

**Appendix R AIR QUALITY/HEALTH RISK ASSESSMENT
MAPS**

This page intentionally left blank

Minimum: -509 pounds per day
Maximum: 23 pounds per day

Legend

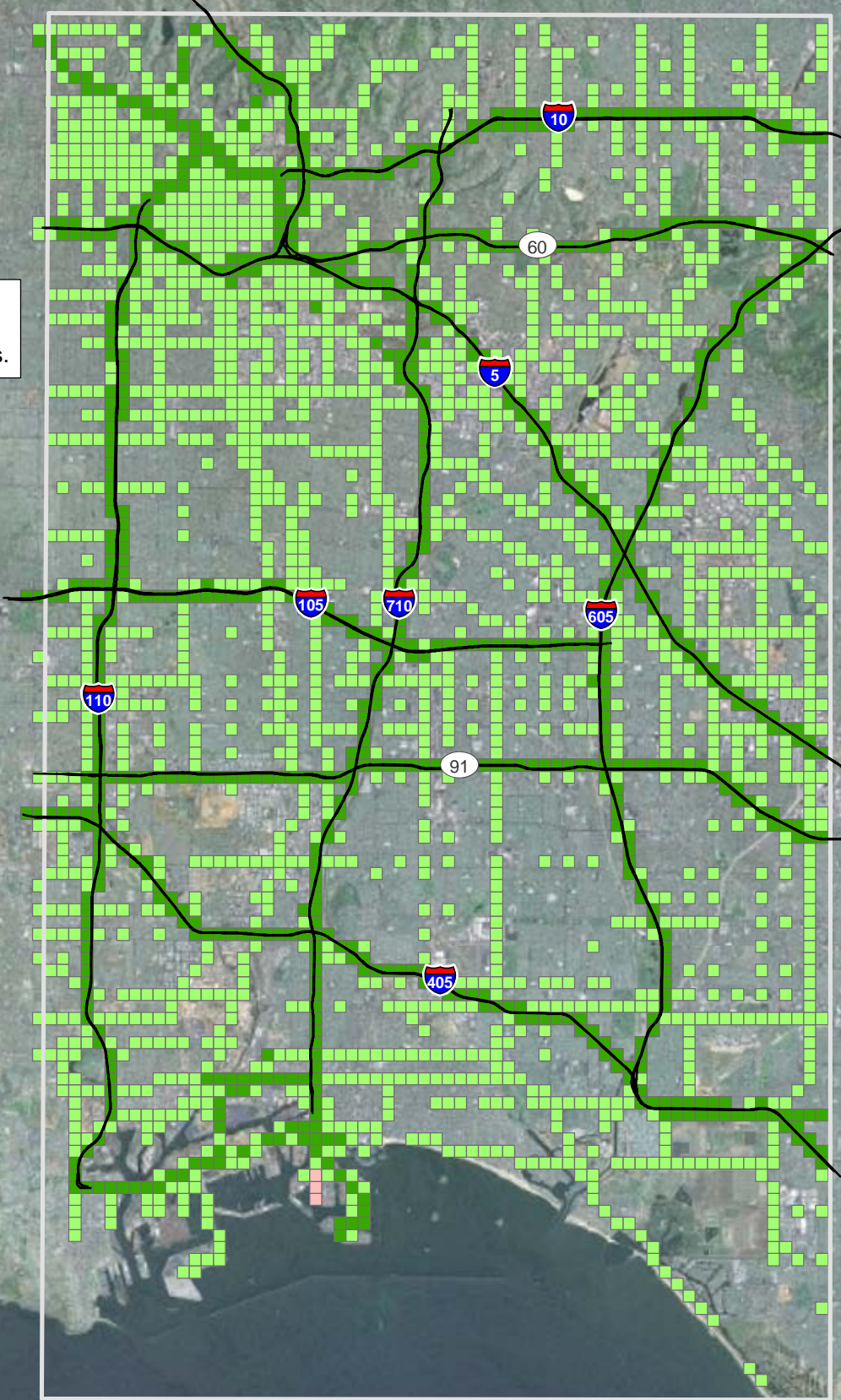
- Freeways of Interest
- Area of Interest

Incremental Emissions (lbs/day)

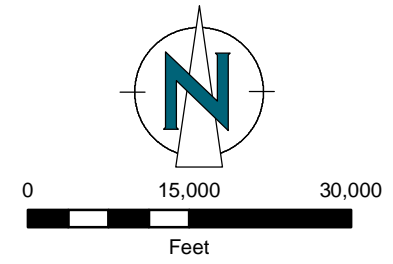
- < -55
- 55 to -10
- 10 to 10
- 10 to 55
- > 55

