

## **2035 LRTP and CTP Alternatives – Evaluation Measures**

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### **Purpose of Evaluation Measures**

Evaluation Measures are very similar to Performance Measures. Evaluation Measures indicate the general performance of a transportation system and therefore are useful for comparing the efficiency and effectiveness of the different transportation Alternatives. All of the data used for calculating the Evaluation Measures comes from the Triangle Regional Model. The Evaluation Measures provides a more detailed set of statistics than the Performance Measures.

The tables in this section are presented in the same order as the Performance Measures in the preceding pages. The only significant difference in the format will be:

- The Performance Measures compares the Alternatives' values to a set of Targets, while the Evaluation Measures compares the Alternatives' values to the E+C values. The E+C is composed of a transportation network of the existing and committed highway and transit facilities, and the 2035 socioeconomic data (i.e., population and employment in the year 2035). Thus, the E+C serves as a benchmark for comparing how much the evaluation measures improve with the transportation investments in the different Alternatives.
- The Evaluation Measures table has columns in the right-hand side that calculate the difference between the E+C and Alternatives values.

Please note that there are two pages for each Evaluation Measure table.

## DCHC MPO Alternatives

### Evaluation Measures -- Baseline vs. E+C

1	Measures	2035 E+C	Baseline SE Data					(Percent change from 2035 E+C)					
			CTP	Highway	Fixed Guideway	Bus Transit	Mod. Multi.	CTP	Highway	Fixed Guideway	Bus Transit	Mod. Multi.	
1	<b>Performance Measures</b>												
1.1	Total VMT (daily)	17,397,077	17,204,339	17,703,440	17,333,966	17,366,268	17,264,268	-1%	2%	0%	0%	-1%	
1.2	Total VHT (daily)	459,072	388,572	401,467	422,181	423,072	417,458	-15%	-13%	-8%	-8%	-9%	
1.3	Average Speed by Facility (miles/hour)												
1.3.1	- Freeway	57	61	61	59	59	59	7%	6%	4%	4%	4%	
1.3.2	- Arterial	36	40	40	38	38	38	13%	13%	6%	6%	6%	
1.3.3	- All Facility	45	49	49	47	47	48	11%	11%	6%	6%	7%	
1.4	Peak Average Speed by Facility (miles/hour)												
1.4.1	- Freeway	54	60	59	58	57	57	10%	9%	6%	6%	6%	
1.4.2	- Arterial	34	39	39	36	36	36	17%	16%	8%	8%	8%	
1.4.3	- All Facility	42	48	48	45	45	46	14%	14%	7%	7%	8%	
1.5	Average Travel Time - All Trips	17	16	16	16	16	17	-5%	-6%	-4%	-4%	-4%	
1.6	Average Travel Time - Work Trips	26	23	23	23	23	23	-13%	-12%	-9%	-9%	-9%	
1.7	Peak Average Travel Time - All Trips	21	19	19	19	19	19	-9%	-10%	-7%	-7%	-6%	
1.8	Hours of Delay (daily)	112,862	54,365	58,666	81,929	82,216	79,980	-52%	-48%	-27%	-27%	-29%	
1.8.1	CV Hours of Delay (daily)	4,580	2,329	2,566	3,551	3,563	3,377	-49%	-44%	-22%	-22%	-26%	
1.9	Percent of VMT experiencing congestion - All Day												
1.9.1	- Freeway	5.8%	1.9%	1.8%	2.9%	3.3%	3.0%	-67%	-69%	-50%	-43%	-48%	
1.9.2	- Arterial	9.2%	2.2%	2.6%	5.2%	5.3%	5.3%	-76%	-72%	-43%	-42%	-42%	
1.9.3	- All Facility	6.4%	1.8%	1.9%	3.5%	3.7%	3.5%	-72%	-70%	-45%	-42%	-45%	
1.10.	Percent of VMT experiencing congestion - Peak												
1.10.1	- Freeway	10.5%	3.2%	2.9%	5.0%	5.7%	5.0%	-70%	-72%	-52%	-46%	-52%	
1.10.2	- Arterial	13.8%	3.1%	3.4%	7.4%	7.6%	7.5%	-78%	-75%	-46%	-45%	-46%	
1.10.3	- All Facility	10.4%	2.8%	2.8%	5.3%	5.7%	5.3%	-73%	-73%	-49%	-45%	-49%	
1.10.4	Degree of congestion (V/C >1) on designated truck routes	8.4%	2.0%	2.1%	5.5%	5.6%	5.0%	-76%	-75%	-35%	-33%	-40%	
1.10.5	Degree of congestion (V/C >1) on facilities w/bus routes	8.7%	2.1%	2.9%	4.3%	4.9%	4.1%	-76%	-67%	-51%	-44%	-53%	
2	<b>Mode Share Measures</b>												
2.1	Number Mode Choice - <u>All Trips</u>												
2.1.1	- Drive alone (single occupant vehicle -SOV)	1,660,787	1,644,098	1,669,973	1,635,486	1,638,253	1,656,077	-1%	1%	-2%	-1%	0%	
2.1.2	- Carpool (Share ride)	1,095,943	1,107,693	1,112,086	1,090,378	1,095,342	1,109,840	1%	1%	-1%	0%	1%	
2.1.3	- Bus	69,664	97,883	85,115	95,266	101,323	87,345	41%	22%	37%	45%	25%	
2.1.4	- Rail	-	14,086	-	11,752	-	-	0%	0%	0%	0%	0%	
2.1.5	- Non-Motorized (Bike and Walk)	206,552	206,971	206,969	206,616	206,616	206,533	0%	0%	0%	0%	0%	

