

# Economic Analysis of Reinventing Metro *Revised Funding Scenario*

November 13, 2018

# Agenda

**Task C:** Measuring the Job Access Gap

**Task D:** Characterization of Commuter Patterns

**Task E:** Measure the Economic Value of Metro's Operations and Capital Spending

**Task F:** Regionalization

**Task G:** Update to Peer City Analysis

*Task C:*

# Measuring the Job Access Gap

## ***Purpose:***

To determine how route improvements can provide more people with usable access to jobs under the proposed funding scenario.



*Task C:*

# Measuring the Job Access Gap

- Expansion of Current Routes
- Additional Routes
- Bus Rapid Transit
- Shorter Headways
- Estimated **30-50%** increase in household-job access for 30-60 minute commuters

*Task C:*

# Measuring the Job Access Gap

- 50,000 jobs in Hamilton County can be accessed currently
  - 30-60 minute commute period
  - Increase of 30%: 65,000 jobs can be accessed
  - Increase of 50%: 75,000 jobs can be accessed
- There are 555,849 Hamilton County Jobs total
  - 9.0% are currently accessible (30-60 minute commute period)
  - With **30% increase**: now **11.7%** of jobs
  - With **50% increase**: now **13.5%** of jobs

*Task D:*

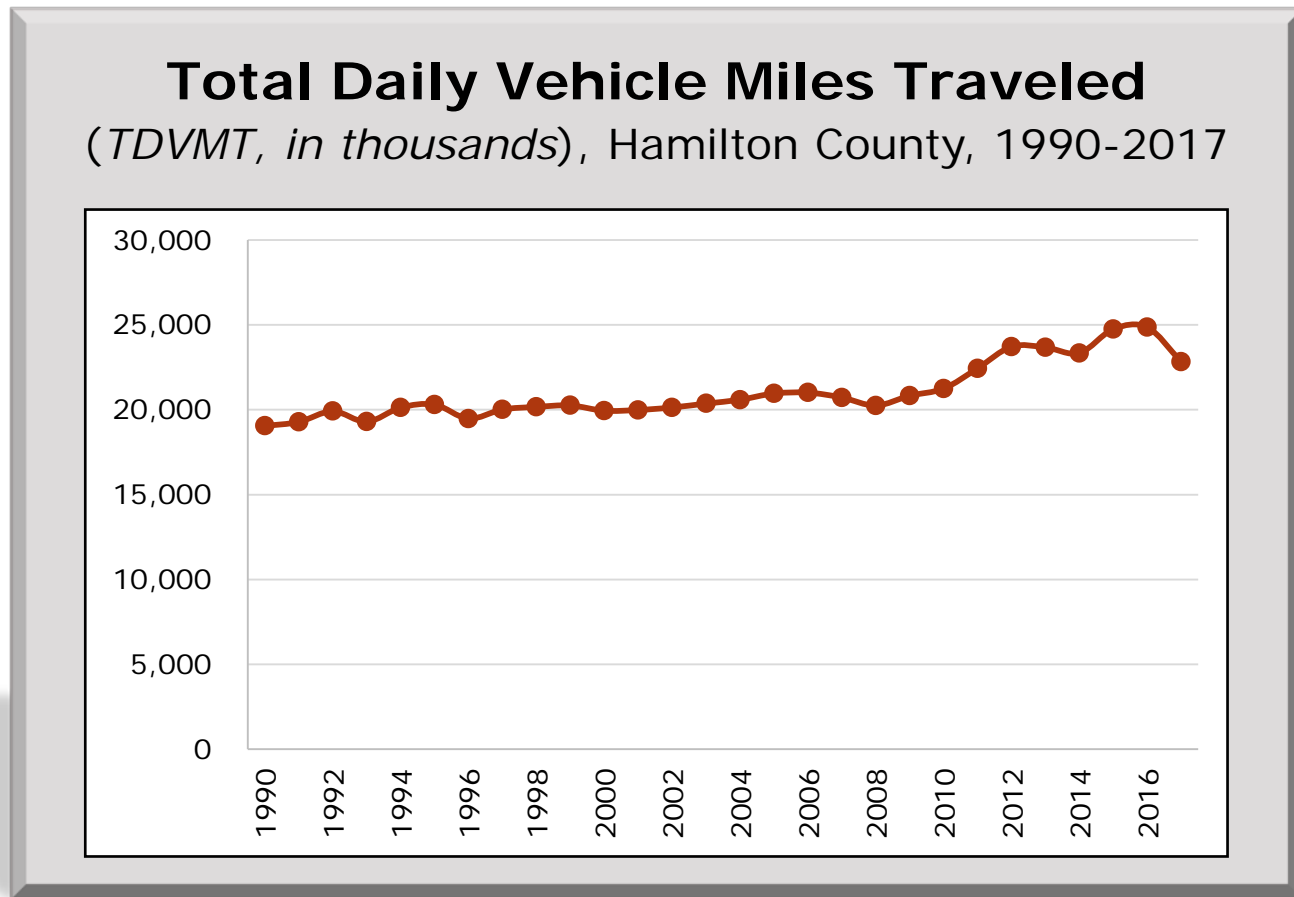
## **Characterization of Commuter Patterns**