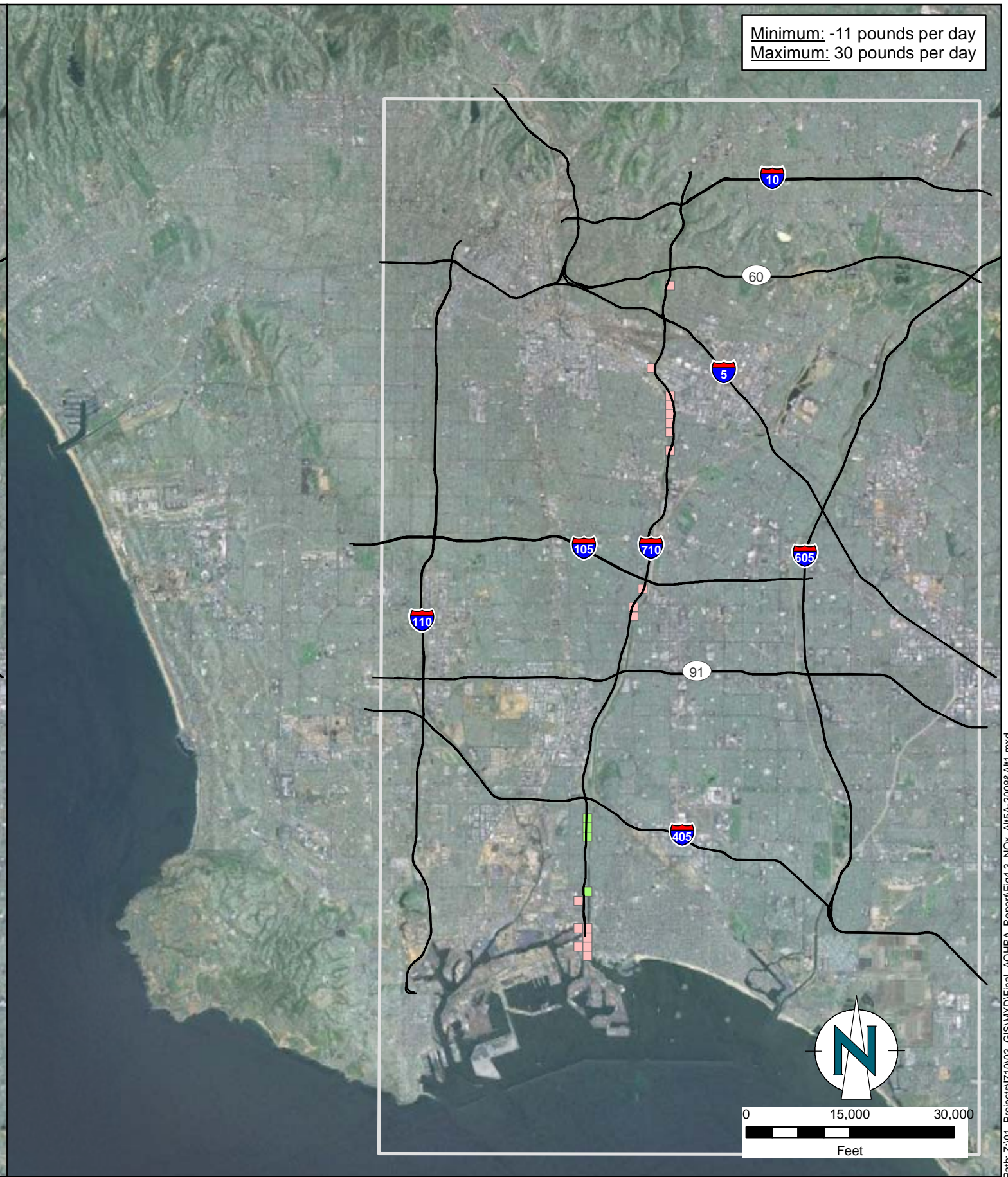
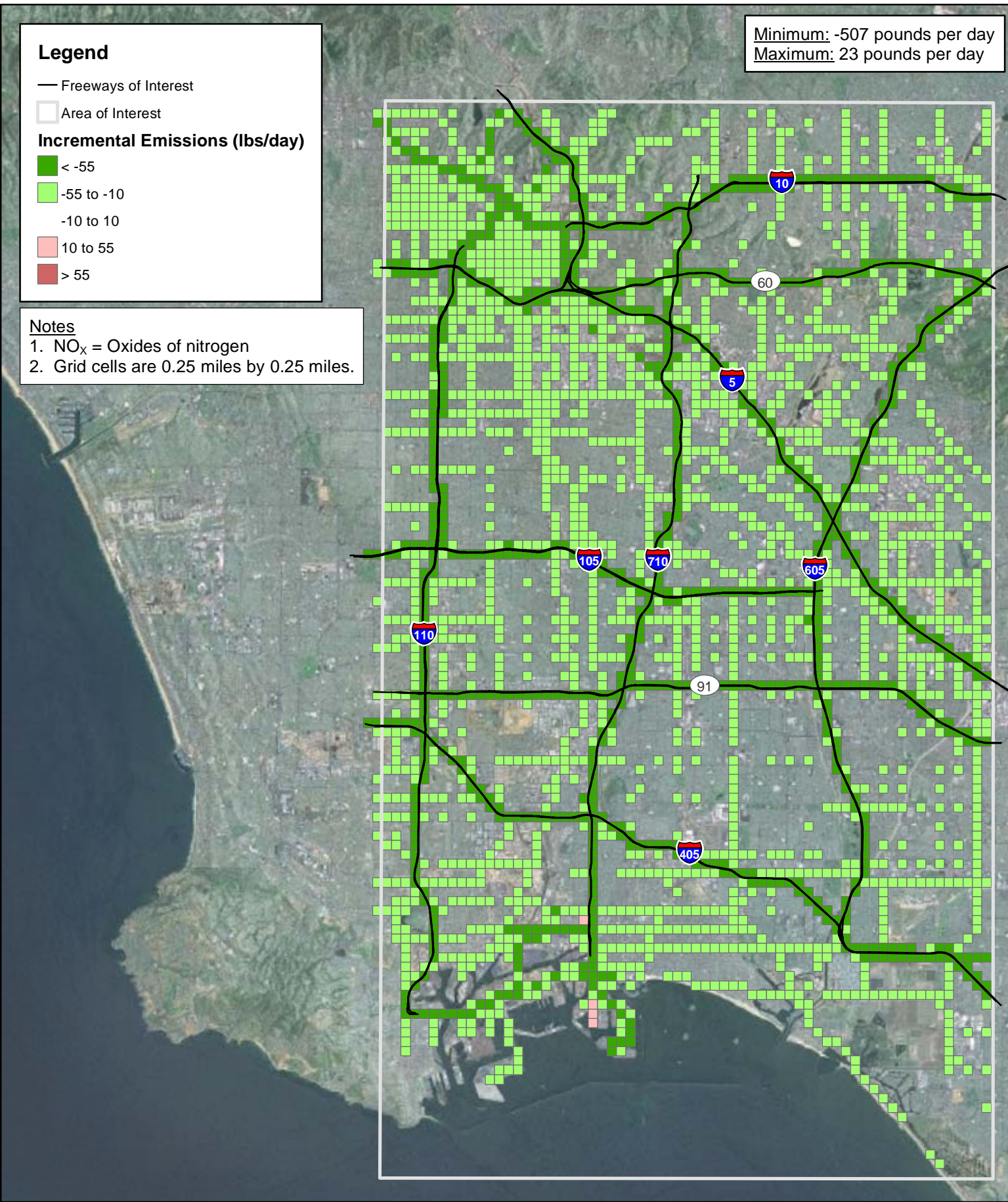
Notes