## DCHC MPO Alternatives

### Evaluation Measures -- Baseline vs. E+C

	Measures	2035 E+C	Baseline SE Data					(Percent change from 2035 E+C)				
			CTP	Highway	Fixed Guideway	Bus Transit	Mod. Multi.	CTP	Highway	Fixed Guideway	Bus Transit	Mod. Multi.
2.2	Number Mode Choice - <u>Peak Hours</u>											
2.2.1	- Drive alone (single occupant vehicle -SOV)	834,496	833,192	844,070	823,194	824,154	831,906	0%	1%	-1%	-1%	0%
2.2.2	- Carpool (Share ride)	550,209	562,135	563,600	549,562	551,949	558,949	2%	2%	0%	0%	2%
2.2.3	- Bus	35,228	49,505	45,174	47,618	51,832	45,738	41%	28%	35%	47%	30%
2.2.4	- Rail	-	8,279	-	6,851	-	-	0%	0%	0%	0%	0%
2.2.5	- Non-Motorized (Bike and Walk)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2.3	Number Mode Choice - <u>Non Work Trips</u>											
2.3.1	- Drive alone (single occupant vehicle -SOV)	1,098,746	1,083,925	1,102,354	1,080,093	1,082,954	1,096,473	-1%	0%	-2%	-1%	0%
2.3.2	- Carpool (Share ride)	998,378	1,011,159	1,014,171	995,906	1,000,043	1,012,646	1%	2%	0%	0%	1%
2.3.3	- Bus	53,261	69,047	61,392	67,895	72,103	62,953	30%	15%	27%	35%	18%
2.3.4	- Rail	-	10,462	-	8,974	-	-	0%	0%	0%	0%	0%
2.3.5	- Non-Motorized (Bike and Walk)	199,646	200,049	200,047	199,712	199,712	199,632	0%	0%	0%	0%	0%
2.4	Daily Bicycle and Pedestrian Trips	206,552	206,971	206,969	206,616	206,616	206,533	0%	0%	0%	0%	0%
3	<b>Transit Measures</b>											
3.1	Average Weekday Transit Ridership											
3.1.1	- TTA (Including Rail)	4,900	37,963	7,649	29,079	9,084	8,181	675%	56%	493%	85%	67%
3.1.2	- CAT	22,874	20,676	26,059	37,936	39,493	22,512	-10%	14%	66%	73%	-2%
3.1.3	- CHT	44,990	71,431	55,560	67,194	65,020	55,113	59%	23%	49%	45%	23%
3.1.4	- DATA	23,312	68,911	38,099	66,833	66,704	47,937	196%	63%	187%	186%	106%
3.1.5	- NCSU	20,080	19,866	21,148	18,429	17,581	20,043	-1%	5%	-8%	-12%	0%
3.1.6	- DUKE	14,642	11,526	13,331	11,045	11,498	11,123	-21%	-9%	-25%	-21%	-24%
3.1.7	- C-Tran	1,557	4,648	1,441	5,515	4,816	2,528	199%	-7%	254%	209%	62%
3.1.8	Total	132,358	235,025	163,291	236,035	214,200	167,442	78%	23%	78%	62%	27%
3.2	Rail											
4	<b>Demographics Measures</b>											
4.1	Population	551,362	551,362	551,362	551,362	551,362	551,362	0%	0%	0%	0%	0%
4.2	Employment	389,249	389,249	389,249	389,249	389,249	389,249	0%	0%	0%	0%	0%
4.3	Total Daily Trips	3,032,947	3,070,733	3,074,145	3,039,499	3,041,534	3,059,795	1%	1%	0%	0%	1%
4.4	Total Daily Work Trips	682,913	696,088	696,180	686,918	686,721	688,090	2%	2%	1%	1%	1%
4.5	Total Daily Non-Work Trips	2,350,033	2,374,644	2,377,965	2,352,580	2,354,813	2,371,705	1%	1%	0%	0%	1%

