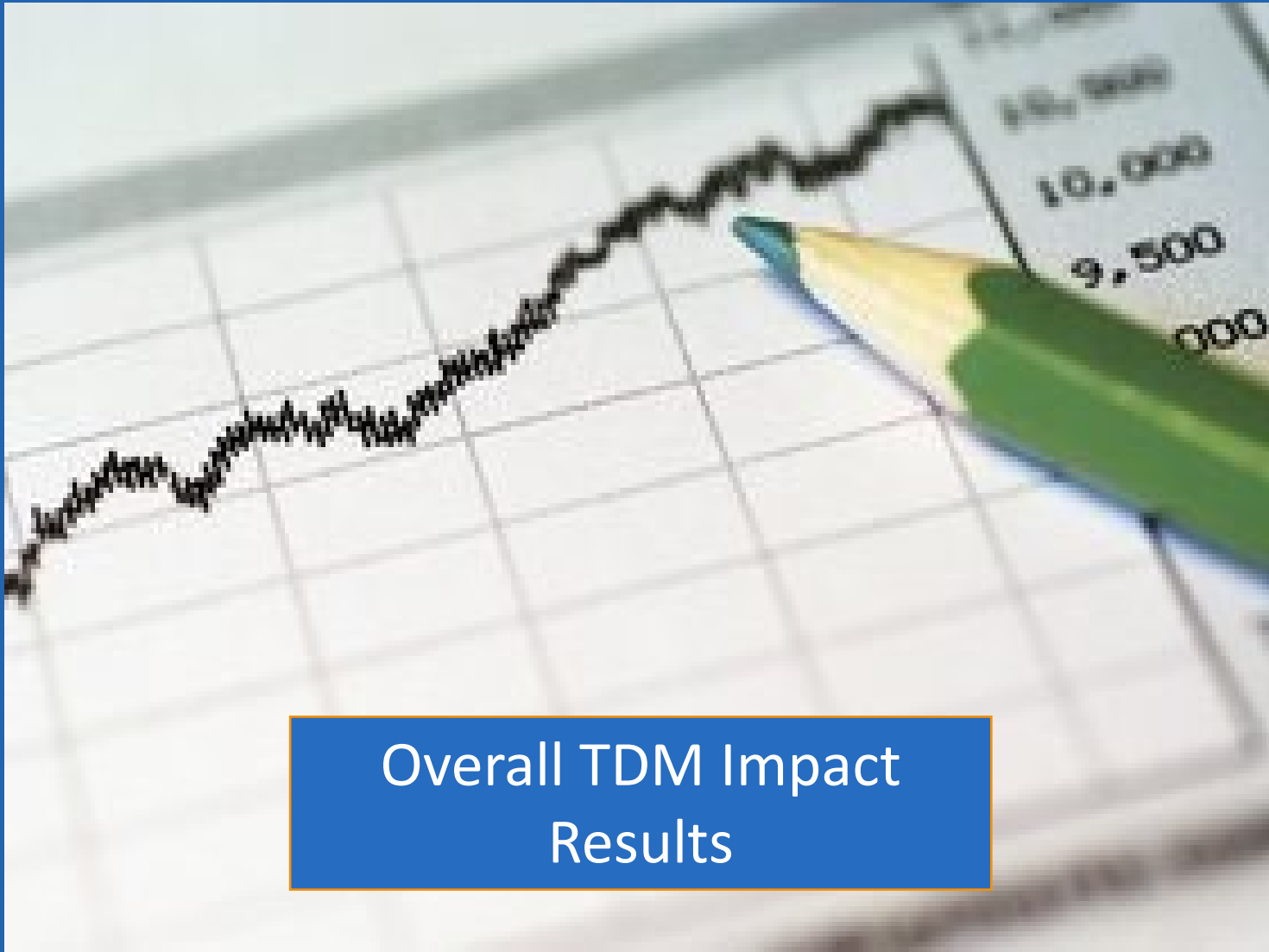


Commuter Connections TDM Evaluation FY 2021 – FY 2023 Results - Updated

**Presentation to
Commuter Connections
Subcommittee
September 19, 2023
LDA Consulting
with
CUTR, ESTC, WBA Research**





Overall TDM Impact
Results

Objective of Evaluation

- Apply methodology outlined in Evaluation Framework to estimate effectiveness of 4 TDM elements:
 - Telework Assistance (MD)
 - Guaranteed Ride Home
 - Employer Outreach
 - Mass Marketing
- Also document results of Commuter Operations Center (COC)
- **Changes from Interim Report**