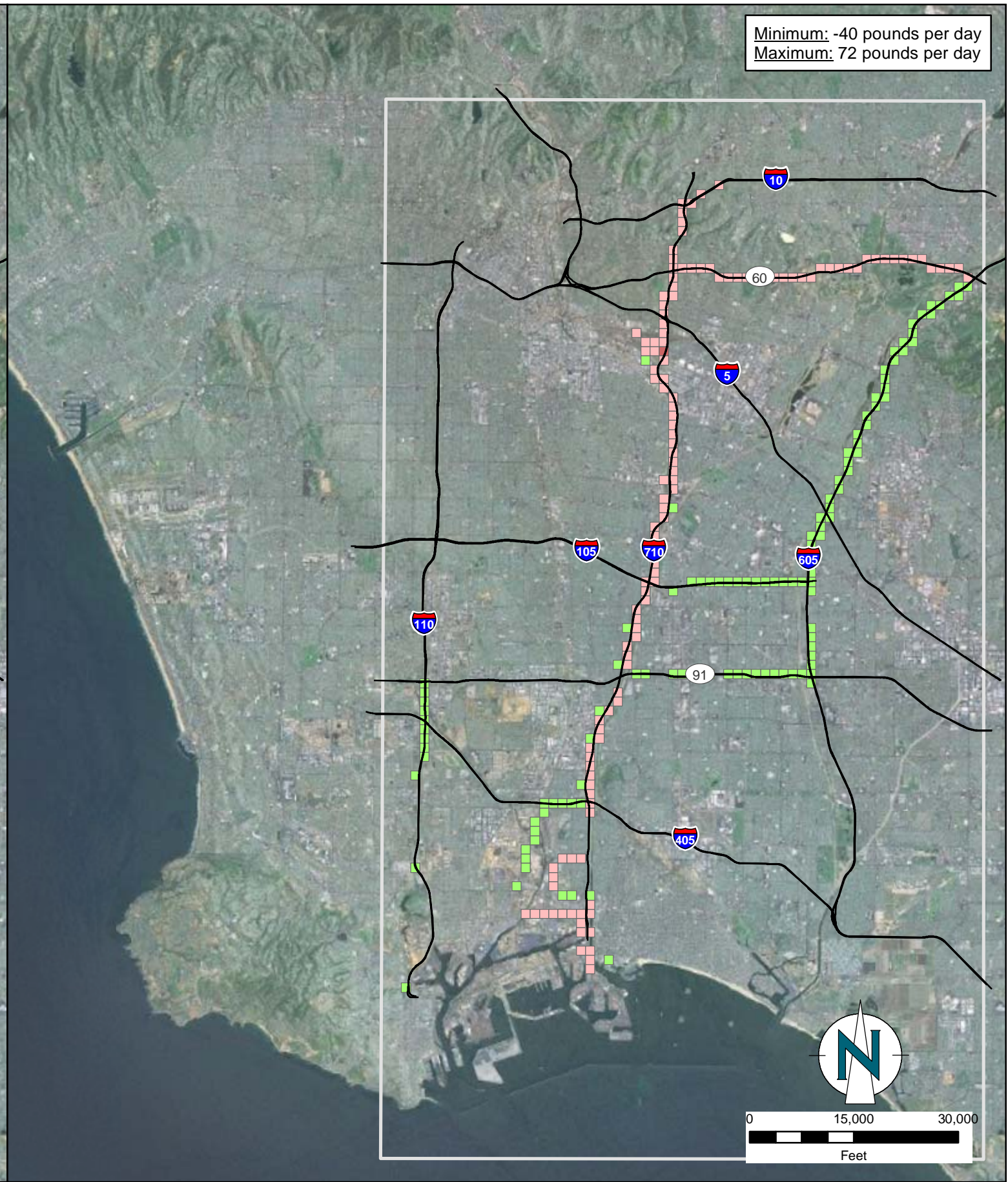
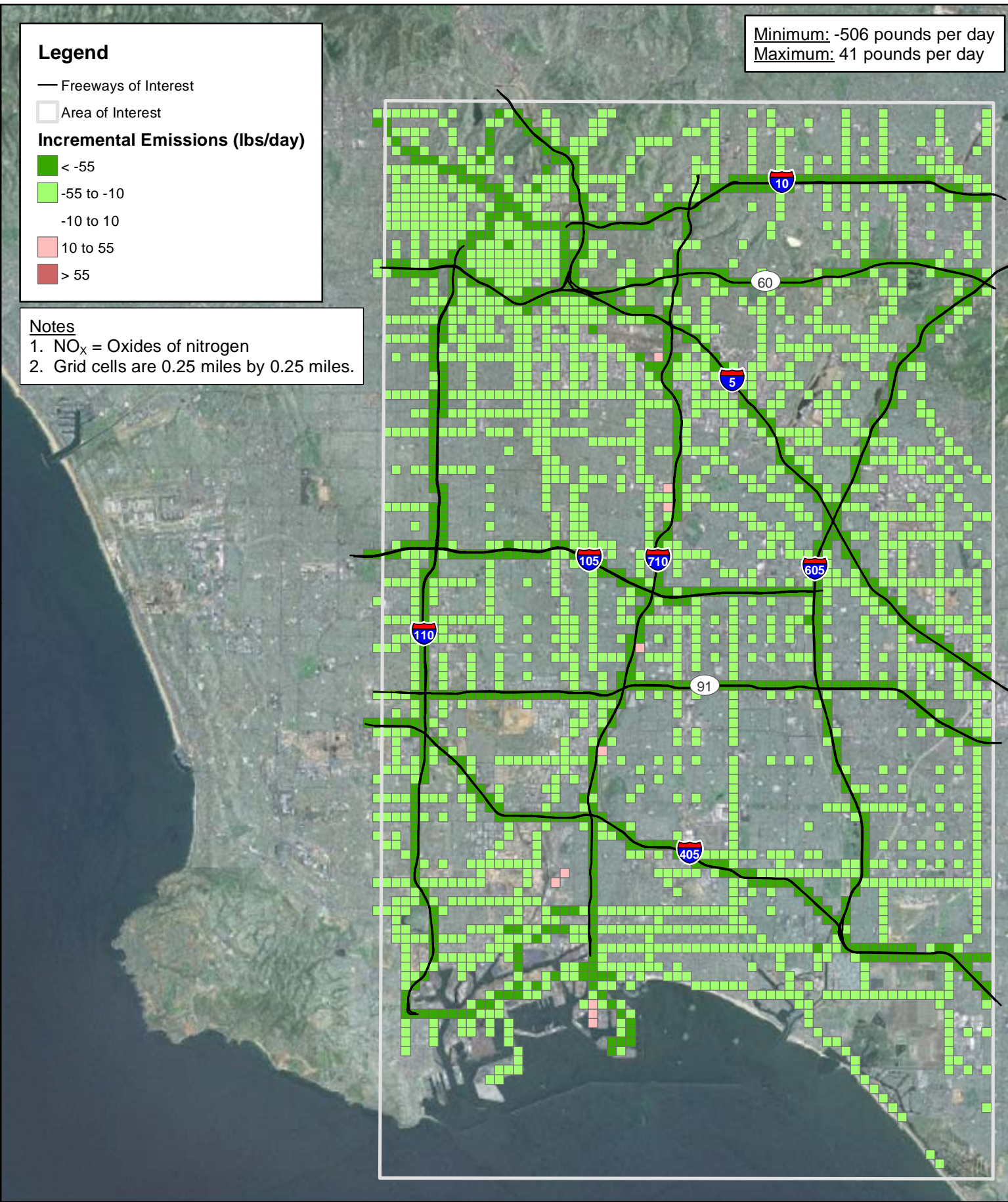
1. NO_x = Oxides of nitrogen
2. Grid cells are 0.25 miles by 0.25 miles.

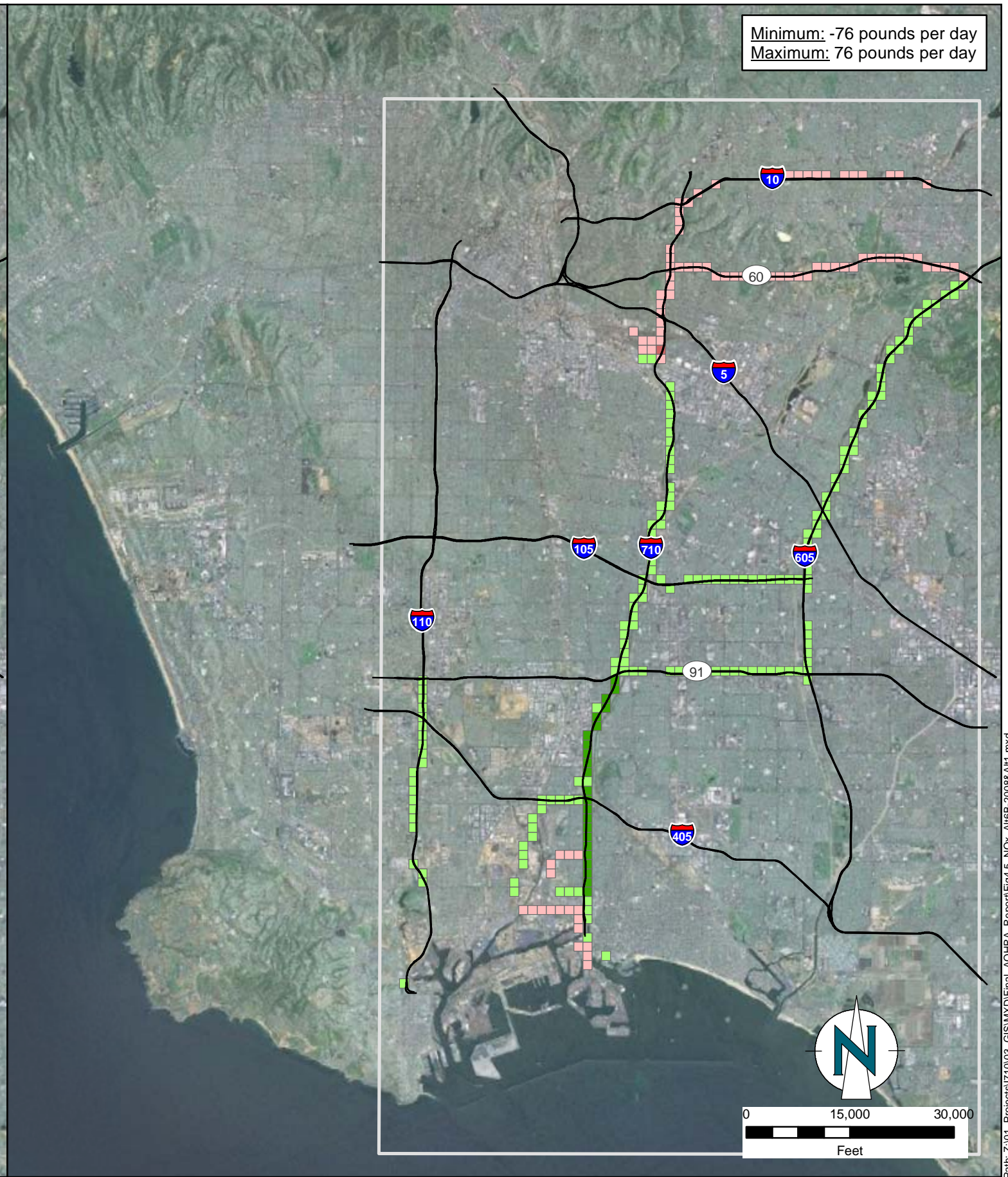
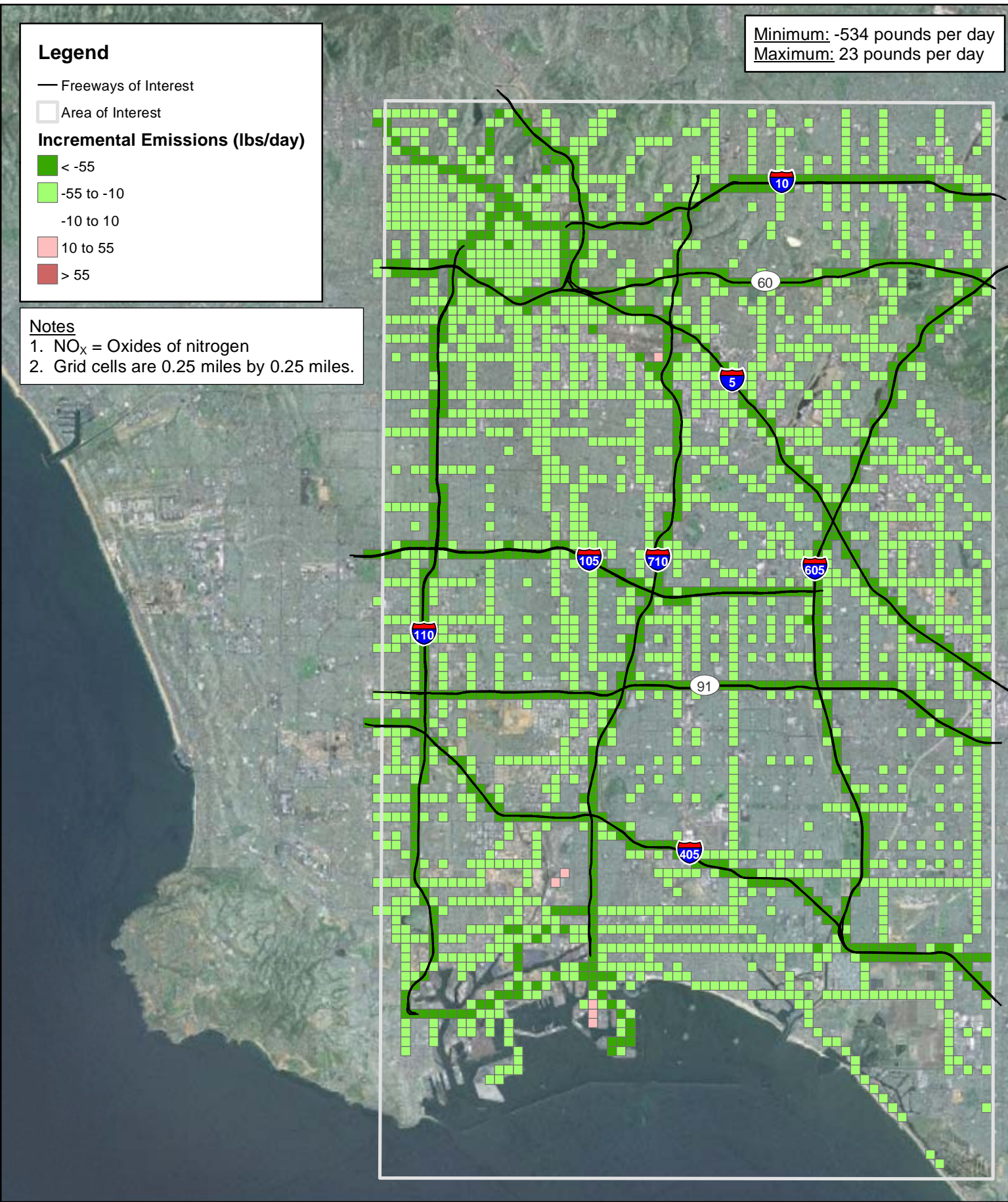


