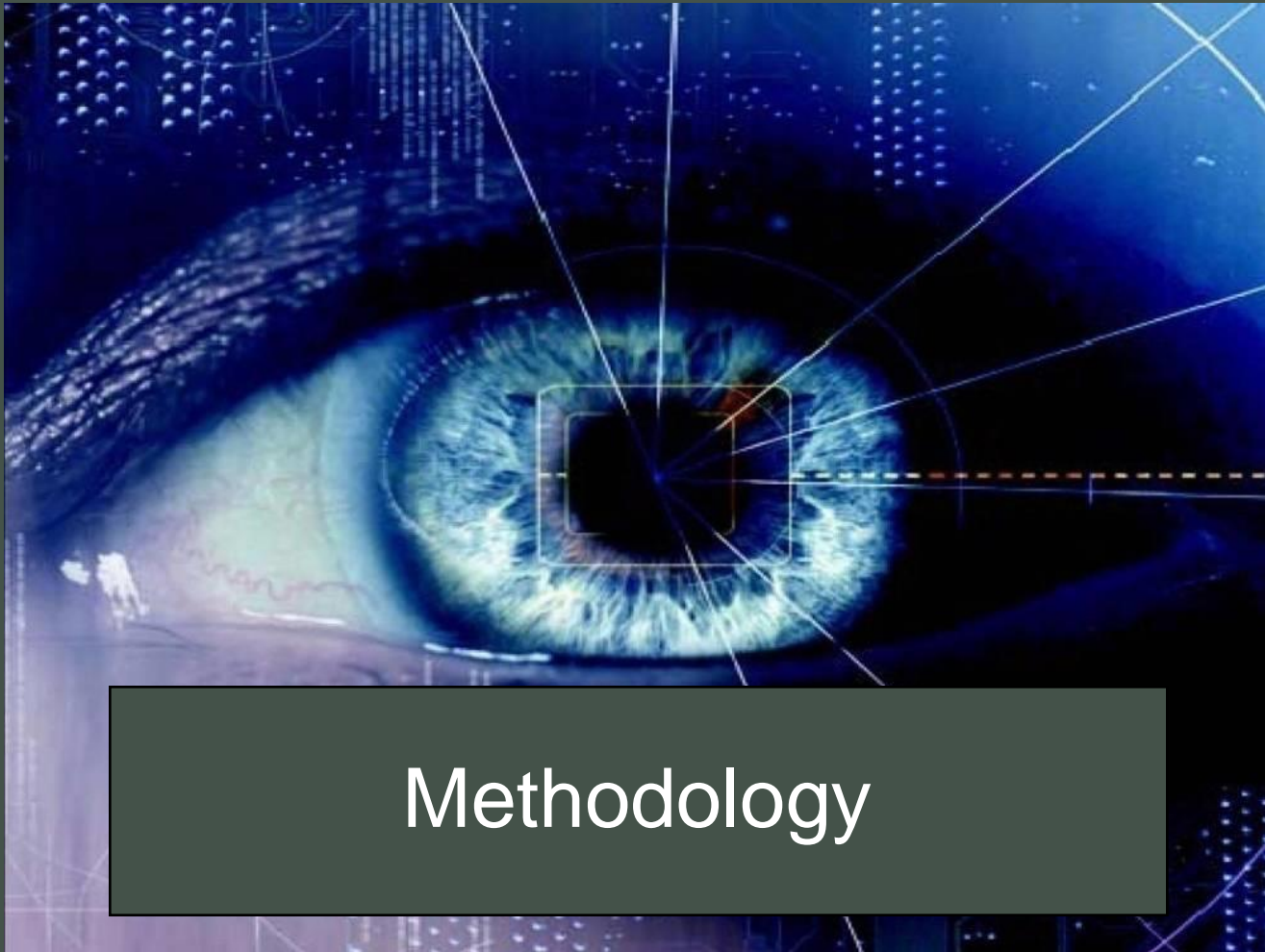


Commuter Connections TERM Evaluation 2012-2014 Interim Results

**Presentation to
Commuter Connections
Subcommittee
July 15, 2014
LDA Consulting
with
ESTC, CIC Research, CUTR**





Methodology

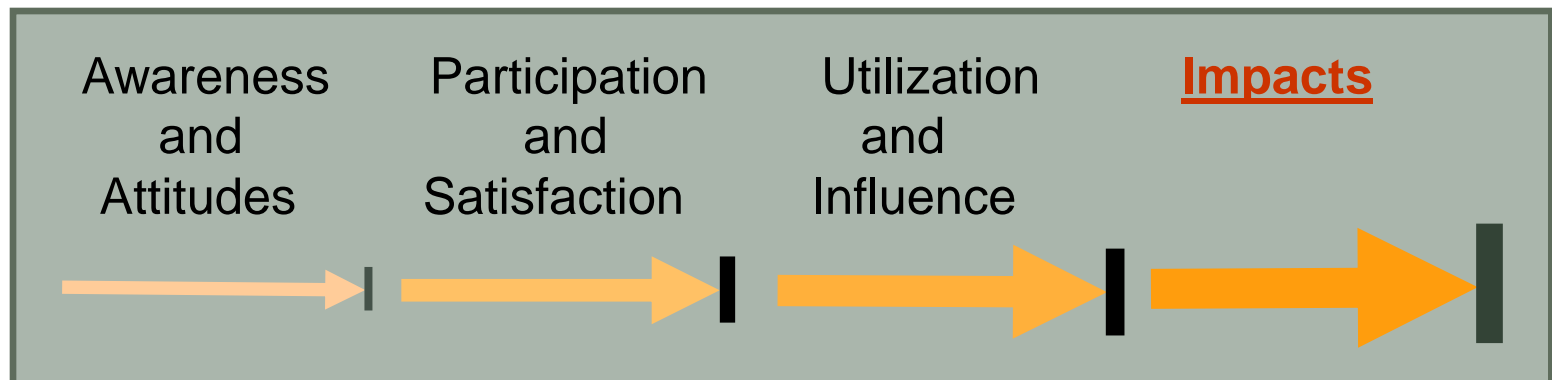
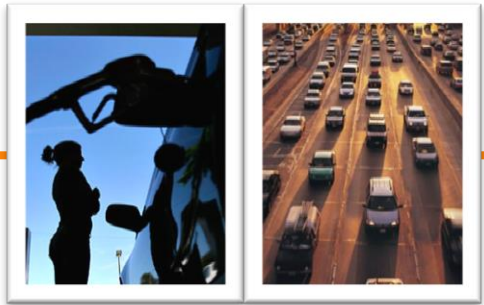
Objective of Evaluation