**DCHC MPO Alternatives**

## Evaluation Measures -- CTP vs. E+C

	Measures	2035 E+C	Comprehensive Transportation Plan		(Percent change from 2035 E+C)	
			Baseline	Buildout	Baseline	Buildout
1	Performance Measures					
1.1	Total VMT (daily)	17,397,077	17,204,339	25,987,013	-1%	49%
1.2	Total VHT (daily)	459,072	388,572	740,388	-15%	61%
1.3	Average Speed by Facility (miles/hour)					
1.3.1	- Freeway	57	61	53	7%	-7%
1.3.2	- Arterial	36	40	35	13%	0%
1.3.3	- All Facility	45	49	43	11%	-4%
1.4	Peak Average Speed by Facility (miles/hour)					
1.4.1	- Freeway	54	60	49	10%	-9%
1.4.2	- Arterial	34	39	33	17%	-3%
1.4.3	- All Facility	42	48	39	14%	-7%
1.5	Average Travel Time - All Trips	17.2	16	18	-5%	6%
1.6	Average Travel Time - Work Trips	25.8	23	26	-13%	0%
1.7	Peak Average Travel Time - All Trips	20.5	19	22	-9%	6%
1.8	Hours of Delay (daily)	112,862	54,365	228,383	-52%	102%
1.8.1	CV Hours of Delay (daily)	4,580	2,329	10,258	-49%	124%
1.9	Percent of VMT experiencing congestion - All Day					
1.9.1	- Freeway	5.8%	1.9%	11.6%	-67%	100%
1.9.2	- Arterial	9.2%	2.2%	10.6%	-76%	15%
1.9.3	- All Facility	6.4%	1.8%	10.4%	-72%	63%
1.10.	Percent of VMT experiencing congestion - Peak					
1.10.1	- Freeway	10.5%	3.2%	17.1%	-70%	63%
1.10.2	- Arterial	13.8%	3.1%	16.7%	-78%	21%
1.10.3	- All Facility	10.4%	2.8%	15.9%	-73%	53%
1.10.4	Degree of congestion (V/C >1) on designated truck routes	8.4%	2.0%	11.1%	-76%	32%
1.10.5	Degree of congestion (V/C >1) on facilities w/bus routes	8.7%	2.1%	11.4%	-76%	31%
2	Mode Share Measures					
2.1	Number Mode Choice - All Trips					
2.1.1	- Drive alone (single occupant vehicle -SOV)	1,660,787	1,644,098	2,358,740	-1%	42%
2.1.2	- Carpool (Share ride)	1,095,943	1,107,693	1,571,327	1%	43%
2.1.3	- Bus	69,664	97,883	89,791	41%	29%
2.1.4	- Rail		14,086	14,776		
2.1.5	- Non-Motorized (Bike and Walk)	206,552	206,971	349,685	0%	69%

**DCHC MPO Alternatives**

## Evaluation Measures -- CTP vs. E+C

	Measures	2035 E+C	Comprehensive Transportation Plan		(Percent change from 2035 E+C)	
			Baseline	Buildout	Baseline	Buildout
2.2	Number Mode Choice - Peak Hours					
2.2.1	- Drive alone (single occupant vehicle -SOV)	834,496	833,192	1,224,859	0%	47%
2.2.2	- Carpool (Share ride)	550,209	562,135	799,873	2%	45%
2.2.3	- Bus	35,228	49,505	44,740	41%	27%
2.2.4	- Rail	0	8,279	8,716		
2.2.5	- Non-Motorized (Bike and Walk)	N/A	N/A	N/A	N/A	N/A
2.3	Number Mode Choice - Non Work Trips					
2.3.1	- Drive alone (single occupant vehicle -SOV)	1,098,746	1,083,925	1,480,548	-1%	35%
2.3.2	- Carpool (Share ride)	998,378	1,011,159	1,422,126	1%	42%
2.3.3	- Bus	53,261	69,047	57,212	30%	7%
2.3.4	- Rail	0	10,462	9,994		
2.3.5	- Non-Motorized (Bike and Walk)	199,646	200,049	336,060	0%	68%
2.4	Daily Bicycle and Pedestrian Trips	206,552	206,971	349,685	0%	69%
3	Transit Measures					
3.1	Average Weekday Transit Ridership					
3.1.1	- TTA (Including Rail)	4,900	37,963	56,879	675%	1061%
3.1.2	- CAT	22,874	20,676	39,444	-10%	72%
3.1.3	- CHT	44,990	71,431	63,733	59%	42%
3.1.4	- DATA	23,312	68,911	75,688	196%	225%
3.1.5	- NCSU	20,080	19,866	21,000	-1%	5%
3.1.6	- DUKE	14,642	11,526	9,104	-21%	-38%
3.1.7	- CARY	1,557	4,648	9,967	199%	540%
3.1.8	Total	132,358	235,025	275,819	78%	108%
3.2	Rail	0				
4	Demographics Measures					
4.1	Population	551,362	551,362	806,286	0%	46%
4.2	Employment	389,249	389,249	570,835	0%	47%
4.3	Total Daily Trips	3,032,947	3,070,733	4,384,321	1%	45%
4.4	Total Daily Work Trips	682,913	696,088	1,078,378	2%	58%
4.5	Total Daily Non-Work Trips	2,350,033	2,374,644	3,305,942	1%	41%