 - Revised results to add CC activity during Jan-Jun 2023 – GRH, Employer Outreach, Mass Marketing, COC, Software Upgrades
 - Updated Employer Outreach with newly archived/deleted firms
 - Updated societal benefits cost saving calculation



Overall TDM Program Impacts

| <u>Indicator</u> | <u>Goal</u> | <u>Impact</u> | <u>Net</u> | <u>% VS Goal</u> |
|------------------|-------------|---------------|------------|------------------|
| Trips reduced | 146,515 | 119,489 | (27,026) | - 18% |
| VMT reduced | 2,712,949 | 2,166,855 | (546,094) | - 20% |
| | | | | |
| NOx reduced | 1.1820 T | 0.4571 T | (0.7249) T | - 61% |
| VOC reduced | 0.6560 T | 0.3751 T | (0.2809) T | - 43% |

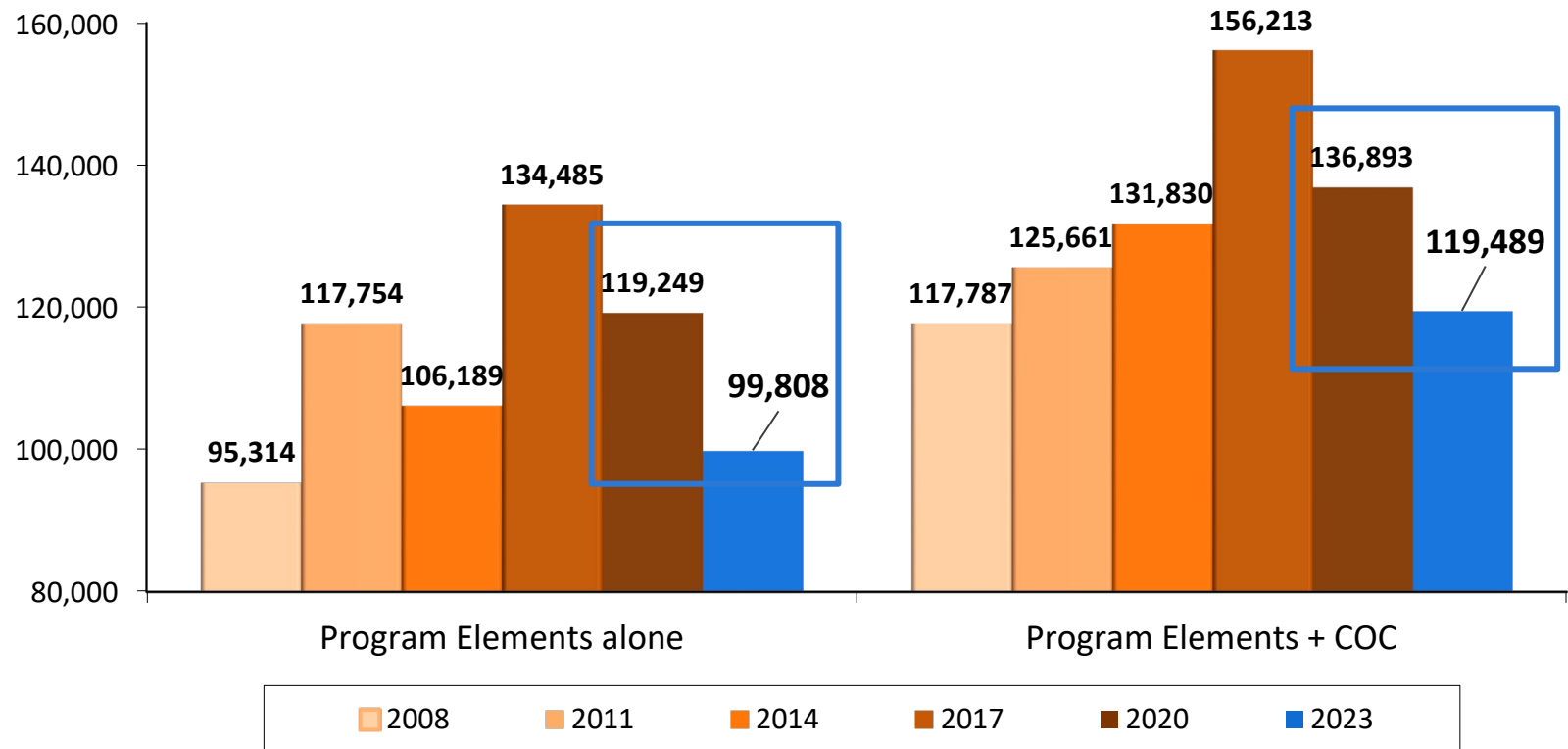
- CC programs (including COC) missed the VT reduction goal by 18% and missed the VMT reduction goal by 20%
- The four program elements (excluding COC) fell 17% short of the vehicle trip reduction goal and 13% short of the VMT reduction goal
- Shortfalls in individual program elements were generally related to lower than expected participation, in large part due to the pandemic. About one-third of workers were teleworking full-time in early 2022, meaning the base of “commuters” interested in commute support services was much lower than in 2020.