- Apply methodology outlined in Evaluation Framework to:
- Estimate effectiveness of four Commuter Connections TERMS
 - Telework Assistance
 - Guaranteed Ride Home
 - Employer Outreach
 - Mass Marketing
- Document results of Commuter Operations Center
- Adjust impacts for overlap among programs



Performance Continuum

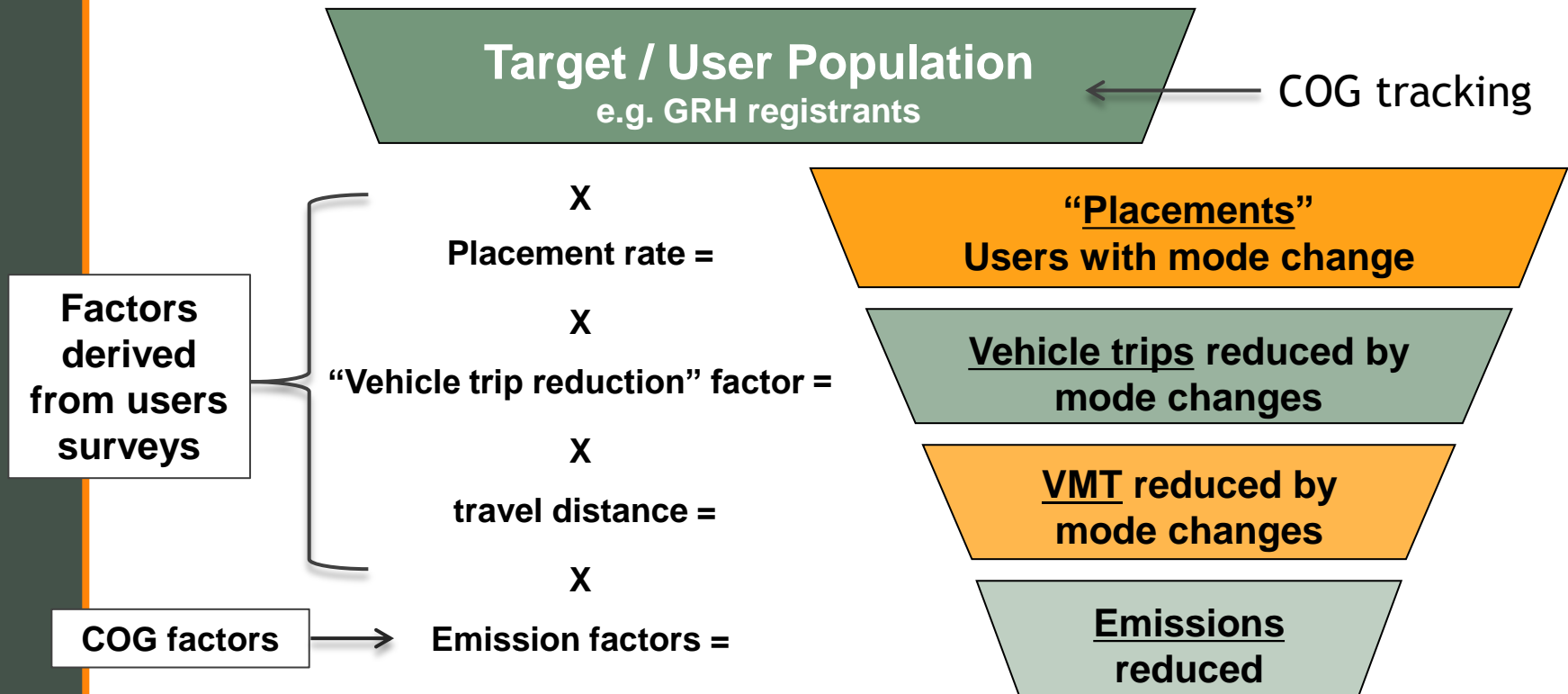
- Awareness – modes/programs
- Attitudes – willing to try modes
 - Participation – services used
 - Satisfaction – with programs
 - Utilization – mode / travel changes
 - Influences – motivations for change
 - **Impacts** of change (travel / AQ / energy)