## DCHC MPO Alternatives

### Evaluation Measures -- Highway vs. E+C

	Measures	2035 E+C	Highway			(Percent Change from 2035 E+C)		
			Baseline	Constrained	Corridor	Baseline	Constrained	Corridor
<b>1</b>	<b>Performance Measures</b>							
1.1	Total VMT (daily)	17,397,077	17,703,440	16,185,055	17,533,311	2%	-7%	1%
1.2	Total VHT (daily)	459,072	401,467	355,259	397,097	-13%	-23%	-14%
1.3	Average Speed by Facility (miles/hour)							
1.3.1	- Freeway	57	61	62	61	6%	8%	6%
1.3.2	- Arterial	36	40	41	40	13%	14%	12%
1.3.3	- All Facility	45	49	50	49	11%	13%	11%
1.4	Peak Average Speed by Facility (miles/hour)							
1.4.1	- Freeway	54	59	60	59	9%	11%	9%
1.4.2	- Arterial	34	39	40	39	16%	19%	16%
1.4.3	- All Facility	42	48	49	48	14%	17%	14%
1.5	Average Travel Time - All Trips	17.2	16.2	15.7	15.9	-6%	-8%	-7%
1.6	Average Travel Time - Work Trips	25.8	22.6	21.4	21.9	-12%	-17%	-15%
1.7	Peak Average Travel Time - All Trips	20.5	18.5	17.9	18.2	-10%	-13%	-11%
1.8	Hours of Delay (daily)	112,862	58,666	43,854	58,308	-48%	-61%	-48%
1.8.1	CV Hours of Delay (daily)	4,580	2,566	1,885	2,568	-44%	-59%	-44%
1.9	Percent of VMT experiencing congestion - <u>All Day</u>							
1.9.1	- Freeway	5.8%	1.8%	1.8%	1.9%	-69%	-69%	-67%
1.9.2	- Arterial	9.2%	2.6%	1.6%	2.7%	-72%	-83%	-71%
1.9.3	- All Facility	6.4%	1.9%	1.5%	2.0%	-70%	-77%	-69%
1.10.	Percent of VMT experiencing congestion - <u>Peak</u>			0.0%	0.0%			
1.10.1	- Freeway	10.5%	2.9%	3.0%	3.2%	-72%	-71%	-70%
1.10.2	- Arterial	13.8%	3.4%	2.4%	3.6%	-75%	-83%	-74%
1.10.3	- All Facility	10.4%	2.8%	2.4%	2.9%	-73%	-77%	-72%
1.10.4	Degree of congestion (V/C >1) on designated truck routes	8.4%	2.1%	1.6%	2.4%	-75%	-81%	-71%
1.10.5	Degree of congestion (V/C >1) on facilities w/bus routes	8.7%	2.9%	1.8%	3.0%	-67%	-79%	-66%
<b>2</b>	<b>Mode Share Measures</b>							
2.1	Number Mode Choice - <u>All Trips</u>							
2.1.1	- Drive alone (single occupant vehicle -SOV)	1,660,787	1,669,973	1,502,374	1,645,095	1%	-10%	-1%
2.1.2	- Carpool (Share ride)	1,095,943	1,112,086	994,680	1,090,070	1%	-9%	-1%
2.1.3	- Bus	69,664	85,115	82,181	85,581	22%	18%	23%
2.1.4	- Rail							
2.1.5	- Non-Motorized (Bike and Walk)	206,552	206,969	184,201	208,789	0%	-11%	1%

## DCHC MPO Alternatives

### Evaluation Measures -- Highway vs. E+C

	Measures	2035 E+C	Highway			(Percent Change from 2035 E+C)		
			Baseline	Constrained	Corridor	Baseline	Constrained	Corridor
2.2	Number Mode Choice - <u>Peak Hours</u>							
2.2.1	- Drive alone (single occupant vehicle -SOV)	834,496	844,070	759,681	836,024	1%	-9%	0%
2.2.2	- Carpool (Share ride)	550,209	563,600	505,496	554,471	2%	-8%	1%
2.2.3	- Bus	35,228	45,174	43,901	45,498	28%	25%	29%
2.2.4	- Rail	0				0%	0%	0%
2.2.5	- Non-Motorized (Bike and Walk)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2.3	Number Mode Choice - <u>Non Work Trips</u>							
2.3.1	- Drive alone (single occupant vehicle -SOV)	1,098,746	1,102,354	992,933	1,076,109	0%	-10%	-2%
2.3.2	- Carpool (Share ride)	998,378	1,014,171	906,371	992,104	2%	-9%	-1%
2.3.3	- Bus	53,261	61,392	59,509	61,232	15%	12%	15%
2.3.4	- Rail	0				0%	0%	0%
2.3.5	- Non-Motorized (Bike and Walk)	199,646	200,047	177,950	201,482	0%	-11%	1%
2.4	Daily Bicycle and Pedestrian Trips	206,552	206,969	184,201	208,789	0%	-11%	1%
3	<b>Transit Measures</b>							
3.1	Average Weekday Transit Ridership							
3.1.1	- TTA (Including Rail)	4,900	7,649	7,338	7,733	56%	50%	58%
3.1.2	- CAT	22,874	26,059	23,734	26,649	14%	4%	17%
3.1.3	- CHT	44,990	55,560	53,004	55,265	23%	18%	23%
3.1.4	- DATA	23,312	38,099	36,956	39,465	63%	59%	69%
3.1.5	- NCSU	20,080	21,148	21,565	22,097	5%	7%	10%
3.1.6	- DUKE	14,642	13,331	13,040	13,336	-9%	-11%	-9%
3.1.7	- C-Tran	1,557	1,441	1,218	1,400	-7%	-22%	-10%
3.1.8	Total	132,358	163,291	156,858	165,948	23%	19%	25%
3.2	Rail	0						
4	<b>Demographics Measures</b>							
4.1	Population	551,362	551,362	499,321	550,205	0%	-9%	0%
4.2	Employment	389,249	389,249	353,712	389,208	0%	-9%	0%
4.3	Total Daily Trips	3,032,947	3,074,145	2,763,437	3,029,536	1%	-9%	0%
4.4	Total Daily Work Trips	682,913	696,180	626,672	698,607	2%	-8%	2%
4.5	Total Daily Non-Work Trips	2,350,033	2,377,965	2,136,765	2,330,928	1%	-9%	-1%