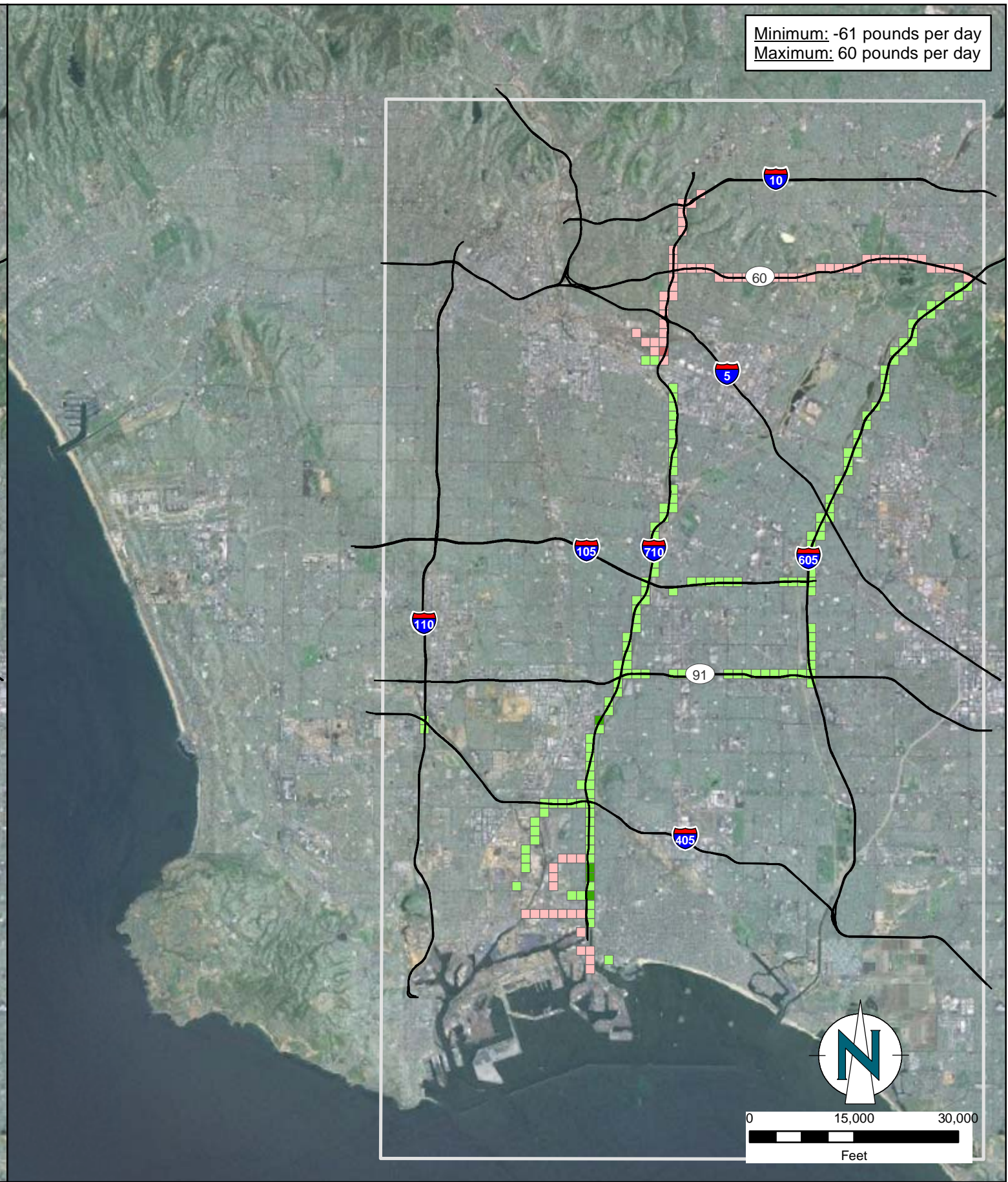
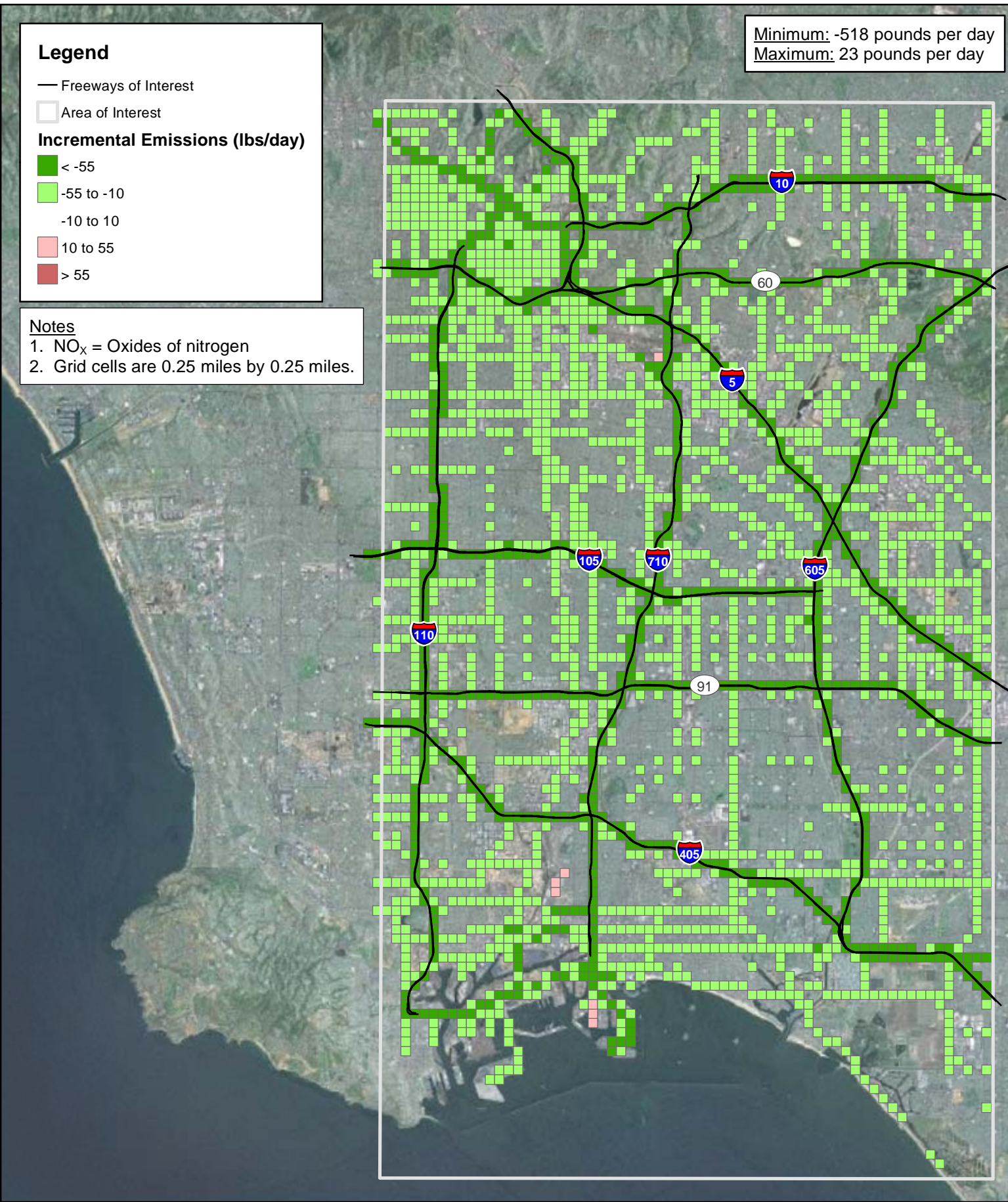
Page Intentionally Left Blank