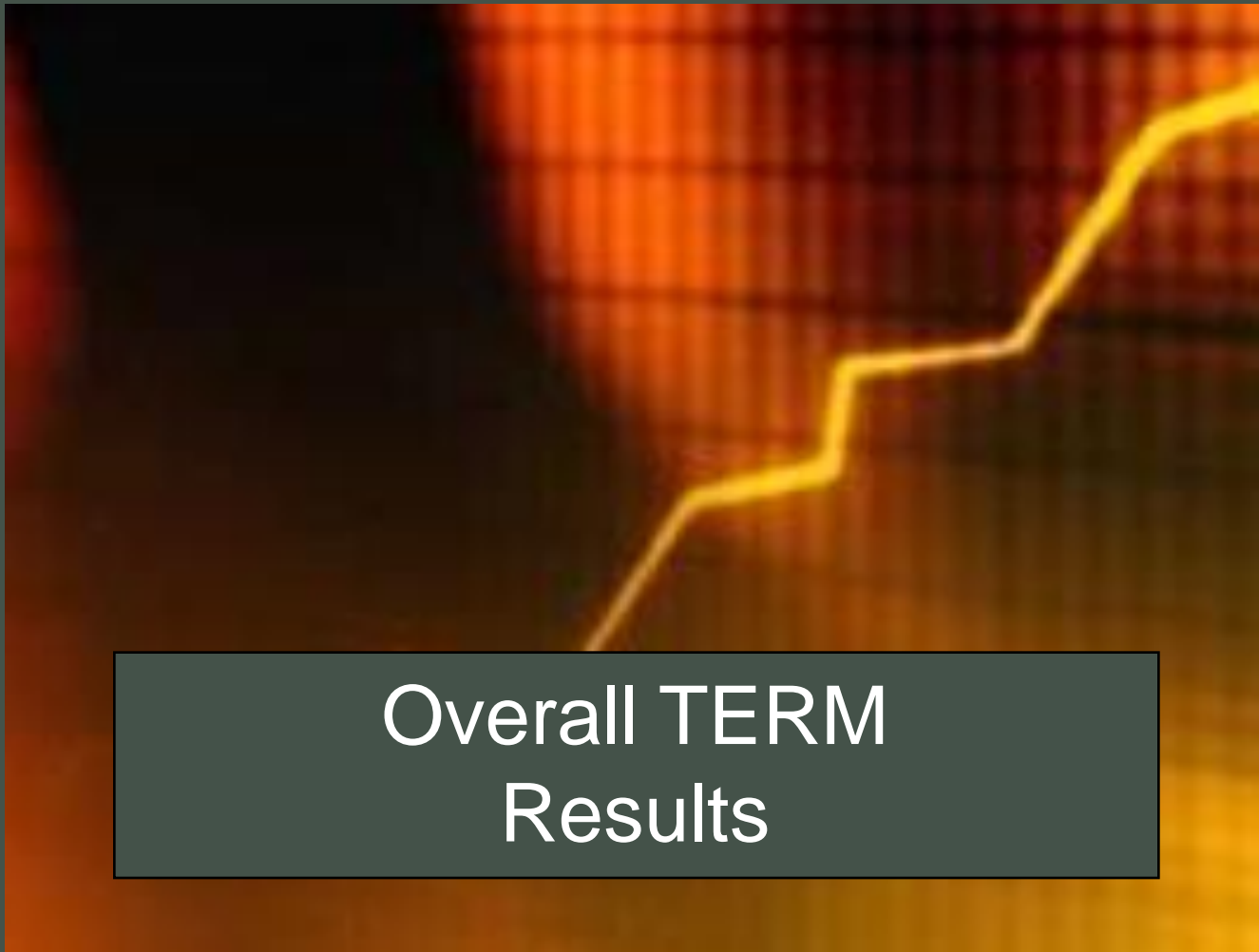


Impact Calculation Approach



Impact calculation approach uses series of “multiplier” factors, applied to user population





Overall TERM
Results



Impacts for All TERMS + COC (Jul 2011 – Dec 2014)

Comparison of collective goals against collective impacts, including
Commuter Operations Center

	<u>Goal</u>	<u>Impact</u>	<u>Net</u>	
<u>Trips reduced</u>	109,594	133,169	<u>23,575</u>	+22%
<u>VMT reduced</u>	2,162,400	2,438,287	<u>275,887</u>	+13%
NOx reduced	1.098 T	1.031 T	(0.067) T	- 6%
VOC reduced	0.654 T	0.531 T	(0.123) T	-19%

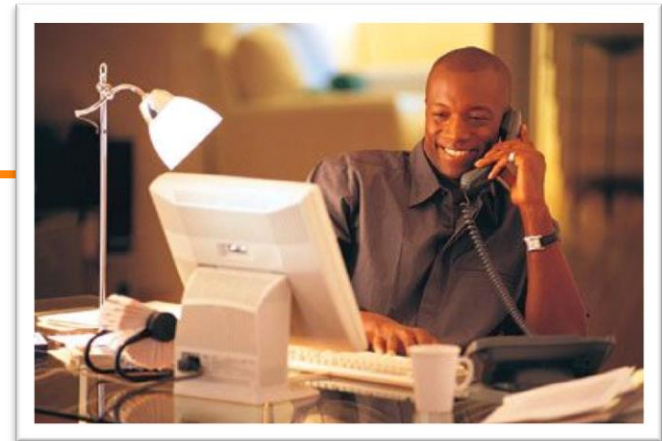
Met vehicle trip and VMT goals

Shortfall in emission goals due to reduced emission factors
for 2015 (cleaner cars) and shift to MOVES emission model



Telework Assistance

Telework Assistance (MD)



- Direct assistance to commuters
 - 9.1% of regional telecommuters cited CC/COG as TW info source = 61,521 telecommuters

- Assistance to employers
 - 27% of employers recalled assistance
 - Overall 2.3% increase in telecommuters at assisted worksites = 617 new telecommuters

- **61,681 telecommuters influenced by CC / COG**
 - Each TC reduced 1.7 vehicle trips and 30 VMT each week

- Note also - some TW credit is counted in Employer Outreach

Telework TERM Impacts

	<u>Goal</u>	<u>Impact</u>	<u>Net</u>	
<u>Number of TCs</u>	31,854	61,681	<u>29,827</u>	+94%
<u>Trips reduced</u>	11,830	20,774	<u>8,944</u>	+75%
<u>VMT reduced</u>	241,208	375,913	<u>134,705</u>	+56%
<u>NOx reduced</u>	0.122 T	0.190 T	<u>0.680 T</u>	+56%
<u>VOC reduced</u>	0.072 T	0.103 T	<u>0.031 T</u>	+43%