### ***Purpose:***

Characterizing how expanded service for Metro may improve commuter access and reduce vehicle miles traveled.

## Task D:

# Characterization of Commuter Patterns



- TDVMT grew **19.8%** from 1990-2017 in Hamilton County
- **59.2%** of Hamilton County commuters using public transportation have access to at least one personal vehicle (57.1% of MSA commuters).
- **50.5%** of Hamilton County residents also commute to work within the county
  - **34.6%** of commuters residing in the remainder of the Cincinnati MSA commute to Hamilton County for work

*Task E:*

## **Measure the Economic Value of Metro's Operations and Capital Spending**

### ***Purpose:***

Calculating Metro's economic impact of operations and capital improvements under the proposed funding scenario.



*Task E:*

# Measure the Economic Value of Metro's Operations and Capital Spending

Hamilton County Economic Impact	
0.8-Cent Scenario	Total
Impact	\$ 2,178.7 M
Employment	14,707
Earnings	\$ 801.1 M

Additional MSA Impact	
0.8-Cent Scenario	Total
Impact	\$ 640.2 M
Employment	5,748
Earnings	\$ 251.0 M

Total Economic Impact	
0.8-Cent Scenario	Total
Impact	<b>\$ 2,818.9 M</b>
Employment	<b>20,455</b>
Earnings	<b>\$ 1,052.1 M</b>

*Task E:*

# Measure the Economic Value of Metro's Operations and Capital Spending

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Impact	\$ 2,178.7 M
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Impact	<b>\$ 2,818.9 M</b>
Employment	<b>20,455</b>
Earnings	<b>\$ 1,052.1 M</b>

*Task E:*

# Measure the Economic Value of Metro's Operations and Capital Spending

Hamilton County Economic Impact	
0.2-Cent Scenario	Total
Impact	\$ 332.8 M
Employment	1,223
Earnings	\$ 54.6 M

Additional MSA Impact	
0.2-Cent Scenario	Total
Impact	\$ 119.4 M
Employment	1,979
Earnings	\$ 77.6 M

Total Economic Impact	
0.2-Cent Scenario	Total
Impact	\$ 452.2 M
Employment	3,202
Earnings	\$ 132.2 M

*Task E:*

# Measure the Economic Value of Metro's Operations and Capital Spending

Hamilton County Economic Impact	
0.2-Cent Scenario	Total
Impact	\$ 332.8 M
Employment	1,223
Earnings	\$ 54.6 M

Additional MSA Impact	
0.2-Cent Scenario	Total
Impact	\$ 119.4 M
Employment	1,979
Earnings	\$ 77.6 M

Total Economic Impact	
0.2-Cent Scenario	Total
Impact	\$ 452.2 M
Employment	3,202
Earnings	\$ 132.2 M

*Task E:*

# Measure the Economic Value of Metro's Operations and Capital Spending

Hamilton County Economic Impact	
0.8+0.2-Cent Scenario	Total
Impact	\$ 2,511.5 M
Employment	15,930
Earnings	\$ 855.7 M

Additional MSA Impact	
0.8+0.2-Cent Scenario	Total
Impact	\$ 759.6 M
Employment	7,727
Earnings	\$ 328.5 M

Total Economic Impact	
0.8+0.2-Cent Scenario	Total
Impact	\$ 3,271.1 M
Employment	23,657
Earnings	\$ 1,184.2 M

*Task E:*

# Measure the Economic Value of Metro's Operations and Capital Spending

Hamilton County Economic Impact	
0.8+0.2-Cent Scenario	Total
Impact	\$ 2,511.5 M
Employment	15,930
Earnings	\$ 855.7 M