Vehicle Trips Trend – 2008, 2011, 2014, 2017, 2020, 2021-23

Program Elements Alone; Program Elements + COC

About 13% Drop in VMT Impacts from 2020 to 2023

Daily Vehicle Trips Reduced

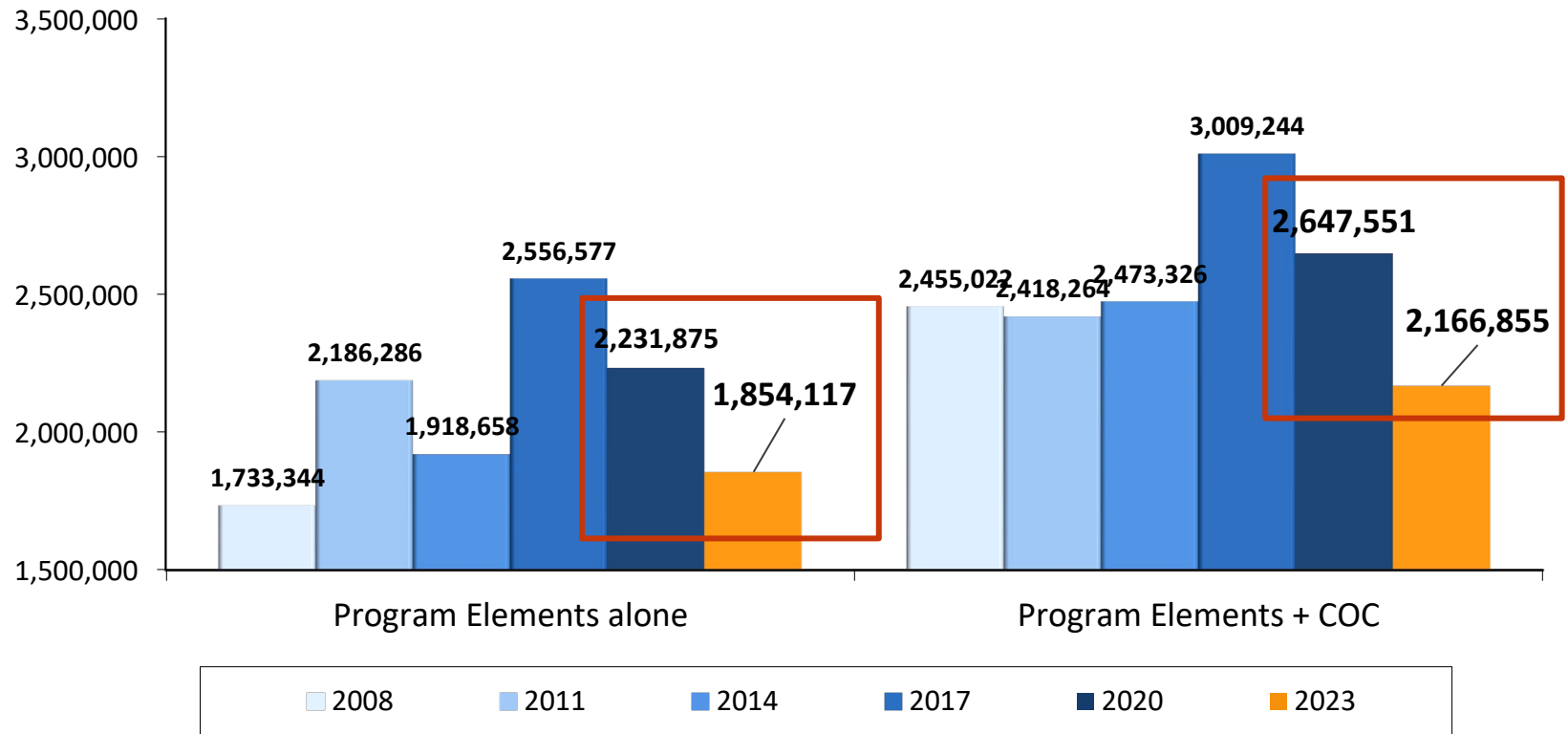


VMT Trend – 2008, 2011, 2014, 2017, 2020, 2021-23

Program Elements Alone; Program Elements + COC

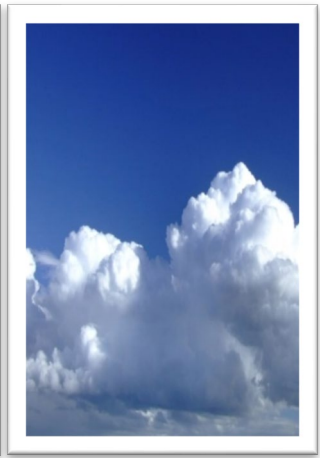
About 18% Drop in VMT Impacts from 2020 to 2023

Daily VMT Reduced



TDM Program Societal Benefits

- TDM analysis primarily undertaken to document travel and emissions impacts And measure against program goals
- TDM elements also offer societal benefits – e.g., congestion mitigation, climate change mitigation, improved health/safety
- 2023 TDM analysis estimated regional cost savings for selected societal benefits:
 - Air pollution/emissions reduction (NO_x, VOC)
 - Global climate change mitigation (reduced CO₂)
 - Reduction in congestion (reduced hours of peak period delay)
 - Reduction in fuel consumption (gasoline cost saving)
 - Improved health/safety (crashes reduced per 1M VMT)
 - Noise pollution reduction (reduced motor vehicle noise)