Met participation, vehicle trip, VMT, and emissions goals

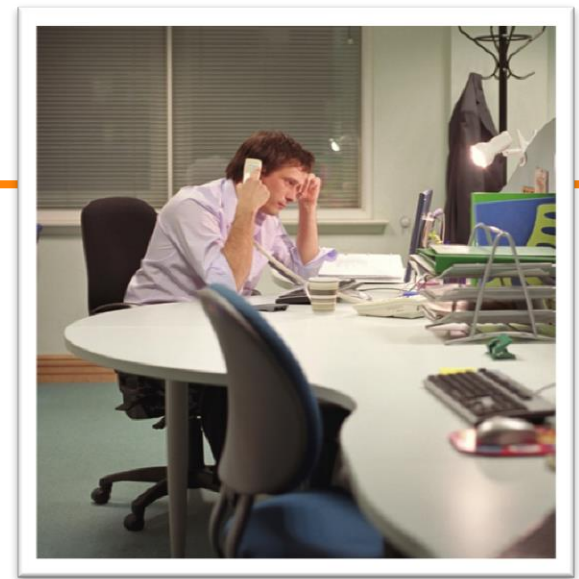
- TW continues to grow in the region and CC/COG continue to be source of information for telecommuters
- Impacts represent only CC contribution to regional TW (about 9% of regional TW trips reduced)



Guaranteed Ride
Home

GRH TERM

- 19,493 GRH registrants in Dec 2013
- 11,628 new registrants in FY12 – FY14
- 61% of registrants started new alt mode;
But some alt mode users shifted from another alt mode
 - New users reduced 0.65 daily vehicle trips and 18 daily VMT
- GRH results were discounted:
 - Count only VMT within the MSA – registrants who live outside the MSA received only partial credit
 - Assign 9% of credit to Mass Marketing TERM



GRH Impacts



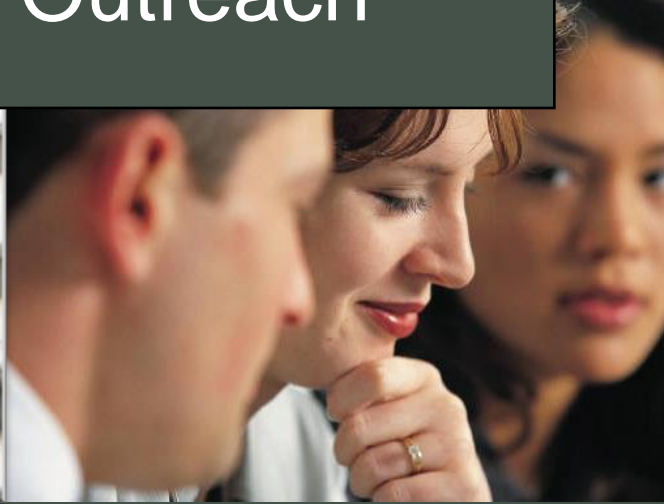
	<u>Goal</u>	<u>Impact</u>	<u>Net</u>	
GRH participants	36,992	19,493	(17,499)	- 47%
Trips reduced	12,593	7,104	(5,489)	- 44%
VMT reduced	355,135	196,080	(159,056)	- 45%
NOx reduced	0.177 T	0.080 T	(0.096 T)	- 55%
VOC reduced	0.097 T	0.030 T	(0.067 T)	- 69%

Did not meet goals – declining GRH participation possibly due to lower awareness; in 2013, only 23% of commuters knew a regional GRH program existed vs 59% in 2004

Impact will increase somewhat when Jan-Jun 2014 participation is added, but is not likely to reach goals then



Employer Outreach



Employer Outreach



- Three impact components
 - Overall program
 - New / expanded programs
 - Bike services

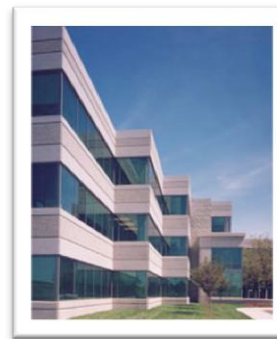
- Impacts calculated for:
 - Employers “maintained” in EO from June 2011
 - Employers with new / expanded programs since June 2011

- Employers deleted since June 2011 were replaced in the overall impact calculation

- EO is evaluated using EPA’s COMMUTER Model v2.0 to estimate vehicle trip and VMT reductions from various packages of TDM strategies in various settings of transit accessibility.

Employer Participation – Many New Clients

<u>Employer Group</u>	<u>Employers</u>	<u>Employees</u>
Counted in impacts		
■ Maintained (no change)	626	228,720
■ Expanded	330	184,724
■ New	<u>797</u>	<u>240,945</u>
Total in impact	1,753	654,389
Not counted in impacts		
■ Deleted since 6/11	152	43,526



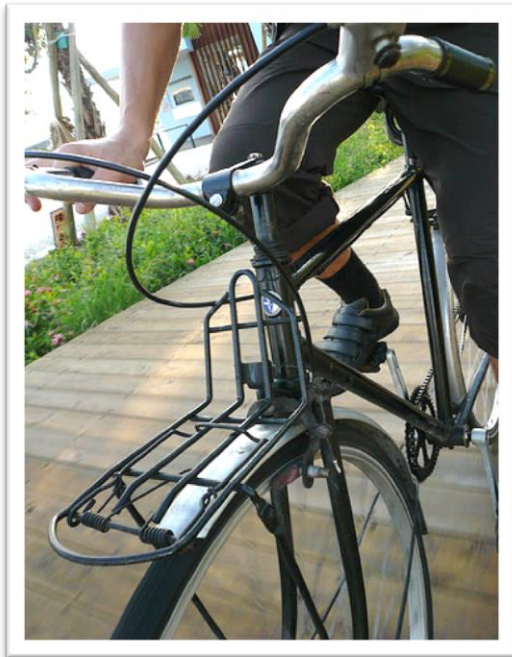
EO – Employers by Jurisdiction*

<u>Jurisdiction</u>	<u>Total Empl</u>	<u>Employees</u>	<u>New/Expand</u>
- Alexandria	140	24,120	123
- Arlington	271	60,629	213
- DC	550	220,633	324
- Fairfax	246	179,801	119
- Frederick	16	17,330	15
- Loudoun	14	11,557	6
- Montgomery	462	109,120	281
- Prince George's	22	22,445	17
- Prince William	25	6,556	23
- Tri-Co Council	7	2,198	6

*Totals are official counts for impact calculations – totals will not match self-reported quarterly conformity statement

EO – Analysis of Vehicle Trip Reduction

- Percentage vehicle trip reduction by program type
 - **Overall EO program** **8.5% reduction**
 - Maintained (base) 7.9% reduction
 - Expanded (additional) 0.8% reduction
 - New 9.2% reduction