Additional MSA Impact	
0.8+0.2-Cent Scenario	Total
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Total Economic Impact	
0.8+0.2-Cent Scenario	Total
Impact	\$ 3,271.1 M
Employment	23,657
Earnings	\$ 1,184.2 M



Task E:

## Measure the Economic Value of Metro's Operations and Capital Spending

Direct Sales Tax  
collections: \$1.39  
billion (2020-2028)

**135% leveraged**

total impact

(sales tax expenditure to total)

Total Economic Impact	
0.8+0.2-Cent Scenario	Total
Impact	\$ 3,271.1 M
Employment	23,657
Earnings	\$ 1,184.2 M



*Task F:*

# **Regionalization**

## ***Purpose:***

Quantifying the efficiency-oriented impacts of Metro's proposed route expansion on the Region.





# Task F: Regionalization Results

**Impact of Bus Transit on Employee Turnover**  
*Hicks & Faulk, 2015*

The expected **employer savings in year 2020** from **reduced turnover** as a result of **increased per capita investment in public transit** within **Hamilton County**:





Task F:  
**Regionalization**  
Results

**Economic Impact of Public Transportation Investment**  
*Weisbrod and Reno, 2009*

Productivity could be boosted by nearly **\$160m** (2018\$) annually based on an estimated increase in public transportation's mode share comparable to a peer city (Pittsburgh).



# Task F: **Regionalization** Results

## Economic Impact of Public Transportation Investment

*Weisbrod and Reno, 2009*

Productivity could be boosted by nearly **\$160m** (2018\$) annually based on an estimated increase in public transportation's mode share comparable to a peer city (Pittsburgh).

This results in annual economic impact of household spending of **\$95M in the MSA** and is comparable to supporting **4,654 jobs** per year.



# Task F: **Regionalization** Results

The approximate **annual savings** for individuals **commuting to work to the Central Business District via public transit**, rather than utilizing a personal vehicle, **in Hamilton County**:

**\$2,600**

saved from the average **cost of vehicle operation** and downtown **parking fees**



*Task G:*

# **Update to Peer City Analysis**

## ***Purpose:***

Comparing Metro's fare reliance, service capacity, and fiscal impacts to its peer cities for greater contextualization of where improvement is necessary to enhance service and operations.

Task G:

# Update to Peer City Analysis

- **State & Federal Funding: #12**

- *#5 in Bus Only Peer City*

- **Fare Burden: #11**

- *#12 in Bus Only Peer City*

- **Service Capacity: #7**

- *#1 in Bus Only Peer City*

## *Additional Metrics:*

- Fare Revenue Earned per Capital Expense (#1 in Reliance)
- Capital Expense per Capita within Service Area (#11)
- Monthly Pass Percentage Savings & Value Ranking (#10)

# Task G: Update to Peer City Analysis Results

Location	State & Federal Funding		Fare Burden		Service Capacity	
	2015 Relative Ranking	2016 Relative Ranking	2015 Relative Ranking	2016 Relative Ranking	2015 Relative Ranking	2016 Relative Ranking
Austin	3	1	3	2	6	6
Cleveland	1	2	5	6	5	5
Columbus	1	3	8	5	9	10
St. Louis	4	4	8	4	4	4
Louisville	4	5	3	3	10	11
Pittsburgh	7	6	12	12	1	1
Denver	6	7	10	10	2	2
Indianapolis	8	7	8	7	12	12
Charlotte	8	9	5	8	7	8
Raleigh	10	10	2	1	11	9
Minneapolis	11	11	10	9	3	3
<b>Cincinnati</b>	<b>12</b>	<b>12</b>	<b>11</b>	<b>11</b>	<b>8</b>	<b>7</b>

# Thank You

Brad Evans

Christopher Nicak

Nora Vonder Meulen





## Task E:

# Measure the Economic Value of Metro's Operations and Capital Spending

### OPERATIONS EXPENDITURES – HAMILTON COUNTY

Economic Output (000s)										
0.8-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 79.9	\$ 89.4	\$ 96.2	\$ 98.5	\$ 101.0	\$ 104.7	\$ 108.6	\$ 111.5	\$ 114.6	\$ 904.2
Indirect	\$ 52.6	\$ 59.1	\$ 63.7	\$ 65.3	\$ 66.9	\$ 69.4	\$ 72.0	\$ 74.0	\$ 76.0	\$ 599.0
<b>Total</b>	<b>\$ 132.5</b>	<b>\$ 148.5</b>	<b>\$ 159.9</b>	<b>\$ 163.8</b>	<b>\$ 167.9</b>	<b>\$ 174.1</b>	<b>\$ 180.6</b>	<b>\$ 185.4</b>	<b>\$ 190.6</b>	<b>\$ 1,503.3</b>