Minimum: -10 pounds per day
Maximum: 13 pounds per day

Legend

- Freeways of Interest
- Area of Interest

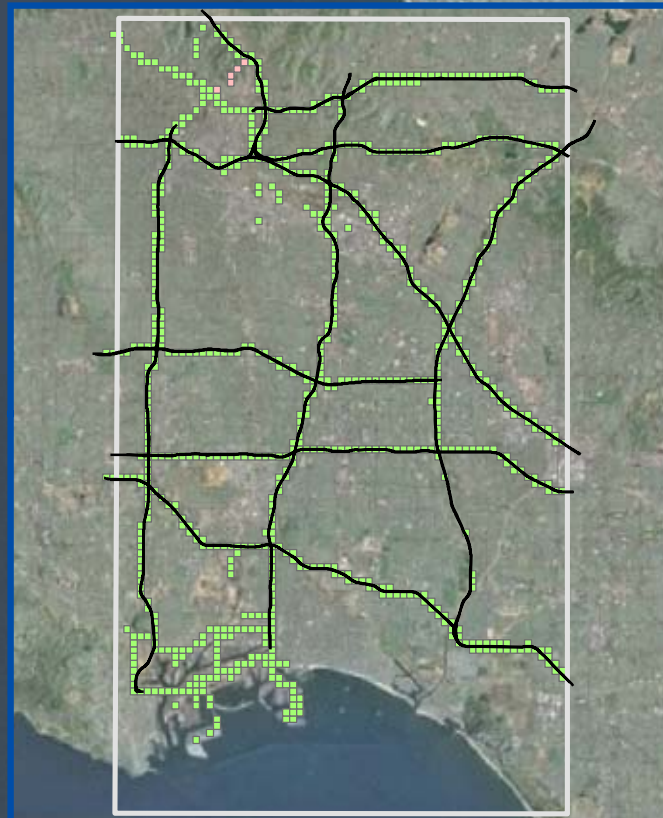
Incremental Emissions (lbs/day)