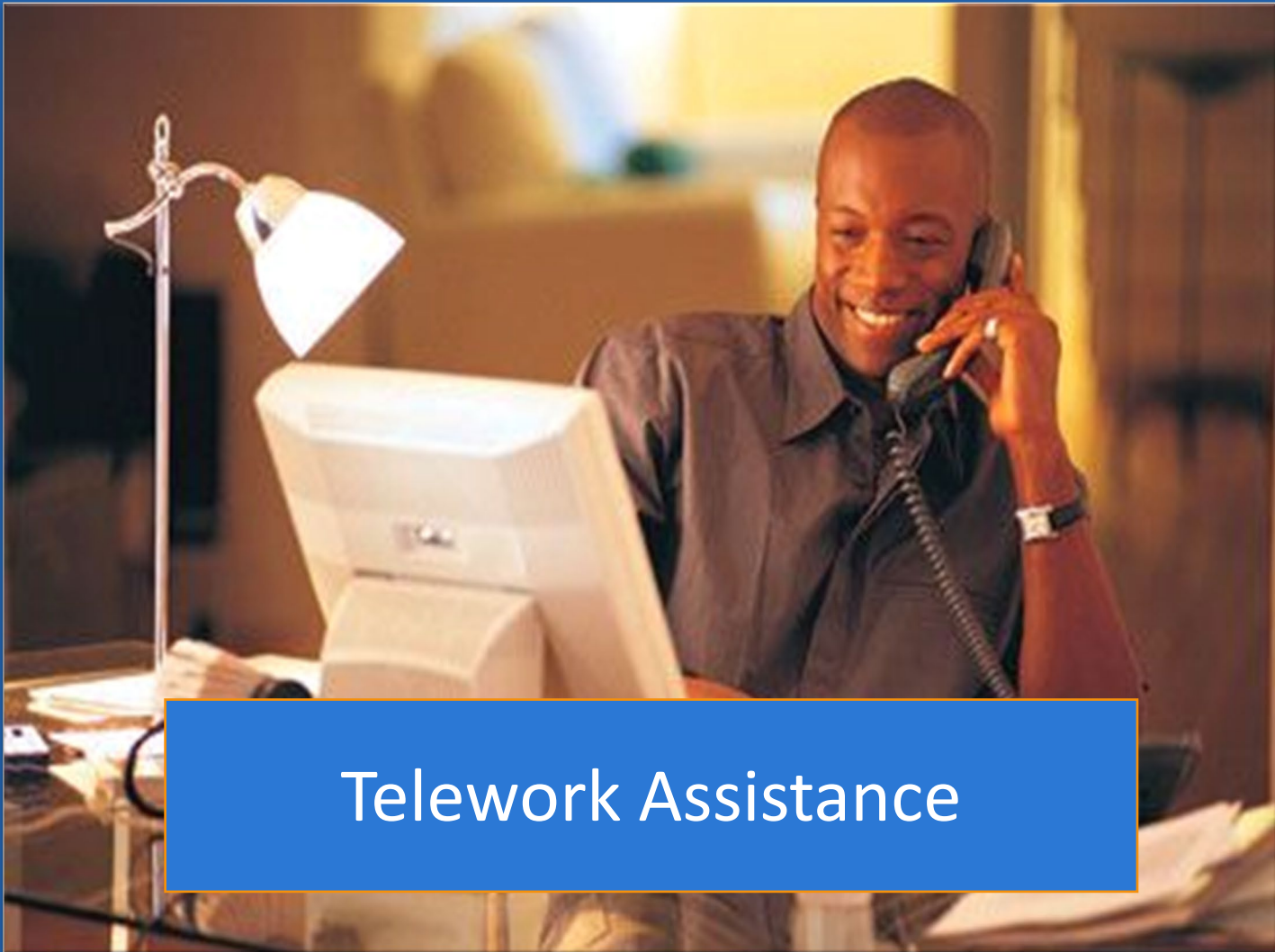


Societal Benefit Cost Savings = \$519,419 per Day

Generated by TDM Program Elements and COC VT/VMT Impacts

| Societal Benefit | <u>Benefit Unit</u> | <u>Base Units</u> | <u>Cost per Unit</u> | <u>Daily Cost Saving</u> |
|-------------------------|----------------------------|--------------------------|-----------------------------|---------------------------------|
| – Air pollution | Tons pollutants | Varies | Varies | \$787 |
| – Climate change | Tons CO2 | 835.5 T | \$36 | \$30,078 |
| – Noise pollution | VMT reduced | 2.167 M VMT | \$0.0223 | \$48,321 |
| | | | | |
| – Congestion | Hrs. delay reduced | 2,881 hr/day | \$30.43 | \$87,669 |
| – Fuel saving | Gallons fuel saved | 93,433 gal | \$3.40 | \$317,612 |
| – Health/safety* | Crashes avoided | 2.191 crashes | \$15,952 | \$34,952 |
| | | | | |
| All benefits | | | | \$519,419 |