Employment										
0.8-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total*
Direct	886	918	918	947	968	980	993	993	993	8,596
Indirect	343	348	343	354	361	365	368	367	367	3,216
<b>Total</b>	<b>1,229</b>	<b>1,266</b>	<b>1,261</b>	<b>1,301</b>	<b>1,329</b>	<b>1,345</b>	<b>1,361</b>	<b>1,360</b>	<b>1,360</b>	<b>11,812</b>

Earnings (000s)										
0.8-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 47.1	\$ 47.6	\$ 48.1	\$ 48.6	\$ 49.1	\$ 49.6	\$ 50.0	\$ 50.5	\$ 51.1	\$ 441.7
Indirect	\$ 24.5	\$ 25.2	\$ 25.6	\$ 25.9	\$ 26.1	\$ 26.5	\$ 26.8	\$ 27.1	\$ 27.4	\$ 235.0
<b>Total</b>	<b>\$ 71.7</b>	<b>\$ 72.8</b>	<b>\$ 73.7</b>	<b>\$ 74.4</b>	<b>\$ 75.2</b>	<b>\$ 76.0</b>	<b>\$ 76.8</b>	<b>\$ 77.6</b>	<b>\$ 78.4</b>	<b>\$ 676.7</b>

## Task E:

# Measure the Economic Value of Metro's Operations and Capital Spending

## CAPITAL EXPENDITURES – HAMILTON COUNTY

Economic Output (000s)										
0.8-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 71.7	\$ 53.0	\$ 12.6	\$ 124.8	\$ 86.4	\$ 17.5	\$ 31.6	\$ 15.9	\$ 9.5	\$ 423.1
Indirect	\$ 46.0	\$ 35.5	\$ 7.6	\$ 72.5	\$ 46.7	\$ 9.5	\$ 18.6	\$ 10.7	\$ 5.2	\$ 252.4
<b>Total</b>	<b>\$ 117.7</b>	<b>\$ 88.5</b>	<b>\$ 20.3</b>	<b>\$ 197.4</b>	<b>\$ 133.2</b>	<b>\$ 27.0</b>	<b>\$ 50.2</b>	<b>\$ 26.7</b>	<b>\$ 14.6</b>	<b>\$ 675.5</b>

Employment										
0.8-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total*
Direct	291	212	52	524	370	75	132	64	41	1,762
Indirect	215	169	35	321	197	40	83	51	22	1,133
<b>Total</b>	<b>506</b>	<b>382</b>	<b>87</b>	<b>845</b>	<b>568</b>	<b>115</b>	<b>215</b>	<b>115</b>	<b>62</b>	<b>2,895</b>

Earnings (000s)										
0.8-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 14.2	\$ 10.4	\$ 2.6	\$ 25.4	\$ 17.9	\$ 3.6	\$ 6.4	\$ 3.1	\$ 2.0	\$ 85.6
Indirect	\$ 7.2	\$ 5.6	\$ 1.2	\$ 11.1	\$ 7.0	\$ 1.4	\$ 2.9	\$ 1.7	\$ 0.8	\$ 38.8
<b>Total</b>	<b>\$ 21.4</b>	<b>\$ 16.0</b>	<b>\$ 3.7</b>	<b>\$ 36.5</b>	<b>\$ 24.9</b>	<b>\$ 5.0</b>	<b>\$ 9.3</b>	<b>\$ 4.8</b>	<b>\$ 2.7</b>	<b>\$ 124.4</b>