- < -55
- 55 to -1
- 1 to 1
- 1 to 55
- > 55

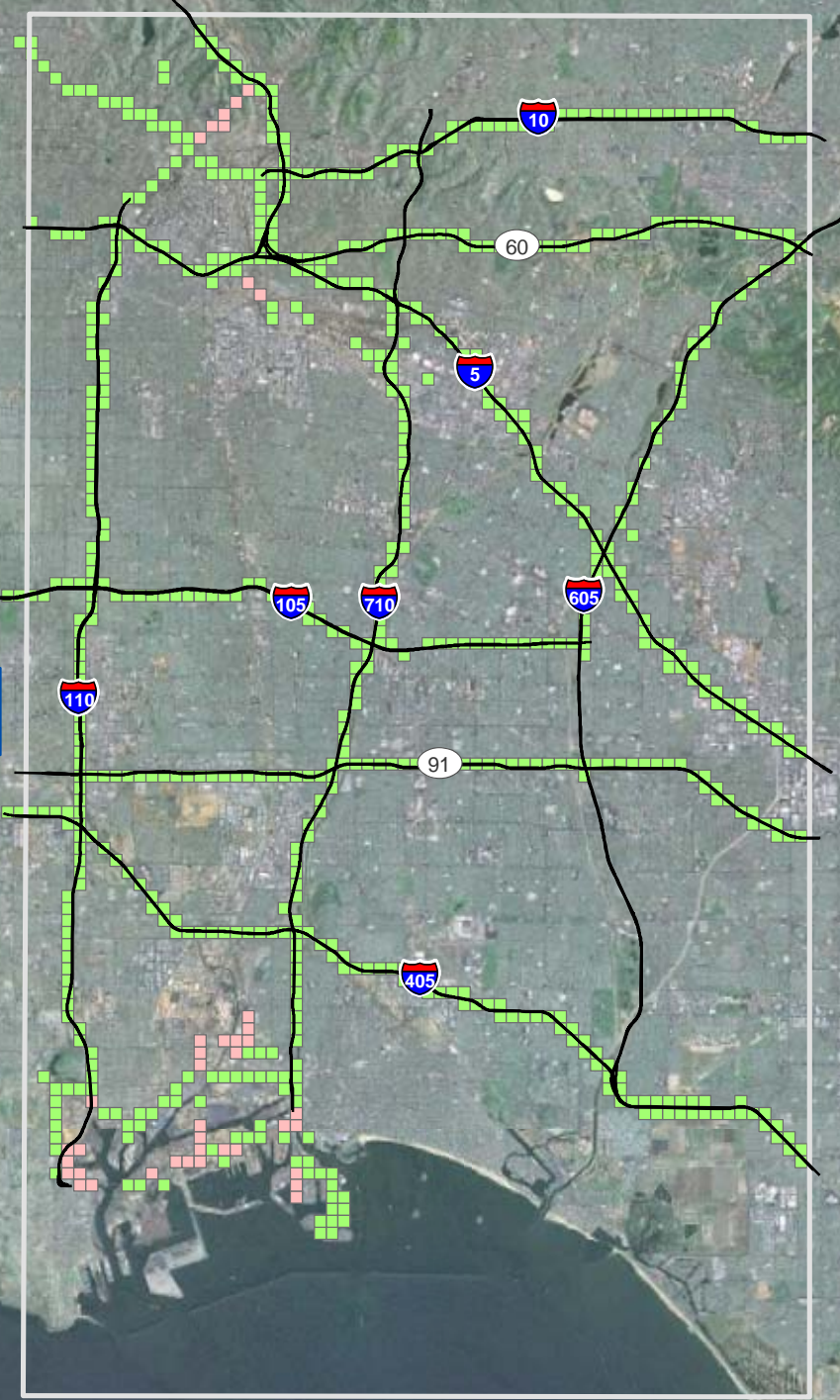
Notes

1. PM_{2.5} = Particulate matter less than 2.5 micrometers in diameter.
2. Grid cells are 0.25 miles by 0.25 miles.

Minimum: -11 pounds per day
Maximum: 1.6 pounds per day

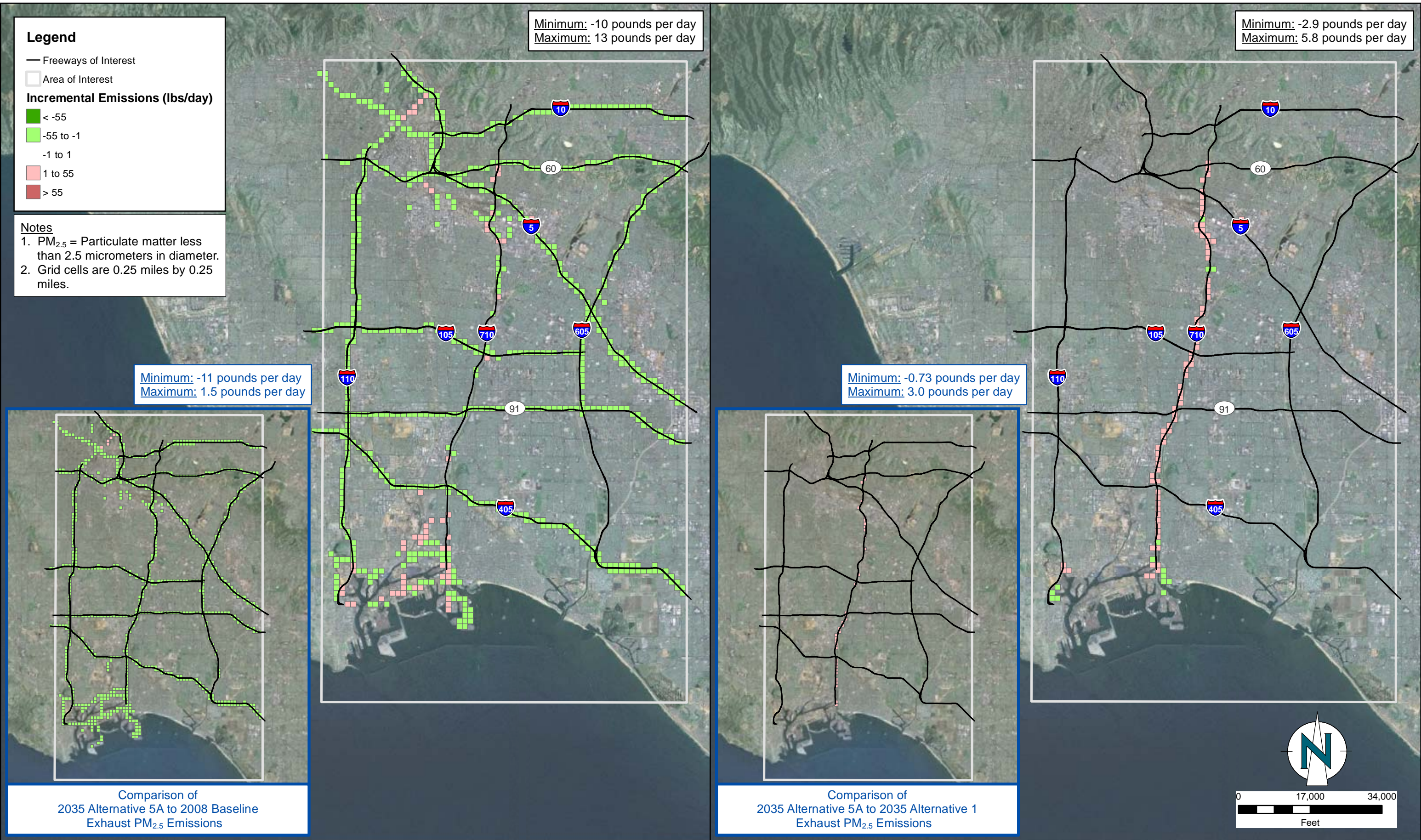


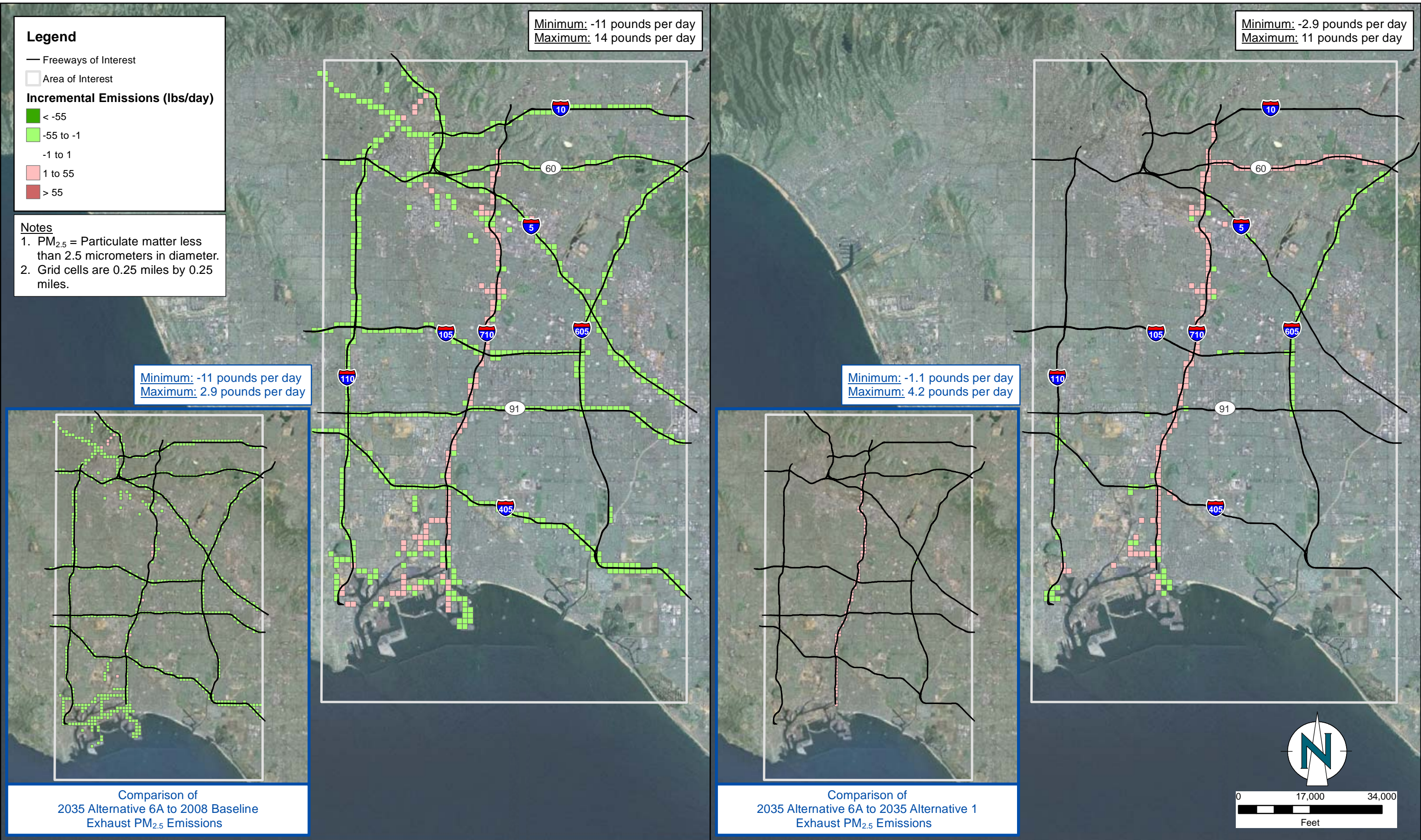
Comparison of
2035 Alternative 1 to 2008 Baseline
Exhaust PM_{2.5} Emissions