## DCHC MPO Alternatives

### Evaluation Measures -- Fixed Guideway vs. E+C

	Measures	2035 E+C	Fixed Guideway			(Percent Change from 2035 E+C)		
			Baseline	Corridor	TransitNode	Baseline	Corridor	TransitNode
1	<b>Performance Measures</b>							
1.1	Total VMT (daily)	17,397,077	17,333,966	17,188,087	17,302,220	0%	-1%	-1%
1.2	Total VHT (daily)	459,072	422,181	417,700	423,775	-8%	-9%	-8%
1.3	Average Speed by Facility (miles/hour)							
1.3.1	- Freeway	57	59	59	59	4%	4%	4%
1.3.2	- Arterial	36	38	38	38	6%	6%	6%
1.3.3	- All Facility	45	47	47	47	6%	6%	5%
1.4	Peak Average Speed by Facility (miles/hour)							
1.4.1	- Freeway	54	58	57	57	6%	6%	6%
1.4.2	- Arterial	34	36	36	36	8%	8%	7%
1.4.3	- All Facility	42	45	45	45	7%	7%	7%
1.5	Average Travel Time - All Trips	17.2	16.4	16.2	16.4	-4%	-6%	-4%
1.6	Average Travel Time - Work Trips	25.8	23.5	22.7	23.4	-9%	-12%	-9%
1.7	Peak Average Travel Time - All Trips	20.5	19.1	18.7	19.0	-7%	-9%	-7%
1.8	Hours of Delay (daily)	112,862	81,929	81,070	84,689	-27%	-28%	-25%
1.8.1	CV Hours of Delay (daily)	4,580	3,551	3,572	3,628	-22%	-22%	-21%
1.9	Percent of VMT experiencing congestion - <u>All Day</u>							
1.9.1	- Freeway	5.8%	2.9%	2.8%	2.8%	-50%	-52%	-52%
1.9.2	- Arterial	9.2%	5.2%	5.5%	5.8%	-43%	-40%	-37%
1.9.3	- All Facility	6.4%	3.5%	3.6%	3.8%	-45%	-44%	-41%
1.10.	Percent of VMT experiencing congestion - <u>Peak</u>			0.0%	0.0%			
1.10.1	- Freeway	10.5%	5.0%	4.9%	4.9%	-52%	-53%	-53%
1.10.2	- Arterial	13.8%	7.4%	7.7%	8.3%	-46%	-44%	-40%
1.10.3	- All Facility	10.4%	5.3%	5.5%	5.7%	-49%	-47%	-45%
1.10.4	Degree of congestion (V/C >1) on designated truck routes	8.4%	5.5%	5.6%	6.0%	-35%	-33%	-29%
1.10.5	Degree of congestion (V/C >1) on facilities w/bus routes	8.7%	4.3%	5.1%	5.5%	-51%	-41%	-37%
2	<b>Mode Share Measures</b>							
2.1	Number Mode Choice - <u>All Trips</u>							
2.1.1	- Drive alone (single occupant vehicle -SOV)	1,660,787	1,635,486	1,614,140	1,627,932	-2%	-3%	-2%
2.1.2	- Carpool (Share ride)	1,095,943	1,090,378	1,071,425	1,089,572	-1%	-2%	-1%
2.1.3	- Bus	69,664	95,266	95,842	97,374	37%	38%	40%
2.1.4	- Rail		11,752	11,979	12,457			
2.1.5	- Non-Motorized (Bike and Walk)	206,552	206,616	208,488	209,968	0%	1%	2%