- EO – Bicycle
 - 473 employers offered bike services (295 new/expanded)
 - 315,737 employees at bike worksites
 - 1.0% vehicle trip reduction from bike

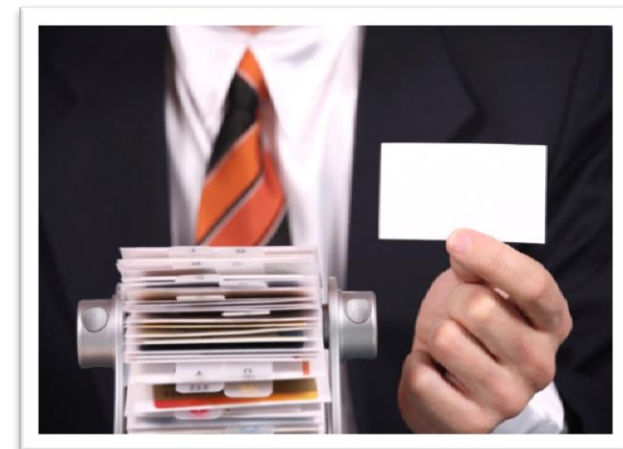
EO Impacts – Overall

	<u>Goal</u>	<u>Impact</u>	<u>Net</u>	
<u>Employers</u>	581	1,753	<u>1,172</u>	+ 200%
<u>Trips reduced</u>	64,644	83,776	<u>19,132</u>	+ 30%
<u>VMT reduced</u>	1,065,851	1,383,990	<u>318,139</u>	+ 30%
<u>NOx reduced</u>	0.549 T	0.550 T	0.001 T	0%
VOC reduced	0.343 T	0.323 T	(0.020) T	- 6%

Met participation, vehicle trip, and VMT goals;

Also met NOx goal, but not VOC goal

VT and VMT impacts are not as much above goals as is employer participation, due to a substantial drop in the coefficients of the model used to estimate impacts. The change was made to be consistent with COG's regional travel model.



EO Impacts – New / Expanded Programs

	<u>Goal</u>	<u>Impact</u>	<u>Net</u>
<u>Employers</u>	96	1,127	<u>1,031</u> + 1075%
<u>Trips reduced</u>	8,618	36,304	<u>27,686</u> + 321%
<u>VMT reduced</u>	140,622	543,415	<u>402,793</u> + 286%
<u>NOx reduced</u>	0.072 T	0.255 T	<u>0.183 T</u> + 252%
<u>VOC reduced</u>	0.046 T	0.133 T	<u>0.087 T</u> + 192%

Met all goals

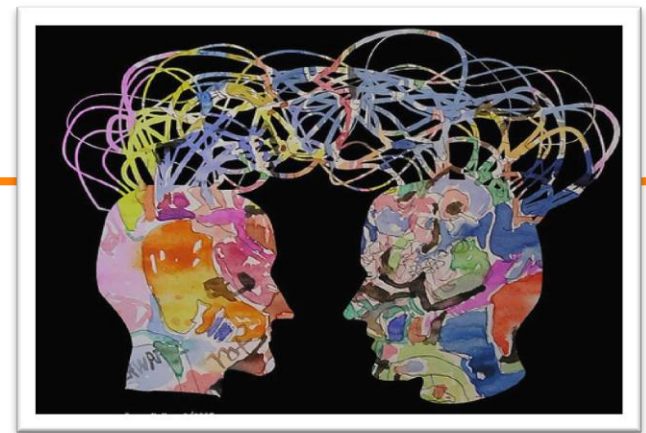
High impact due to large number of employers with new/expanded programs - **1,127** in 2014 vs 267 in 2011 and 57 in 2008



Mass Marketing



Mass Marketing



Five MM components

- Direct Influence – Commuter changed mode after hearing ad; no other CC contact
- “Referred” Influence – Heard ad, then contacted CC for other service – Impact calculated as a percentage of GRH and COC (rideshare app) credits

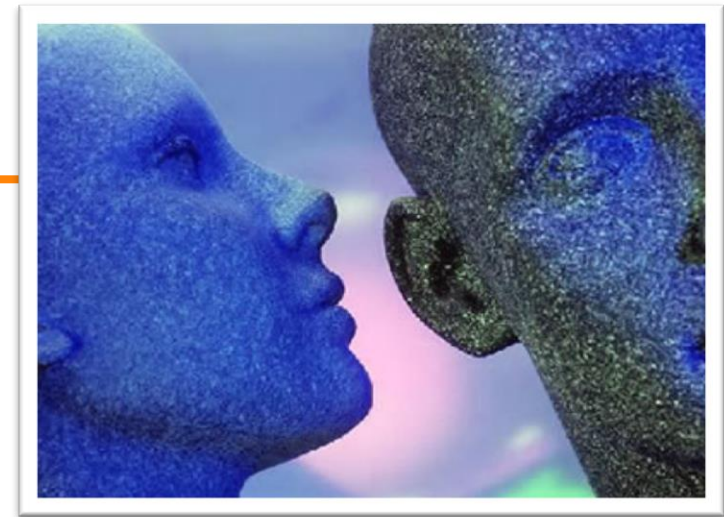
- ‘Pool Rewards carpool incentive
- ‘POOL REWARDS**
it pays to rideshare