## Task E:

# Measure the Economic Value of Metro's Operations and Capital Spending

### 0.2-CENT CAPITAL EXPENDITURES – HAMILTON COUNTY

Economic Output (000s)										
0.2-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 24.1	\$ 24.2	\$ 24.3	\$ 24.4	\$ 24.5	\$ 24.6	\$ 24.6	\$ 24.7	\$ 24.8	\$ 220.1
Indirect	\$ 12.3	\$ 12.4	\$ 12.4	\$ 12.5	\$ 12.5	\$ 12.6	\$ 12.6	\$ 12.7	\$ 12.7	\$ 112.7
<b>Total</b>	<b>\$ 36.4</b>	<b>\$ 36.5</b>	<b>\$ 36.7</b>	<b>\$ 36.9</b>	<b>\$ 37.0</b>	<b>\$ 37.1</b>	<b>\$ 37.3</b>	<b>\$ 37.4</b>	<b>\$ 37.5</b>	<b>\$ 332.8</b>

Employment										
0.2-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total*
Direct	84	84	84	85	85	85	86	86	86	764
Indirect	50	50	51	51	51	51	51	52	52	459
<b>Total</b>	<b>134</b>	<b>134</b>	<b>135</b>	<b>135</b>	<b>136</b>	<b>136</b>	<b>137</b>	<b>137</b>	<b>138</b>	<b>1,223</b>

Earnings (000s)										
0.2 -Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 4.1	\$ 4.1	\$ 4.1	\$ 4.1	\$ 4.1	\$ 4.1	\$ 4.2	\$ 4.2	\$ 4.2	\$ 37.2
Indirect	\$ 1.9	\$ 1.9	\$ 1.9	\$ 1.9	\$ 1.9	\$ 1.9	\$ 1.9	\$ 2.0	\$ 2.0	\$ 17.4
<b>Total</b>	<b>\$ 6.0</b>	<b>\$ 6.0</b>	<b>\$ 6.0</b>	<b>\$ 6.0</b>	<b>\$ 6.1</b>	<b>\$ 6.1</b>	<b>\$ 6.1</b>	<b>\$ 6.1</b>	<b>\$ 6.2</b>	<b>\$ 54.6</b>

## Task E:

# Measure the Economic Value of Metro's Operations and Capital Spending

### 0.2-CENT CAPITAL EXPENDITURES (x3 Funding Match) – HAMILTON COUNTY

Economic Output (000s)										
0.2-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 72.2	\$ 72.5	\$ 72.8	\$ 73.1	\$ 73.4	\$ 73.7	\$ 73.9	\$ 74.2	\$ 74.4	\$ 660.2
Indirect	\$ 37.0	\$ 37.1	\$ 37.3	\$ 37.5	\$ 37.6	\$ 37.7	\$ 37.9	\$ 38.0	\$ 38.1	\$ 338.2
<b>Total</b>	<b>\$ 109.1</b>	<b>\$ 109.6</b>	<b>\$ 110.1</b>	<b>\$ 110.6</b>	<b>\$ 111.0</b>	<b>\$ 111.4</b>	<b>\$ 111.8</b>	<b>\$ 112.2</b>	<b>\$ 112.5</b>	<b>\$ 998.4</b>

Employment										
0.2-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total*
Direct	251	252	253	254	255	256	257	257	258	2,292
Indirect	151	151	152	153	153	154	154	155	155	1,377
<b>Total</b>	<b>401</b>	<b>403</b>	<b>405</b>	<b>406</b>	<b>408</b>	<b>409</b>	<b>411</b>	<b>412</b>	<b>413</b>	<b>3,669</b>

Earnings (000s)										
0.2 -Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 12.2	\$ 12.3	\$ 12.3	\$ 12.4	\$ 12.4	\$ 12.4	\$ 12.5	\$ 12.5	\$ 12.6	\$ 111.6
Indirect	\$ 5.7	\$ 5.7	\$ 5.8	\$ 5.8	\$ 5.8	\$ 5.8	\$ 5.8	\$ 5.9	\$ 5.9	\$ 52.2
<b>Total</b>	<b>\$ 17.9</b>	<b>\$ 18.0</b>	<b>\$ 18.1</b>	<b>\$ 18.1</b>	<b>\$ 18.2</b>	<b>\$ 18.3</b>	<b>\$ 18.3</b>	<b>\$ 18.4</b>	<b>\$ 18.5</b>	<b>\$ 163.8</b>