### DCHC MPO Alternatives

Evaluation Measures -- Fixed Guideway vs. E+C

	Measures	2035 E+C	Fixed Guideway			(Percent Change from 2035 E+C)		
			Baseline	Corridor	TransitNode	Baseline	Corridor	TransitNode
2.2	Number Mode Choice - <u>Peak Hours</u>			0	0			
2.2.1	- Drive alone (single occupant vehicle -SOV)	834,496	823,194	818,748	818,409	-1%	-2%	-2%
2.2.2	- Carpool (Share ride)	550,209	549,562	542,628	548,250	0%	-1%	0%
2.2.3	- Bus	35,228	47,618	48,070	48,612	35%	36%	38%
2.2.4	- Rail	0	6851	6979	7188	0%	0%	0%
2.2.5	- Non-Motorized (Bike and Walk)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2.3	Number Mode Choice - <u>Non Work Trips</u>							
2.3.1	- Drive alone (single occupant vehicle -SOV)	1,098,746	1,080,093	1,054,678	1,076,549	-2%	-4%	-2%
2.3.2	- Carpool (Share ride)	998,378	995,906	976,229	994,902	0%	-2%	0%
2.3.3	- Bus	53,261	67,895	67,633	68,826	27%	27%	29%
2.3.4	- Rail	0	8974	9090	9452	0%	0%	0%
2.3.5	- Non-Motorized (Bike and Walk)	199,646	199,712	201,203	202,994	0%	1%	2%
2.4	Daily Bicycle and Pedestrian Trips	206,552	206,616	208,488	209,968	0%	1%	2%
3	<b>Transit Measures</b>							
3.1	Average Weekday Transit Ridership							
3.1.1	- TTA (Including Rail)	4,900	29,079	29,512	30,436	493%	502%	521%
3.1.2	- CAT	22,874	37,936	38,837	39,266	66%	70%	72%
3.1.3	- CHT	44,990	67,194	66,904	68,041	49%	49%	51%
3.1.4	- DATA	23,312	66,833	68,399	68,723	187%	193%	195%
3.1.5	- NCSU	20,080	18,429	18,999	19,015	-8%	-5%	-5%
3.1.6	- DUKE	14,642	11,045	11,252	11,506	-25%	-23%	-21%
3.1.7	- C-Tran	1,557	5,515	5,331	5,442	254%	242%	250%
3.1.8	Total	132,358	236,035	239,236	242,432	78%	81%	83%
3.2	Rail	0						
4	<b>Demographics Measures</b>							
4.1	Population	551,362	551,362	550,205	545,552	0%	0%	-1%
4.2	Employment	389,249	389,249	389,208	390,416	0%	0%	0%
4.3	Total Daily Trips	3,032,947	3,039,499	3,001,875	3,037,304	0%	-1%	0%
4.4	Total Daily Work Trips	682,913	686,918	693,040	684,579	1%	1%	0%
4.5	Total Daily Non-Work Trips	2,350,033	2,352,580	2,308,834	2,352,725	0%	-2%	0%

## DCHC MPO Alternatives

### Evaluation Measures -- Bus Transit vs. E+C

	Measures	2035 E+C	Bus Transit			(Percent change from 2035 E+C)		
			Baseline	Corridor	TransitNode	Baseline	Corridor	TransitNode
1	<b>Performance Measures</b>							
1.1	Total VMT (daily)	17,397,077	17,366,268	17,254,460	17,364,161	0%	-1%	0%
1.2	Total VHT (daily)	459,072	423,072	420,239	426,402	-8%	-8%	-7%
1.3	Average Speed by Facility (miles/hour)							
1.3.1	- Freeway	57	59	59	59	4%	4%	4%
1.3.2	- Arterial	36	38	38	37	6%	6%	5%
1.3.3	- All Facility	45	47	47	47	6%	6%	5%
1.4	Peak Average Speed by Facility (miles/hour)							
1.4.1	- Freeway	54	57	57	57	6%	6%	6%
1.4.2	- Arterial	34	36	36	36	8%	8%	7%
1.4.3	- All Facility	42	45	45	45	7%	7%	7%
1.5	Average Travel Time - All Trips	17.2	16.5	16.3	16.4	-4%	-5%	-4%
1.6	Average Travel Time - Work Trips	25.8	23.5	22.7	23.4	-9%	-12%	-9%
1.7	Peak Average Travel Time - All Trips	20.5	19.1	18.8	19.1	-7%	-8%	-7%
1.8	Hours of Delay (daily)	112,862	82,216	82,189	86,015	-27%	-27%	-24%
1.8.1	CV Hours of Delay (daily)	4,580	3,563	3,604	3,683	-22%	-21%	-20%
1.9	Percent of VMT experiencing congestion - <u>All Day</u>							
1.9.1	- Freeway	5.8%	3.3%	3.0%	3.2%	-43%	-48%	-45%
1.9.2	- Arterial	9.2%	5.3%	5.3%	6.3%	-42%	-42%	-32%
1.9.3	- All Facility	6.4%	3.7%	3.6%	4.1%	-42%	-44%	-36%
1.10.	Percent of VMT experiencing congestion - <u>Peak</u>			0.0%	0.0%			
1.10.1	- Freeway	10.5%	5.7%	5.3%	5.7%	-46%	-50%	-46%
1.10.2	- Arterial	13.8%	7.6%	7.4%	9.0%	-45%	-46%	-35%
1.10.3	- All Facility	10.4%	5.7%	5.5%	6.3%	-45%	-47%	-39%
1.10.4	Degree of congestion (V/C >1) on designated truck routes	8.4%	5.6%	5.6%	6.2%	-33%	-33%	-26%
1.10.5	Degree of congestion (V/C >1) on facilities w/bus routes	8.7%	4.9%	5.1%	5.9%	-44%	-41%	-32%
2	<b>Mode Share Measures</b>							
2.1	Number Mode Choice - All Trips							
2.1.1	- Drive alone (single occupant vehicle -SOV)	1,660,787	1,638,253	1,617,838	1,631,331	-1%	-3%	-2%
2.1.2	- Carpool (Share ride)	1,095,943	1,095,342	1,077,404	1,095,519	0%	-2%	0%
2.1.3	- Bus	69,664	101,323	102,061	103,972	45%	47%	49%
2.1.4	- Rail							
2.1.5	- Non-Motorized (Bike and Walk)	206,552	206,616	208,488	209,968	0%	1%	2%