- Bike to Work Day



- Car Free Day

Mass Marketing Results



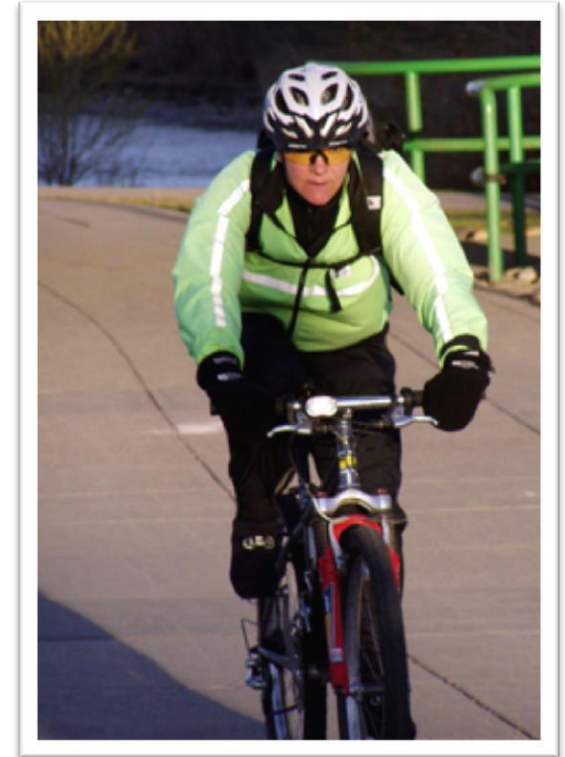
- Direct Influence
 - 21% of commuters recalled CC commute messages
 - 2.8 shifted to alt mode after ad
 - 84% who shifted said ad influenced change = 0.5% of regional commuters = **12,257 placements**

- “Referred” Influence – MM ads generated:
 - 3% of new COC (rideshare) apps = **193 placements**
 - 9% of new GRH apps = **498 placements**

- ‘Pool Rewards
 - **200 participants**
 - 93% continued carpooling after program ended

BTW Day – 2011, 2012, 2013

- 38,164 total riders in three events – 17,121 “unique” riders
- Increased bike days after BTWD
 - 83% biked to work before
 - 10% new riders in summer
 - 20% increased riding in summer
 - 22% new/increased riding in fall
- New / increased riding added:
 - 1.5 bike dy/wk in summer
 - 1.7 bike dy/wk in fall/winter
 - Total new bike trips – 2,906 per day
- 47% DA to work on non-bike days
- Ave 10.4 miles one-way bike commute distance



Car Free Day – 2011, 2012, 2013

- 22,760 total pledges in three events – estimate **17,070 “unique” participants**
- Calculated impacts for event day and continued use of alternative modes after the event
- Event-day participation:
 - 46% drove alone on non-CFD days
 - CFD participants reduced an average of 0.85 vehicle trips and 16.5 VMT = 14,510 VT and 282,494 VMT
 - Discounted VT and VMT to convert to estimated daily counts
- Continued participation after CFD:
 - Estimate that 5% of participants (854) used new alt modes
 - Estimate average use 2 days/week = 0.34 VT reduced / day



Mass Marketing Impacts

	<u>Goal</u>	<u>Impact</u>	<u>Net</u>	
<u>Placements</u>	11,023	20,902	<u>9,879</u>	+ 90%
<u>Trips reduced</u>	7,758	10,317	<u>2,559</u>	+ 33%
<u>VMT reduced</u>	141,231	175,117	<u>33,886</u>	+ 24%
<u>NOx reduced</u>	0.072 T	0.077 T	<u>0.005 T</u>	+7%
VOC reduced	0.044 T	0.022 T	(0.022 T)	- 49%

MM met all goals except VOC, but **VMT impact was not as much over goal as VT**, because a sizeable share of shifts were to bike/walk and transit, which have shorter than average trip lengths

- 72% of vehicle trip impact from “direct influence,”
- 11% from “referred” influence
- 17% from ‘Pool Rewards, BTW Day, and CF Day events



COC and Software Upgrades



Commuter Operations Center

- Two components: Commuter Operations Center “base” and “Integrated Rideshare – Software Upgrades”
- 72,985 commuters assisted by COC from 7/11–12/13
 - 28,324 new or reapply requests
 - 44,661 follow-up requests
 - 40% placed into new alt modes
= 29,539 new alt mode users
- VMT results discounted for apps who live outside the MSA
- COC impacts also reduced to account for overlap with GRH and MM



Software Upgrades

- Ridematch software upgrades
 - 44% of COC apps recalled receiving transit, P&R, TW, or bike info from CC
 - 8% used information – called transit agency, located P&R lot, tried telework, or tried bicycling
 - **5.5% used info to change modes**
 - Ave daily reductions – 0.51 vehicle trips and 28 VMT
- VMT reduced discounted for apps who live outside the MSA
- Software upgrade impacts are deducted from COC base impacts to avoid double-counting



COC Impacts – Base

	<u>Goal</u>	<u>Impact</u>	<u>Net</u>	
Total apps	N/A	72,798	N/A	
Trips reduced	10,399	9,207	(1,192)	- 11%
VMT reduced	296,635	251,579	(45,056)	- 15%
NOx reduced	0.147 T	0.110	(0.037) T	- 25%
VOC reduced	0.081 T	0.044 T	(0.037) T	- 46%

Did not meet goals – participation was lower than anticipated

Impact will increase when Jan-Jun 2014 participation is added and COC likely will meet the trip and VMT goals