* Health/safety - Benefit unit is crashes avoided per 1M VMT;
Benefit cost per unit is a weighted average of crash occurrence by severity



Telework Assistance

Telework Assistance Impacts (MD Telework)

| <u>Indicator</u> | <u>Goal</u> | <u>Impact</u> | <u>Net</u> | <u>% VS Goal</u> |
|------------------|-------------|---------------|------------|------------------|
| Number of TWs | 31,854 | 58,961 | 27,107 | + 85% |
| Trips reduced | 11,830 | 24,681 | 12,851 | + 109% |
| VMT reduced | 241,208 | 489,911 | 248,702 | + 103% |
| NOx reduced | 0.1220 T | 0.1072 T | (0.0148) T | - 12% |
| VOC reduced | 0.0720 T | 0.0898 T | 0.0178 T | + 25% |

Met participation, vehicle trip, and VMT. Also met VOC goal.

- TW use exploded in 2020, as a result of the pandemic – 2.1 M teleworkers in early 2022 vs 1.1 M in 2020. And TW frequency more than doubled.
- While most of the TW growth was due to the pandemic, CC/COG continued to be source of information for telecommuters. But the TW program element calculated only credit for TW related to COG/Commuter Connections' actions
- CC impacts represent 2.8% of regional TW VT reduced; the percentage was lower than in 2020 (5%), but the number of teleworkers assisted was much higher than in 2020.



Guaranteed Ride Home



GRH Impacts – Updated to Add Jan-June Activity

| <u>Indicator</u> | <u>Goal</u> | <u>Impact</u> | <u>Net</u> | <u>% VS Goal</u> |
|------------------|-------------|---------------|------------|------------------|
| Registrants | 18,496 | 3,308 | (15,188) | - 82% |
| Trips reduced | 6,296 | 2,013 | (4,283) | - 68% |
| VMT reduced | 177,568 | 52,201 | (125,367) | - 71% |
| NOx reduced | 0.0890 T | 0.0088 T | (0.0802) T | - 90% |
| VOC reduced | 0.0480 T | 0.0054 T | (0.0426) T | - 89% |

GRH did not meet goals due to much reduced participation related largely to the pandemic – 2022 GRH survey found that 41% of past participants cited telework as the reason they did not renew

Some overlap between GRH and Mass Marketing

- CC paused much of the GRH ads in 2020/2021
- But 26% of **new** GRH applicants were influenced by ads to apply for GRH
- So 8% of total GRH impact was assigned to Mass Marketing, reducing GRH credit



Pre FY 2021 “Retained” placements accounted for 40% of trips/VMT reduced



Employer Outreach



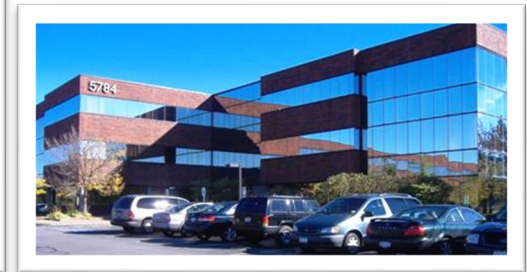
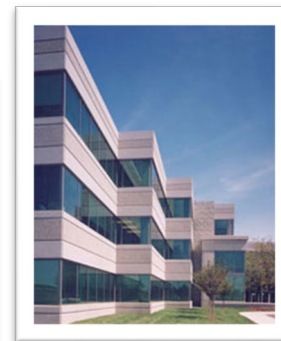
Employer Outreach



- Three impact components
 - Overall program
 - New / expanded programs
 - Bike services
- Impacts calculated for:
 - Employers who “continued” in EO from June 2020
 - Employers with new / expanded programs since June 2020
- Expanded program category was further divided in 2023 into expanded non-TW services and expanded only TW – this was to adjust the calculation so the large TW increases due to the pandemic were not credited entirely to EO
 - Only 10% of impacts for Expanded TW was assigned to EO; 90% was attributed to “the pandemic”
- Employers deleted/archived since June 2020 were removed from calculation
- EO is evaluated using EPA’s COMMUTER Model v2.0 to estimate VT and VMT reductions from packages of TDM strategies in various settings of transit accessibility.