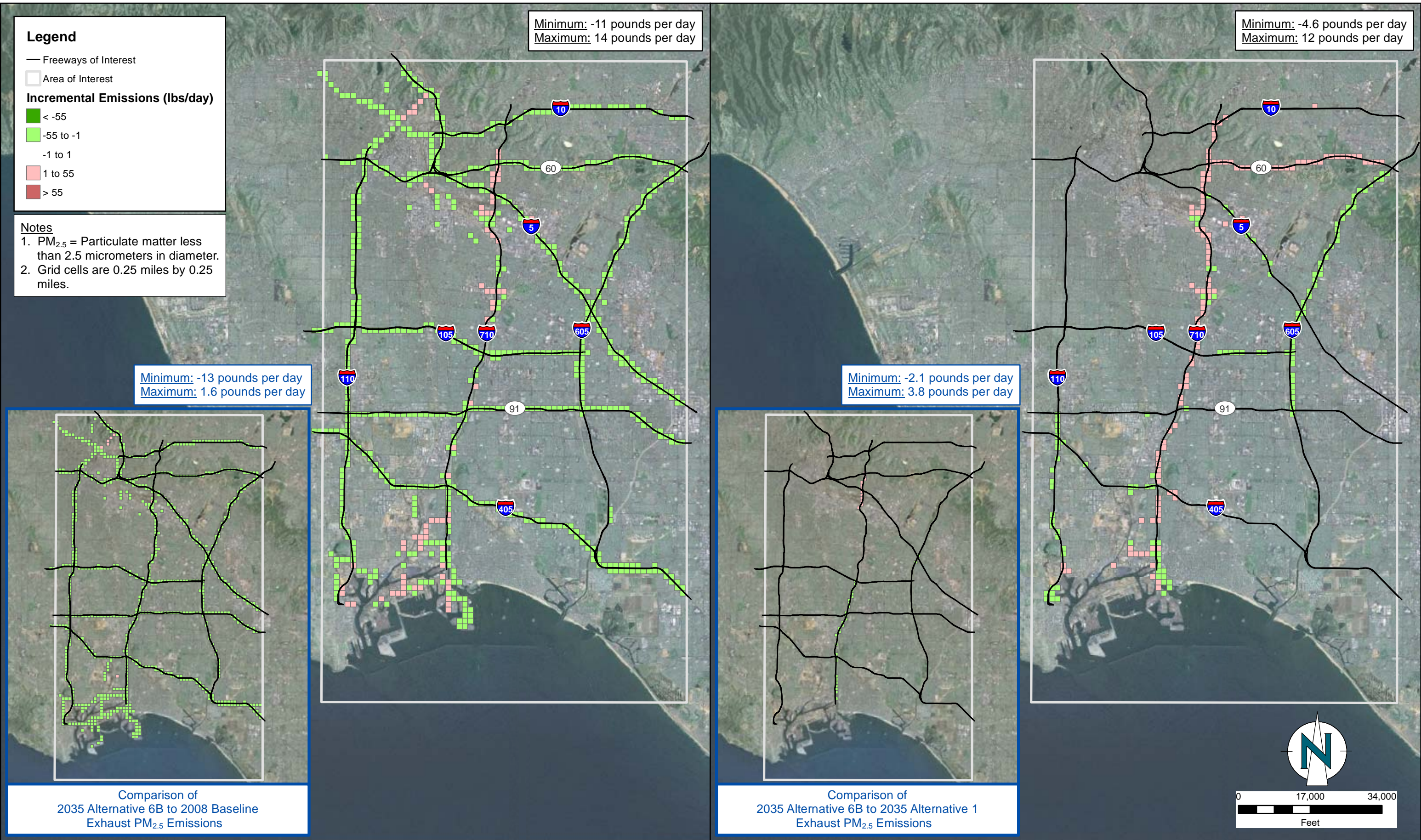


Page Intentionally Left Blank

Path: Z:\01_Projects\71003_GIS\MXD\Final_AQHRA_Report\Fig4.7_PM2.5_Alt1-2008.mxd







Legend

- Freeways of Interest
- Area of Interest

Incremental Emissions (lbs/day)