**DCHC MPO Alternatives**  
Evaluation Measures -- Bus Transit vs. E+C

	Measures	2035 E+C	Bus Transit			(Percent change from 2035 E+C)		
			Baseline	Corridor	TransitNode	Baseline	Corridor	TransitNode
2.2	Number Mode Choice - Peak Hours							
2.2.1	- Drive alone (single occupant vehicle -SOV)	834,496	824,154	820,305	819,569	-1%	-2%	-2%
2.2.2	- Carpool (Share ride)	550,209	551,949	545,858	551,343	0%	-1%	0%
2.2.3	- Bus	35,228	51,832	52,397	53,138	47%	49%	51%
2.2.4	- Rail	0				0%	0%	0%
2.2.5	- Non-Motorized (Bike and Walk)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2.3	Number Mode Choice - Non Work Trips							
2.3.1	- Drive alone (single occupant vehicle -SOV)	1,098,746	1,082,954	1,058,369	1,080,326	-1%	-4%	-2%
2.3.2	- Carpool (Share ride)	998,378	1,000,043	981,192	999,823	0%	-2%	0%
2.3.3	- Bus	53,261	72,103	71,898	73,362	35%	35%	38%
2.3.4	- Rail	0				0%	0%	0%
2.3.5	- Non-Motorized (Bike and Walk)	199,646	199,712	201,203	202,994	0%	1%	2%
2.4	Daily Bicycle and Pedestrian Trips	206,552	206,616	208,488	209,968	0%	1%	2%
3	<b>Transit Measures</b>							
3.1	Average Weekday Transit Ridership							
3.1.1	- TTA (Including Rail)	4,900	9,084	9,070	9,187	85%	85%	87%
3.1.2	- CAT	22,874	39,493	40,427	41,022	73%	77%	79%
3.1.3	- CHT	44,990	65,020	64,865	66,150	45%	44%	47%
3.1.4	- DATA	23,312	66,704	68,524	68,787	186%	194%	195%
3.1.5	- NCSU	20,080	17,581	18,349	18,211	-12%	-9%	-9%
3.1.6	- DUKE	14,642	11,498	11,363	11,856	-21%	-22%	-19%
3.1.7	- C-Tran	1,557	4,816	4,678	4,767	209%	200%	206%
3.1.8	Total	132,358	214,200	217,279	219,982	62%	64%	66%
3.2	Rail	0						
4	<b>Demographics Measures</b>							
4.1	Population	551,362	551,362	550,205	545,552	0%	0%	-1%
4.2	Employment	389,249	389,249	389,208	390,416	0%	0%	0%
4.3	Total Daily Trips	3,032,947	3,041,534	3,005,791	3,040,791	0%	-1%	0%
4.4	Total Daily Work Trips	682,913	686,721	693,128	684,285	1%	1%	0%
4.5	Total Daily Non-Work Trips	2,350,033	2,354,813	2,312,662	2,356,506	0%	-2%	0%

