Phase I Study
Round 2 - Combination Mode Alternatives
Purpose and Need Evaluation Measures
 May 29, 2012
DRAFT
 This is a draft document, and may be updated.

Higher or Lower
 value of measure desired

2040
 No Build +
 EXP

P&N	Measure	Score by Sum	Need Point Average Rank->	GP Lane		HOV 2+		HOT 3+		Toll		HOT 3+ & Toll												
				GP & EXP	GP & EXP & HCT	HOV 2+ & EXP	HOV 2+ & EXP & HCT	HOT 3+ & EXP	HOT 3+ & EXP & HCT	TOLL & EXP	TOLL & EXP & HCT	HOT 3+ & TOLL & EXP	HOT 3+ & TOLL & EXP & HCT											
		17.2	3	21.8	7	18.7	5	24.0	9	17.9	4	23.1	8	14.5	1	16.7	2	21.6	6	24.4	10			
Regional Travel	All Vehicles	1.3 I-290 Average Travel Time Changes (Peak Periods)	All Lanes % ↓	17.2 min	-5.4%	1	-7.9%	2	-11.8%	6	-10.8%	4	-12.4%	8	-11.8%	5	-12.0%	7	-8.9%	3	-34.6%	10	-34.5%	9
			HOV/HOT % ↓	-	-	**	-	**	-40.6%	**	-40.2%	**	-25.3%	**	-17.1%	**	-40.1%	**	-39.9%	**	-16.7%	**	-22.1%	**
		1.4 Daily Hours of Congestion (I-290 in Study Area)	GP Lanes hrs ↓	18.0	-1.00	8	-0.50	5	-0.75	7	-0.75	7	-0.50	5	-0.50	5	-0.25	2	-0.25	2	-8.50	10	-8.25	9
			HOV/HOT * hrs ↓	-	0.0	N/A	0.0	N/A	-14.5	N/A	-14.0	N/A	-12.5	N/A	-12.5	N/A	-12.0	N/A	-12.0	N/A	-12.0	N/A	-11.5	
		1.5 Daily Person Throughput (Daily thru Study Area)	(Daily thru # ↑	423,953	17,482	1	22,810	2	28,150	4	31,895	6	34,406	7	38,137	9	35,463	8	40,022	10	26,824	3	30,592	5
	1.6 Vehicle Miles of Travel (Daily VMT)	miles ↓	233,263,703	31,249	9	68,884	7	42,619	8	24,144	10	105,057	5	113,918	3	148,191	2	155,759	1	81,709	6	107,482	4	
	1.7 Vehicle Hours of Travel (Daily VHT)	hours ↓	10,319,255	-19,415	7	-28,554	10	-20,250	8	-23,232	9	-8,970	3	-12,886	5	-5,795	2	-1,225	1	-17,613	6	-11,715	4	
	1.8 Congested VMT (Daily)	miles ↓	17,937,393	-56,395	2	-76,738	8	-67,995	7	-59,370	3	-62,872	6	-59,812	4	-62,468	5	-41,955	1	-95,328	10	-88,684	9	
	1.9 Hours of Delay (Daily)	hours ↓	5,237,381	-17,454	6	-26,852	10	-19,713	7	-22,163	9	-8,916	3	-12,816	4	-6,897	2	-2,346	1	-21,298	8	-16,115	5	
	Trucks	1.10 Truck Miles of Travel (TMT)	miles ↓	44,488,408	2,528	2	6,303	1	-3,358	7	-2,209	3	-2,739	4	-2,980	5	-5,016	8	-3,256	6	-11,082	10	-10,314	9
1.11 Truck Hours of Travel (THT)		hours ↓	1,746,489	-3,636	8	-4,483	9	-1,942	5	-2,395	6	-893	3	-1,726	4	183	2	934	1	-4,582	10	-2,986	7	
1.12 Congested TMT		miles ↓	2,353,496	-9,612	6	-12,389	8	-7,894	4	-7,662	3	-9,335	5	-11,809	7	-5,526	2	-4,936	1	-21,456	10	-18,410	9	
1.13 Truck Hours of Delay		hours ↓	856,318	-3,312	7	-4,220	9	-1,851	5	-2,368	6	-812	3	-1,693	4	195	2	922	1	-5,236	10	-3,646	8	
Local Travel	Arterials	1.16 Peak Period Speed	East-West Arterials mph ↑	18.49	0.47	9	0.47	10	0.37	8	0.36	7	0.21	6	0.20	5	0.10	4	0.09	3	-0.33	1	-0.32	2
		1.17 Peak Period Speed	North-South Arterials mph ↑	17.20	0.01	4	0.05	7	-0.01	2	0.14	10	0.01	3	0.11	9	0.06	8	0.01	5	-0.06	1	0.03	6
	1.18 Vehicle Miles of Travel (VMT)	miles ↓	3,381,655	-67,378	9	-77,451	10	-36,511	5	-43,604	8	-40,146	6	-43,110	7	-22,289	3	-25,257	4	73,639	2	74,412	1	
	1.19 Vehicle Hours of Travel (VHT)	hours ↓	211,807	-6,267	9	-7,650	10	-5,271	6	-6,061	8	-5,191	5	-5,548	7	-3,389	3	-3,819	4	2,080	2	2,256	1	