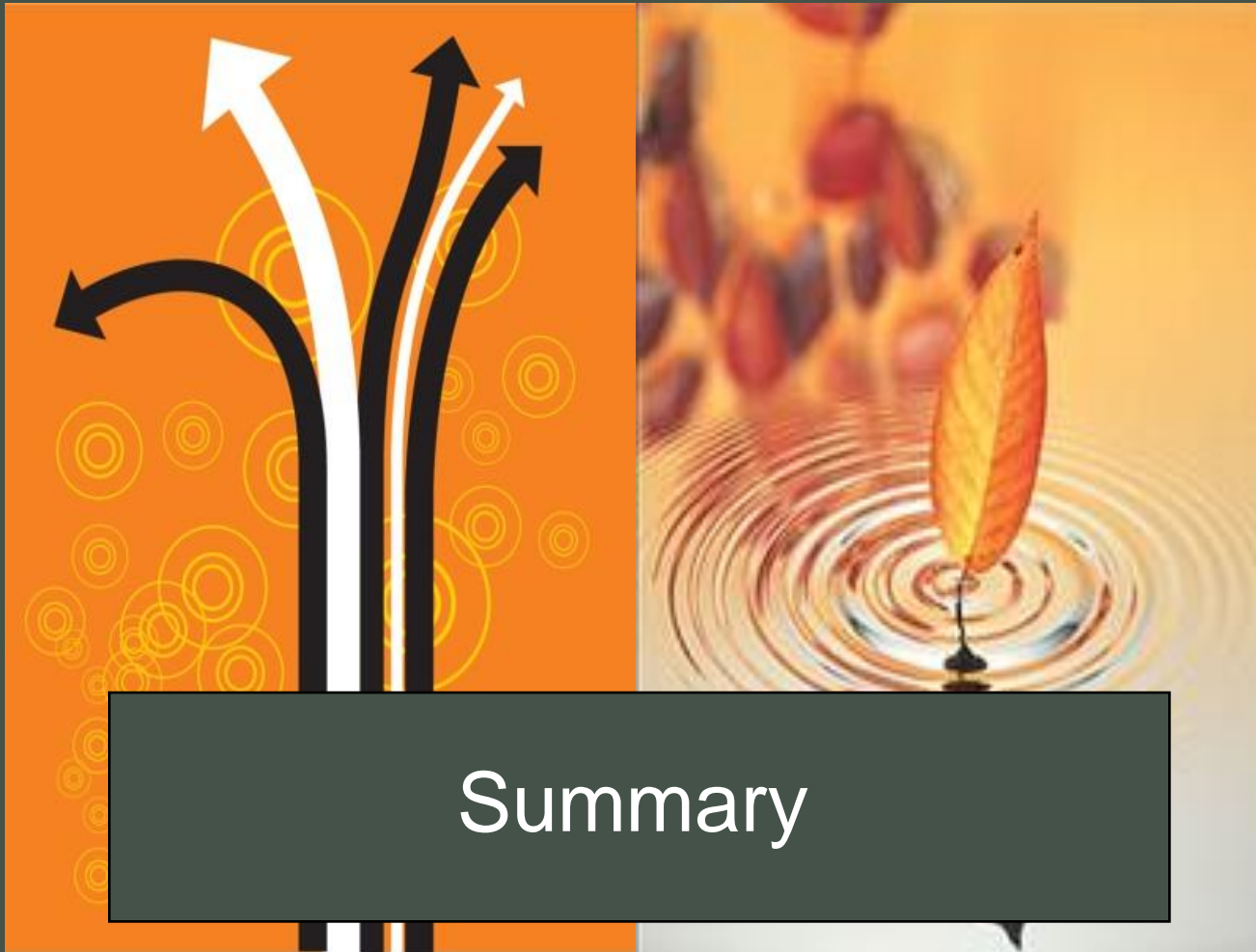
Software Upgrades

	<u>Goal</u>	<u>Impact</u>	<u>Net</u>	
Placements	N/A	3,917	N/A	
Trips reduced	2,370	1,991	(379)	- 16%
VMT reduced	62,339	55,608	(6,731)	- 11%
NOx reduced	0.031 T	0.024 T	(0.007) T	- 24%
VOC reduced	0.017 T	0.009 T	(0.008) T	- 46%

Did not meet goals – participation was lower than anticipated

Impact will increase when Jan-Jun 2014 participation is added and COC likely will meet the trip and VMT goals





Summary

TERM Analysis Observations



- The four TERMS met the collective goals for both vehicle trips (+14%) and VMT reduced (+6%)
- CC programs overall (TERMs + COC) exceeded the VT reduction goal (+22%) and VMT goal (+13%)
- Results reflect only 30 months of the 36-month evaluation period. The final impacts will be higher for most TERMS
- Shortfalls in individual TERMS were generally related to lower than expected participation
- TERMS did not meet emissions goals, but this was due to a change in the emission model (MOVES) and reductions in the 2014 emission factors, compared to the factors used when the goals were established in 2005

Impact Comparison of 2012-14 to 2009-11*

TERMs + Commuter Operations Center Combined

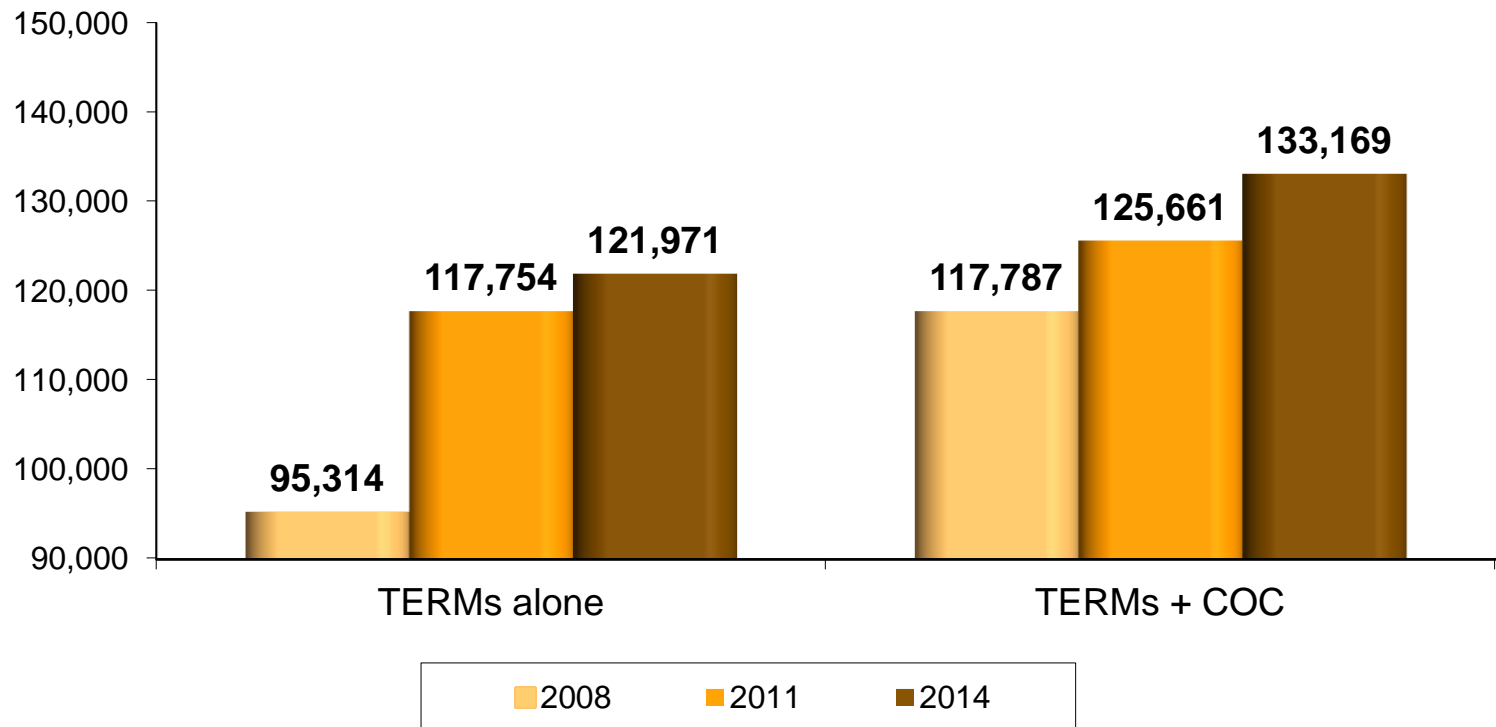
Impact Indicator	Impacts		
	Current <u>2012-14</u>	Previous <u>2009-11</u>	<u>Difference</u>
Daily Trips/VMT Reduced			
– Vehicle trips reduced (daily)	133,169	125,661	+6%
– VMT reduced (daily)	2,438,287	2,418,264	+1%
Daily Emissions Reduced			
– NOx (daily tons)	1.031	0.870	-19%
– VOC (daily tons)	0.531	0.538	-1%