## DCHC MPO Alternatives

### Evaluation Measures -- Moderate Multimodal vs. E+C

1	Measures	2035 E+C	Moderate Multimodal			(Percent change from 2035 E+C)		
			Baseline	Corridor	TransitNode	Baseline	Corridor	TransitNode
1	<b>Performance Measures</b>							
1.1	Total VMT (daily)	17,397,077	17,264,268	17,323,513	17,103,212	-1%	0%	-2%
1.2	Total VHT (daily)	459,072	417,458	415,073	412,714	-9%	-10%	-10%
1.3	Average Speed by Facility (miles/hour)							
1.3.1	- Freeway	57	59	59	60	4%	4%	4%
1.3.2	- Arterial	36	38	38	37	6%	6%	5%
1.3.3	- All Facility	45	48	48	48	7%	7%	7%
1.4	Peak Average Speed by Facility (miles/hour)							
1.4.1	- Freeway	54	57	57	57	6%	5%	6%
1.4.2	- Arterial	34	36	36	36	8%	8%	7%
1.4.3	- All Facility	42	46	46	46	8%	8%	8%
1.5	Average Travel Time - All Trips	17.2	17	16	16	-4%	-5%	-4%
1.6	Average Travel Time - Work Trips	25.8	23	23	23	-9%	-12%	-10%
1.7	Peak Average Travel Time - All Trips	20.5	19	19	19	-6%	-9%	-7%
1.8	Hours of Delay (daily)	112,862	79,980	78,604	79,018	-29%	-30%	-30%
1.8.1	CV Hours of Delay (daily)	4,580	3,377	3,371	3,269	-26%	-26%	-29%
1.9	Percent of VMT experiencing congestion - <u>All Day</u>							
1.9.1	- Freeway	5.8%	3.0%	3.0%	3.2%	-48%	-48%	-45%
1.9.2	- Arterial	9.2%	5.3%	4.9%	5.2%	-42%	-47%	-43%
1.9.3	- All Facility	6.4%	3.5%	3.4%	3.7%	-45%	-47%	-42%
1.10.	Percent of VMT experiencing congestion - <u>Peak</u>							
1.10.1	- Freeway	10.5%	5.0%	5.4%	5.5%	-52%	-49%	-48%
1.10.2	- Arterial	13.8%	7.5%	7.7%	7.7%	-46%	-44%	-44%
1.10.3	- All Facility	10.4%	5.3%	5.6%	5.7%	-49%	-46%	-45%
1.10.4	Degree of congestion (V/C >1) on designated truck routes	8.4%	5.0%	4.6%	4.9%	-40%	-45%	-42%
1.10.5	Degree of congestion (V/C >1) on facilities w/bus routes	8.7%	4.1%	4.0%	4.1%	-53%	-54%	-53%
2	<b>Mode Share Measures</b>							
2.1	Number Mode Choice - All Trips							
2.1.1	- Drive alone (single occupant vehicle -SOV)	1,660,787	1,656,077	1,616,862	1,631,379	0%	-3%	-2%
2.1.2	- Carpool (Share ride)	1,095,943	1,109,840	1,089,630	1,109,398	1%	-1%	1%
2.1.3	- Bus	69,664	87,345	77,038	78,877	25%	11%	13%
2.1.4	- Rail		-	-	-			
2.1.5	- Non-Motorized (Bike and Walk)	206,552	206,533	208,407	209,919	0%	1%	2%

## DCHC MPO Alternatives

### Evaluation Measures -- Moderate Multimodal vs. E+C

	Measures	2035 E+C	Moderate Multimodal			(Percent change from 2035 E+C)		
			Baseline	Corridor	TransitNode	Baseline	Corridor	TransitNode
2.2	Number Mode Choice - Peak Hours							
2.2.1	- Drive alone (single occupant vehicle -SOV)	834,496	831,906	824,773	825,024	0%	-1%	-1%
2.2.2	- Carpool (Share ride)	550,209	558,949	553,009	560,236	2%	1%	2%
2.2.3	- Bus	35,228	45,738	40,157	40,806	30%	14%	16%
2.2.4	- Rail	0	-	-	-	0%	0%	0%
2.2.5	- Non-Motorized (Bike and Walk)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2.3	Number Mode Choice - Non Work Trips							
2.3.1	- Drive alone (single occupant vehicle -SOV)	1,098,746	1,096,473	1,051,438	1,074,026	0%	-4%	-2%
2.3.2	- Carpool (Share ride)	998,378	1,012,646	991,374	1,011,445	1%	-1%	1%
2.3.3	- Bus	53,261	62,953	51,648	53,181	18%	-3%	0%
2.3.4	- Rail	0	-	-	-	0%	0%	0%
2.3.5	- Non-Motorized (Bike and Walk)	199,646	199,632	201,123	202,944	0%	1%	2%
2.4	Daily Bicycle and Pedestrian Trips	206,552	206,533	208,407	209,919	0%	1%	2%
3	<b>Transit Measures</b>							
3.1	Average Weekday Transit Ridership							
3.1.1	- TTA (Including Rail)	4,900	8,181	5,632	5,714	67%	15%	17%
3.1.2	- CAT	22,874	22,512	21,150	21,427	-2%	-8%	-6%
3.1.3	- CHT	44,990	55,113	49,682	50,806	23%	10%	13%
3.1.4	- DATA	23,312	47,937	41,951	42,569	106%	80%	83%
3.1.5	- NCSU	20,080	20,043	15,767	15,677	0%	-21%	-22%
3.1.6	- DUKE	14,642	11,123	9,369	9,600	-24%	-36%	-34%
3.1.7	- C-Tran	1,557	2,528	2,421	2,463	62%	55%	58%
3.1.8	Total	132,358	167,442	145,974	148,260	27%	10%	12%
3.2	Rail	0						
4	<b>Demographics Measures</b>							
4.1	Population	551,362	551,362	550,205	545,552	0%	0%	-1%
4.2	Employment	389,249	389,249	389,208	390,416	0%	0%	0%
4.3	Total Daily Trips	3,032,947	3,059,795	2,991,938	3,029,573	1%	-1%	0%
4.4	Total Daily Work Trips	682,913	688,090	696,354	687,975	1%	2%	1%
4.5	Total Daily Non-Work Trips	2,350,033	2,371,705	2,295,583	2,341,597	1%	-2%	0%

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