	1.20 Congested VMT	miles ↓	239,165	-15,193	5	-19,481	10	-15,354	6	-17,393	9	-15,935	7	-16,437	8	-11,529	3	-12,346	4	-3,468	1	-3,659	2	
	1.21 Hours of Delay	hours ↓	101,880	-4,014	6	-5,093	10	-4,018	7	-4,581	9	-3,865	5	-4,126	8	-2,647	3	-2,996	4	-196	2	-50	1	
Improve Regional And Local Travel				Need Point Average Rank	5.8	5	7.5	10	6.0	7	6.9	9	4.9	3	5.8	5	3.9	2	3.1	1	6.0	7	5.4	4
Access to Employment	# of Jobs Accessible within 60 min.:																							
	2.1	Auto	# ↑	5,219,479	-60,229	1	6,141	4	-4,371	2	-4,371	2	14,167	6	21,257	8	13,846	5	15,603	7	75,626	9	90,099	10
	2.2	Transit	# ↑	4,006,033	66,783	6	55,805	1	66,783	6	55,805	1	66,783	6	55,805	1	66,783	6	55,805	1	66,783	6	55,805	1
	2.3	Transit & Auto	# ↑	9,225,512	6,554	1	61,946	3	62,412	4	51,434	2	80,950	8	77,062	6	80,629	7	71,408	5	142,409	9	145,904	10
Improve Access to Employment				Need Point Average Rank	2.7	2	2.7	2	4.0	4	1.7	1	6.7	8	5.0	6	6.0	7	4.3	5	8.0	10	7.0	9
Safety	Injuries and Fatality Rates % Change:																							
	3.1	Arterial	million vehicle miles/year ↓	0.519	0.00%	8	-0.08%	10	0.04%	6	-0.08%	9	0.06%	4	0.01%	7	0.11%	3	0.06%	5	0.21%	1	0.14%	2
	3.2	Expressway	million vehicle miles/year ↓	0.219	-9.19%	6	-8.60%	1	-10.72%	8	-10.55%	7	-9.00%	5	-8.83%	3	-8.98%	4	-8.72%	2	-13.88%	10	-13.70%	9
	3.3	Overall (Arterial, Highway, Transit)	million person miles/year ↓	0.310	-5.31%	1	-5.76%	2	-7.68%	9	-8.45%	10	-6.92%	4	-7.60%	8	-6.49%	3	-7.11%	6	-6.96%	5	-7.44%	7
Improve Safety for All Users				Need Point Average Rank	5.0	5	4.3	2	7.7	9	8.7	10	4.3	2	6.0	7	3.3	1	4.3	2	5.3	6	6.0	7
Modal Connections & Opportunities	4.1	New Transit Trips (Regional)	# ↑	2,009,178	-178	9	1,302	10	-6,080	1	-2,390	8	-3,706	4	-2,400	7	-5,221	2	-3,765	3	-3,125	5	-2,580	6
	4.2.1	0.5 Mile Transit Access	Households # ↑	-	0	1	4,585	6	0	1	4,585	6	0	1	4,585	6	0	1	4,585	6	0	1	4,585	6
	4.2.2		Employment # ↑	-	0	1	19,397	6	0	1	19,397	6	0	1	19,397	6	0	1	19,397	6	0	1	19,397	6
	4.3	Non-motorized Connections	(qualitative) ↑	-	✓	**	✓	**	✓	**	✓	**	✓	**	✓	**	✓	**	✓	**	✓	**	✓	**
	4.4	Multimodal Opportunities	(qualitative) ↑	-	✓	**	✓	**	✓	**	✓	**	✓	**	✓	**	✓	**	✓	**	✓	**	✓	**
Improve Modal Connections & Opportunities				Need Point Average Rank	3.7	5	7.3	10	1.0	1	6.7	9	2.0	3	6.3	8	1.3	2	5.0	6	2.3	4	6.0	7
Facility Condition & Design	5.1	Address Pavement Age	(qualitative) ↑	-	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓	
	5.2	Address Structure Deficiencies	(qualitative) ↑	-	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓	
	5.3	Address Geometric Deficiencies	(qualitative) ↑	-	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓	
	5.4	Address ADA Deficiencies	(qualitative) ↑	-	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓	
	5.5	Address Drainage Deficiencies	(qualitative) ↑	-	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓	
Improve Facility Condition and Design				Need Point Average Rank	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓	

Color Legend:

1st	2nd	3rd	4th
Rank 10	Rank 9	Rank 8	Rank 7

Worsened * Provided for information only, not included in scoring.
 **For information