Employer Participation – 1,177 New/Expanded Employers

| <u>Employer Group</u> | <u>Employers</u> | <u>Employees</u> |
|-----------------------------|------------------|------------------|
| Counted in impacts | | |
| ■ Continued (no change) | 989 | 264,819 |
| ■ Expanded non-TW services | 54 | 21,562 |
| ■ Expanded only TW services | 378 | 116,688 |
| ■ New in 2023 analysis | <u>745</u> | <u>109,876</u> |
| 2023 Total in impact | 2,166 | 512,945 |
| <i>2020 total in impact</i> | <i>1,964</i> | <i>630,369</i> |
| Not counted in impacts | | |
| ■ Deleted since June 2020* | 573 | 106,406 |



* Reflects CC effort to clean EO database, out of business, moved, and dropped out

EO Impacts – Overall

| <u>Indicator</u> | <u>Goal</u> | <u>Impact</u> | <u>Net</u> | <u>% VS Goal</u> |
|------------------|-------------|---------------|------------|------------------|
| Employers | 2,031 | 2,166 | 135 | + 7% |
| Trips reduced | 90,776 | 69,498 | (21,278) | - 23% |
| VMT reduced | 1,533,161 | 1,247,480 | (285,681) | - 19% |
| NOx reduced | 0.6170 T | 0.25771 T | (0.3599) T | - 58% |
| VOC reduced | 0.3850 T | 0.2056 T | (0.1794) T | - 47% |

Met participation goal; 745 new employers more than offset deleted (573)

But EO did not meet VT or VMT goals

- Deleted employers typically had more robust TDM services than did new employers
- To be conservative, only 10% of new TW was counted in impacts
- Impacts for non-TW strategies were applied to a smaller base of employee commute days, because TW days were excluded





Mass Marketing

Mass Marketing Results



- Direct Influence
 - 6% of commuters recalled CC commute messages
 - 15% shifted to alt mode after ad; 50% said ad influenced change
 - = 0.44% of regional commuters direct influence by MM (8,973 placements)
- “Referred” Influence – MM ads generated:
 - 2.2% of new COC rideshare apps = 633 placements
 - 8.0% of new GRH apps = 73 placements
- incentTrip
 - 3,587 active registrants; 45% not counted in GRH
 - 81% used incentTrip for commute and 60% alt mode change = 782 placements
- Pool Rewards CP/VP incentives
 - CP – 101 FY 2021-23 CP participants; 98% continued to use alt modes = 99 placements
 - CP – 204 Pre-2021 participants; 54% continued alt modes = 110 placements
 - VP – 14 riders in 3 vans
- Bike to Work Day event – 22% of riders started or increased bike commuting after the event
- Car Free Day event – 11% of participants increased alt mode use for commuting after the event

MORE LOOT FOR YOUR COMMUTE!
Getting cash for your clean trips is as easy as 1-2-3

- 1 Download the FREE incentTrip app
- 2 Log your clean commute
- 3 Redeem points for cash – up to \$600/yr!

800.745.RIDE | CommuterConnections.org
Some restrictions apply.

A hand holding a smartphone displaying the incentTrip app interface. The screen shows the app logo and the text "Dynamic Incentives For Dynamic Travelers".