## Task E:

# Measure the Economic Value of Metro's Operations and Capital Spending

## OPERATIONS EXPENDITURES – Cincinnati MSA

Economic Output (000s)										
0.8-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 77.8	\$ 87.1	\$ 93.7	\$ 96.0	\$ 98.4	\$ 102.0	\$ 105.8	\$ 108.7	\$ 111.7	\$ 881.4
Indirect	\$ 87.5	\$ 98.2	\$ 105.8	\$ 108.4	\$ 111.1	\$ 115.2	\$ 119.6	\$ 122.8	\$ 126.2	\$ 994.8
<b>Total</b>	<b>\$ 165.3</b>	<b>\$ 185.3</b>	<b>\$ 199.5</b>	<b>\$ 204.4</b>	<b>\$ 209.6</b>	<b>\$ 217.3</b>	<b>\$ 225.4</b>	<b>\$ 231.5</b>	<b>\$ 237.9</b>	<b>\$ 1,876.2</b>

Employment										
0.8-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total*
Direct	886	918	918	947	968	980	993	993	993	8,596
Indirect	507	513	506	521	532	537	542	541	541	4,740
<b>Total</b>	<b>1,393</b>	<b>1,431</b>	<b>1,424</b>	<b>1,468</b>	<b>1,500</b>	<b>1,517</b>	<b>1,535</b>	<b>1,534</b>	<b>1,534</b>	<b>13,336</b>

Earnings (000s)										
0.8-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 47.1	\$ 47.6	\$ 48.1	\$ 48.6	\$ 49.1	\$ 49.6	\$ 50.0	\$ 50.5	\$ 51.1	\$ 441.7
Indirect	\$ 34.8	\$ 35.5	\$ 36.0	\$ 36.4	\$ 36.8	\$ 37.2	\$ 37.6	\$ 38.0	\$ 38.4	\$ 330.7
<b>Total</b>	<b>\$ 81.9</b>	<b>\$ 83.1</b>	<b>\$ 84.1</b>	<b>\$ 85.0</b>	<b>\$ 85.8</b>	<b>\$ 86.7</b>	<b>\$ 87.7</b>	<b>\$ 88.6</b>	<b>\$ 89.5</b>	<b>\$ 772.4</b>

## Task E:

# Measure the Economic Value of Metro's Operations and Capital Spending

## CAPITAL EXPENDITURES – Cincinnati MSA

Economic Output (000s)										
0.8-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 63.8	\$ 46.7	\$ 11.4	\$ 113.6	\$ 79.7	\$ 16.1	\$ 28.7	\$ 14.0	\$ 8.7	\$ 382.8
Indirect	\$ 72.4	\$ 53.6	\$ 12.7	\$ 125.6	\$ 86.7	\$ 17.5	\$ 31.8	\$ 16.1	\$ 9.5	\$ 426.0
<b>Total</b>	<b>\$ 136.2</b>	<b>\$ 100.3</b>	<b>\$ 24.1</b>	<b>\$ 239.2</b>	<b>\$ 166.4</b>	<b>\$ 33.6</b>	<b>\$ 60.5</b>	<b>\$ 30.2</b>	<b>\$ 18.2</b>	<b>\$ 808.8</b>

Employment										
0.8-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total*
Direct	510	362	95	966	704	142	242	108	77	1,682
Indirect	557	419	96	937	633	128	238	126	70	1,663
<b>Total</b>	<b>1,068</b>	<b>781</b>	<b>191</b>	<b>1,902</b>	<b>1,337</b>	<b>270</b>	<b>480</b>	<b>235</b>	<b>146</b>	<b>3,345</b>

Earnings (000s)										
0.8-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 23.4	\$ 16.7	\$ 4.3	\$ 44.1	\$ 32.0	\$ 6.5	\$ 11.1	\$ 5.0	\$ 3.5	\$ 146.6
Indirect	\$ 18.4	\$ 13.6	\$ 3.2	\$ 31.8	\$ 21.7	\$ 4.4	\$ 8.1	\$ 4.1	\$ 2.4	\$ 107.7
<b>Total</b>	<b>\$ 41.9</b>	<b>\$ 30.3</b>	<b>\$ 7.6</b>	<b>\$ 75.9</b>	<b>\$ 53.8</b>	<b>\$ 10.9</b>	<b>\$ 19.1</b>	<b>\$ 9.1</b>	<b>\$ 5.9</b>	<b>\$ 254.4</b>