* Note that 2009-11 includes 36 months of evaluation; 2012-14 includes only 30 months; Jan-Jun 2014 will be added in evaluation update.

Vehicle Trip Reduction – 2005-08, 2009-11, 2012-14*

TERMs Alone and TERMs + Commuter Operations Center

Daily Vehicle Trips Reduced

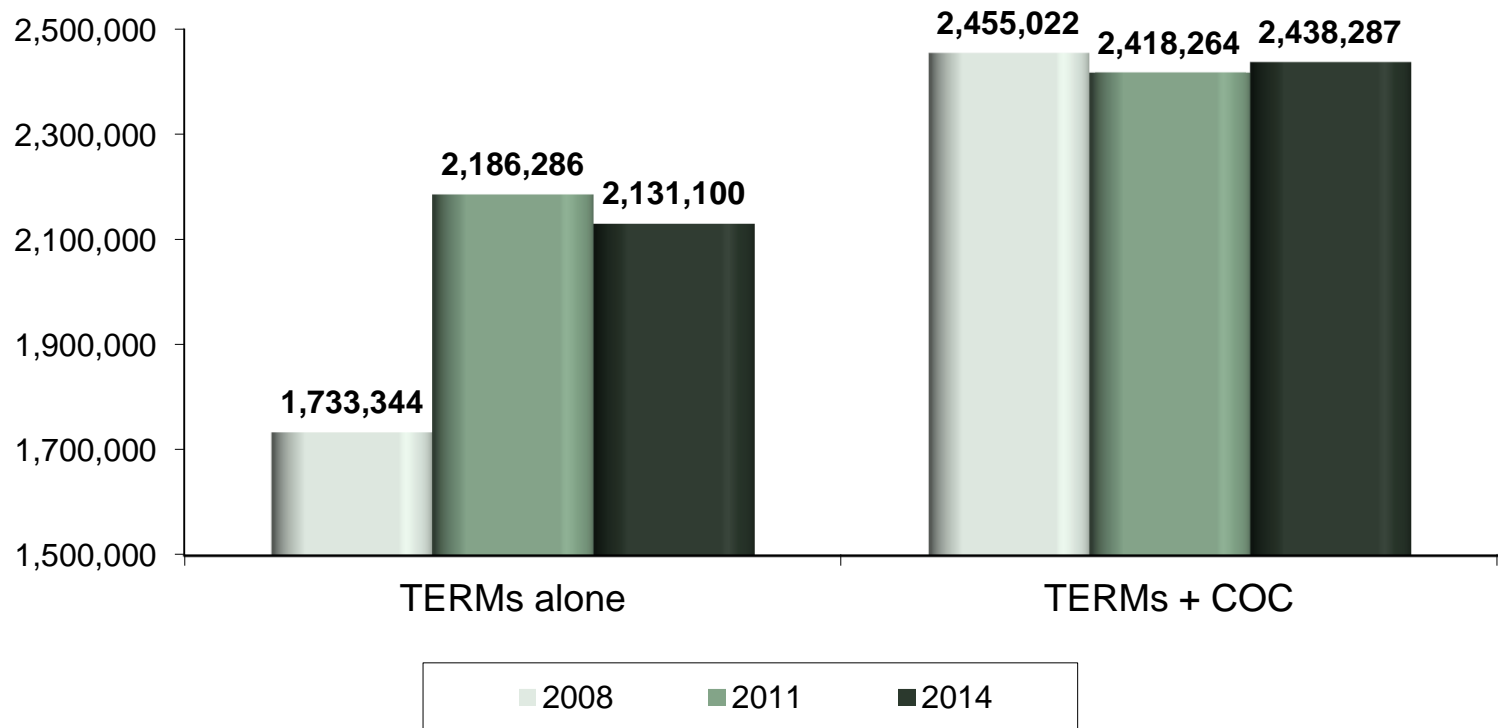


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VMT Reduction – 2005-08, 2009-11, 2012-14*

TERMs Alone and TERMS + Commuter Operations Center

Daily VMT Reduced



* Note that 2005-08 and 2009-11 include 36 months of evaluation; 2012-14 includes only 30 months; Jan-Jun 2014 will be added in evaluation update.



Questions?

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