Mass Marketing Impacts

| <u>Indicator</u> | <u>Goal</u> | <u>Impact</u> | <u>Net</u> | <u>% VS Goal</u> |
|------------------|-------------|---------------|------------|------------------|
| Commuters asstd | 23,168 | 14,439 | (8,729) | - 38% |
| Trips reduced | 10,809 | 3,616 | (7,193) | - 67% |
| VMT reduced | 181,932 | 64,525 | (117,407) | - 65% |
| NOx reduced | 0.0850 T | 0.0136 T | (0.0714) T | - 84% |
| VOC reduced | 0.0250 T | 0.0111 T | (0.0139) T | - 56% |

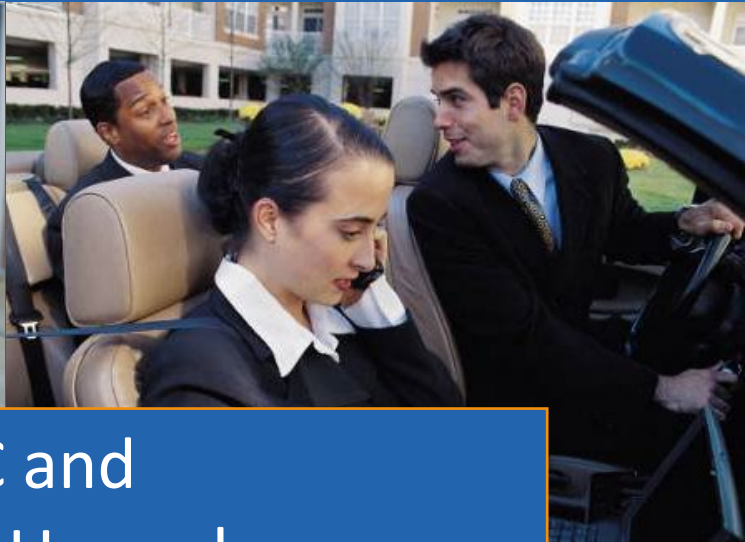
MM missed all goals

Shortfall more substantial for VT/VMT than for placements:

- Direct influence rate (6%) was less than half that of 2020 (14%) and the base of commuters was reduced by one-third to account for workers who TW full-time
- MM also received smaller impacts from COC and GRH than in 2020

Distribution of MM

- 50% of vehicle trip impact from “direct influence”
- 7% from “referred” influence
- 43% from BTW Day, Car Free Day, incenTrips, ‘Pool Rewards



COC and Software Upgrades



Commuter Operations Center

- Three components: Commuter Operations Center “basic services,” “Integrated Rideshare–Software Upgrades,” and assisted telework for commuters not covered by Telework Assistance
- 51,018 commuters assisted by COC from July 2020-June 2023
 - 42% new/reapply, 58% follow-up
 - 56% placed into new alt modes
= 28,756 new alt mode users
- 6,456 Pre-FY 2021 past uses added to analysis for “retention” credit; 14.3% were still using new alt mode = 923 “retained” alt mode users
- Direct assistance provided to 53,303 teleworkers who live and work outside MD
 - 4.4% of non-MD telecommuters cited CC/COG as TW info source



Commuter Operations Center (Basic + Software Upgrades)

| <u>Indicator</u> | <u>Goal</u> | <u>Impact</u> | <u>Net</u> | <u>% VS Goal</u> |
|------------------|-------------|---------------|------------|------------------|
| Commuters | 91,609 | 51,018 | (40,591) | - 44% |
| | | | | |
| Trips reduced | 26,804 | 19,681 | (7,123) | - 27% |
| VMT reduced | 579,079 | 312,738 | (266,341) | - 46% |
| | | | | |
| NOx reduced | 0.2690 T | 0.0704 T | (0.1986) T | - 74% |
| VOC reduced | 0.1260 T | 0.0632 T | (0.0628) T | - 50% |

Did not meet goals – largely because the applicant count declined markedly due to the pandemic.

But non-MD telework component was higher in 2023 than in 2020, offsetting some of the loss in applicant credit

Non-MD telework accounted for

- 79% of COC VT reduced (vs 48% in 2020)
- 70% of COC VMT reduced (vs 32% in 2020)



Questions?

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