## Task E:

# Measure the Economic Value of Metro's Operations and Capital Spending

### 0.2-CENT CAPITAL EXPENDITURES – Cincinnati MSA

Economic Output (000s)										
0.2-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 22.8	\$ 22.9	\$ 23.0	\$ 23.1	\$ 23.2	\$ 23.3	\$ 23.4	\$ 23.5	\$ 23.5	\$ 208.8
Indirect	\$ 24.1	\$ 24.2	\$ 24.3	\$ 24.4	\$ 24.5	\$ 24.6	\$ 24.7	\$ 24.8	\$ 24.9	\$ 220.5
<b>Total</b>	<b>\$ 46.9</b>	<b>\$ 47.2</b>	<b>\$ 47.4</b>	<b>\$ 47.6</b>	<b>\$ 47.7</b>	<b>\$ 47.9</b>	<b>\$ 48.1</b>	<b>\$ 48.2</b>	<b>\$ 48.4</b>	<b>\$ 429.4</b>

Employment										
0.2-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total*
Direct	165	166	167	168	168	169	169	170	170	1,513
Indirect	169	169	170	171	171	172	173	173	174	1,542
<b>Total</b>	<b>334</b>	<b>335</b>	<b>337</b>	<b>338</b>	<b>340</b>	<b>341</b>	<b>342</b>	<b>343</b>	<b>344</b>	<b>3,055</b>

Earnings (000s)										
0.2 -Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 7.6	\$ 7.6	\$ 7.6	\$ 7.7	\$ 7.7	\$ 7.7	\$ 7.8	\$ 7.8	\$ 7.8	\$ 69.2
Indirect	\$ 6.2	\$ 6.2	\$ 6.3	\$ 6.3	\$ 6.3	\$ 6.3	\$ 6.4	\$ 6.4	\$ 6.4	\$ 56.8
<b>Total</b>	<b>\$ 13.8</b>	<b>\$ 13.8</b>	<b>\$ 13.9</b>	<b>\$ 14.0</b>	<b>\$ 14.0</b>	<b>\$ 14.1</b>	<b>\$ 14.1</b>	<b>\$ 14.2</b>	<b>\$ 14.2</b>	<b>\$ 126.1</b>



## Task E:

# Measure the Economic Value of Metro's Operations and Capital Spending

### 0.2-CENT CAPITAL EXPENDITURES (x3 Funding Match) – Cincinnati MSA

Economic Output (000s)										
0.2-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 68.5	\$ 68.8	\$ 69.1	\$ 69.4	\$ 69.7	\$ 69.9	\$ 70.1	\$ 70.4	\$ 70.6	\$ 626.4
Indirect	\$ 72.3	\$ 72.7	\$ 73.0	\$ 73.3	\$ 73.6	\$ 73.8	\$ 74.1	\$ 74.3	\$ 74.6	\$ 661.6
<b>Total</b>	<b>\$ 140.8</b>	<b>\$ 141.5</b>	<b>\$ 142.1</b>	<b>\$ 142.7</b>	<b>\$ 143.2</b>	<b>\$ 143.7</b>	<b>\$ 144.2</b>	<b>\$ 144.7</b>	<b>\$ 145.1</b>	<b>\$1,288.1</b>

Employment										
0.2-Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total*
Direct	496	498	501	503	505	507	508	510	511	4,539
Indirect	506	508	510	512	514	516	518	520	521	4,626
<b>Total</b>	<b>1,002</b>	<b>1,006</b>	<b>1,011</b>	<b>1,015</b>	<b>1,019</b>	<b>1,023</b>	<b>1,026</b>	<b>1,030</b>	<b>1,033</b>	<b>9,165</b>

Earnings (000s)										
0.2 -Cent Scenario	2020	2021	2022	2023	2024	2025	2026	2027	2028	Total
Direct	\$ 22.7	\$ 22.8	\$ 22.9	\$ 23.0	\$ 23.1	\$ 23.2	\$ 23.3	\$ 23.3	\$ 23.4	\$ 207.7
Indirect	\$ 18.6	\$ 18.7	\$ 18.8	\$ 18.9	\$ 18.9	\$ 19.0	\$ 19.1	\$ 19.1	\$ 19.2	\$ 170.4
<b>Total</b>	<b>\$ 41.3</b>	<b>\$ 41.5</b>	<b>\$ 41.7</b>	<b>\$ 41.9</b>	<b>\$ 42.0</b>	<b>\$ 42.2</b>	<b>\$ 42.3</b>	<b>\$ 42.5</b>	<b>\$ 42.6</b>	<b>\$ 378.2</b>