- < -55
- 55 to -1
- 1 to 1
- 1 to 55
- > 55

Notes

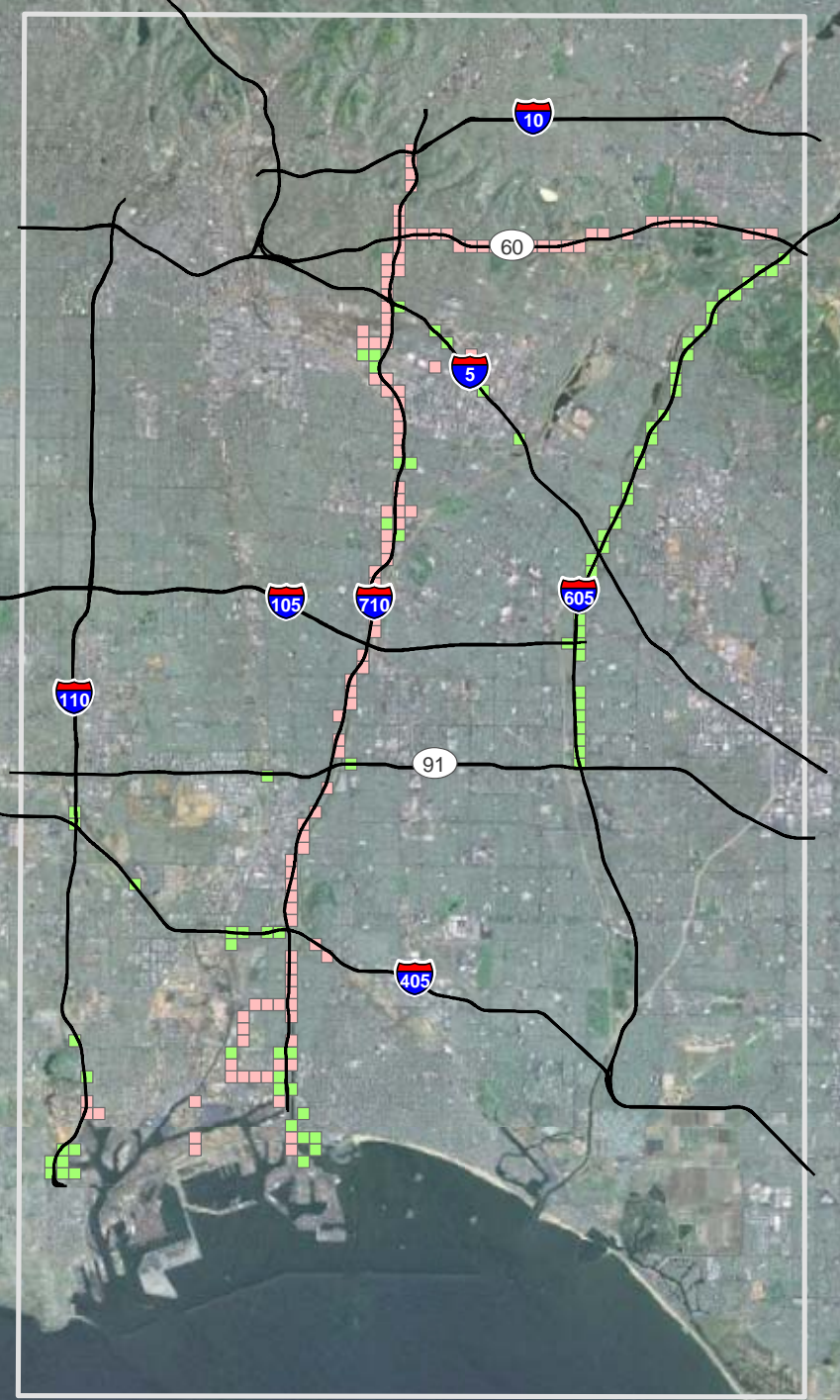
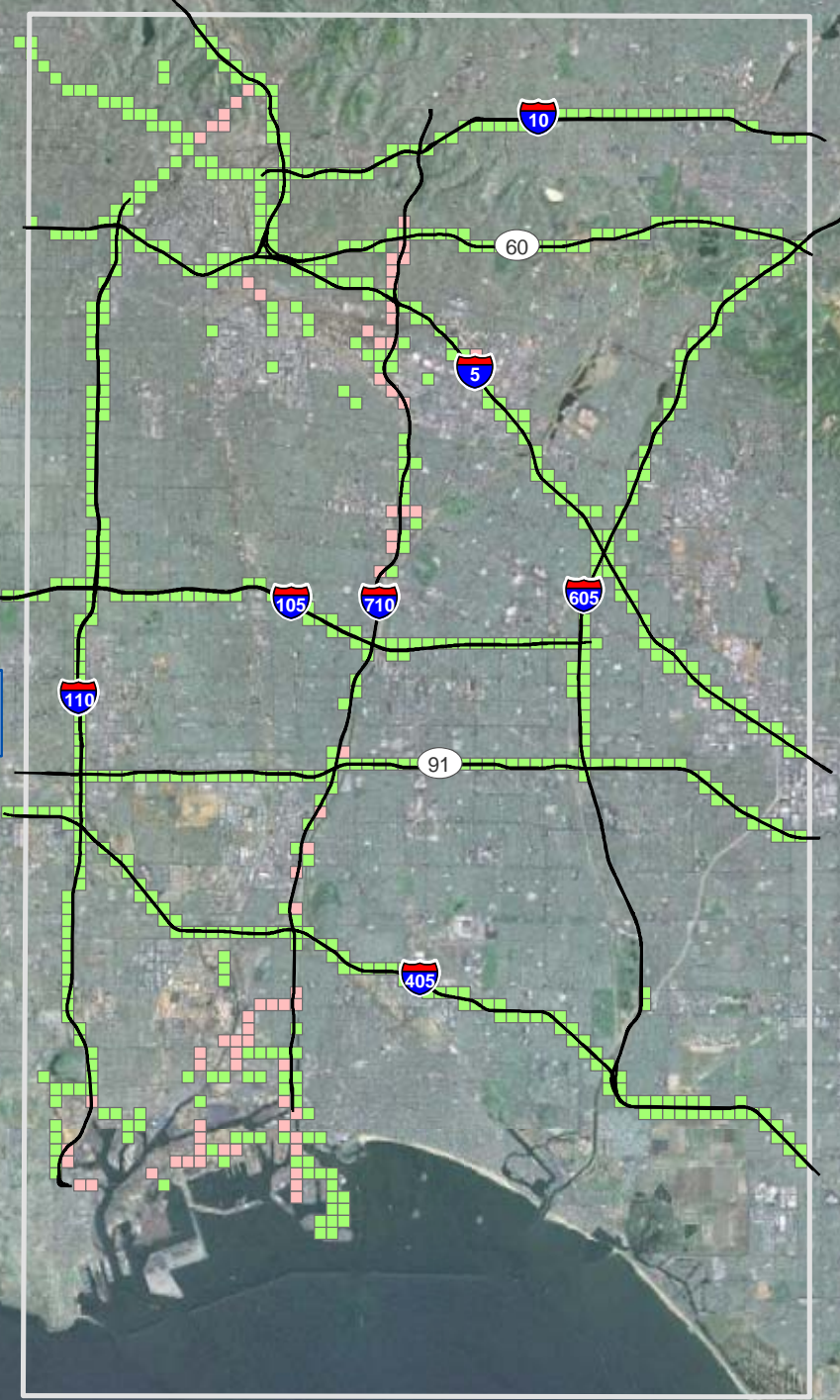
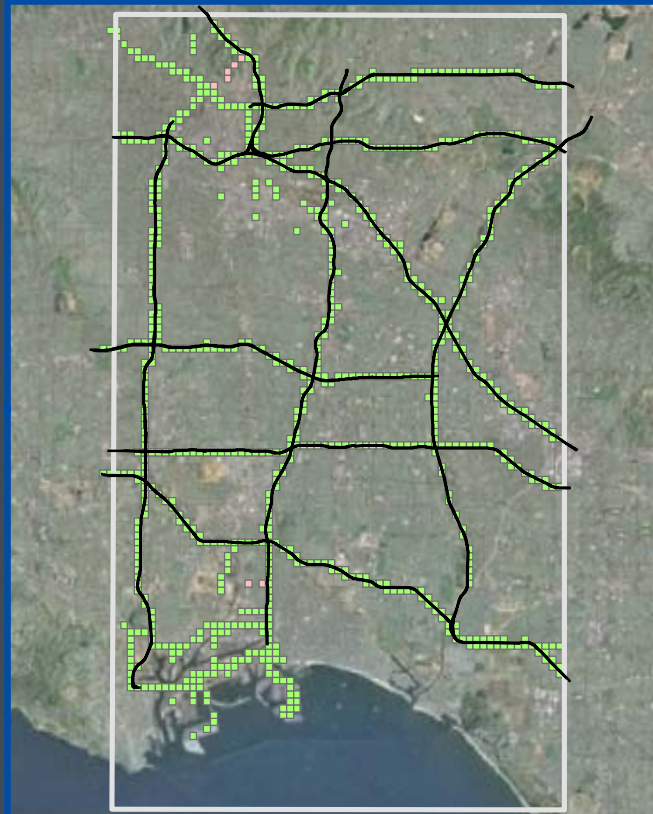
1. PM_{2.5} = Particulate matter less than 2.5 micrometers in diameter.
2. Grid cells are 0.25 miles by 0.25 miles.

Minimum: -11 pounds per day
Maximum: 15 pounds per day

Minimum: -3.6 pounds per day
Maximum: 9.3 pounds per day

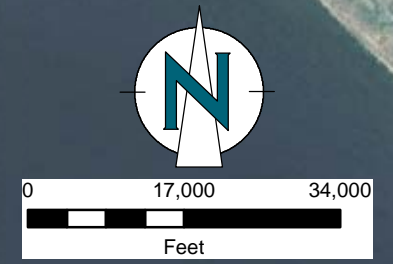
Minimum: -12 pounds per day
Maximum: 1.5 pounds per day

Minimum: -1.5 pounds per day
Maximum: 3.2 pounds per day



Comparison of 2035 Alternative 6C to 2008 Baseline Exhaust PM_{2.5} Emissions

Comparison of 2035 Alternative 6C to 2035 Alternative 1 Exhaust PM_{2.5} Emissions



Path: Z:\01_Projects\171003_GIS\MXD\Final_AQHRA_Report\Fig4.11_PM2.5_Alt6C-2008&Alt1.mxd

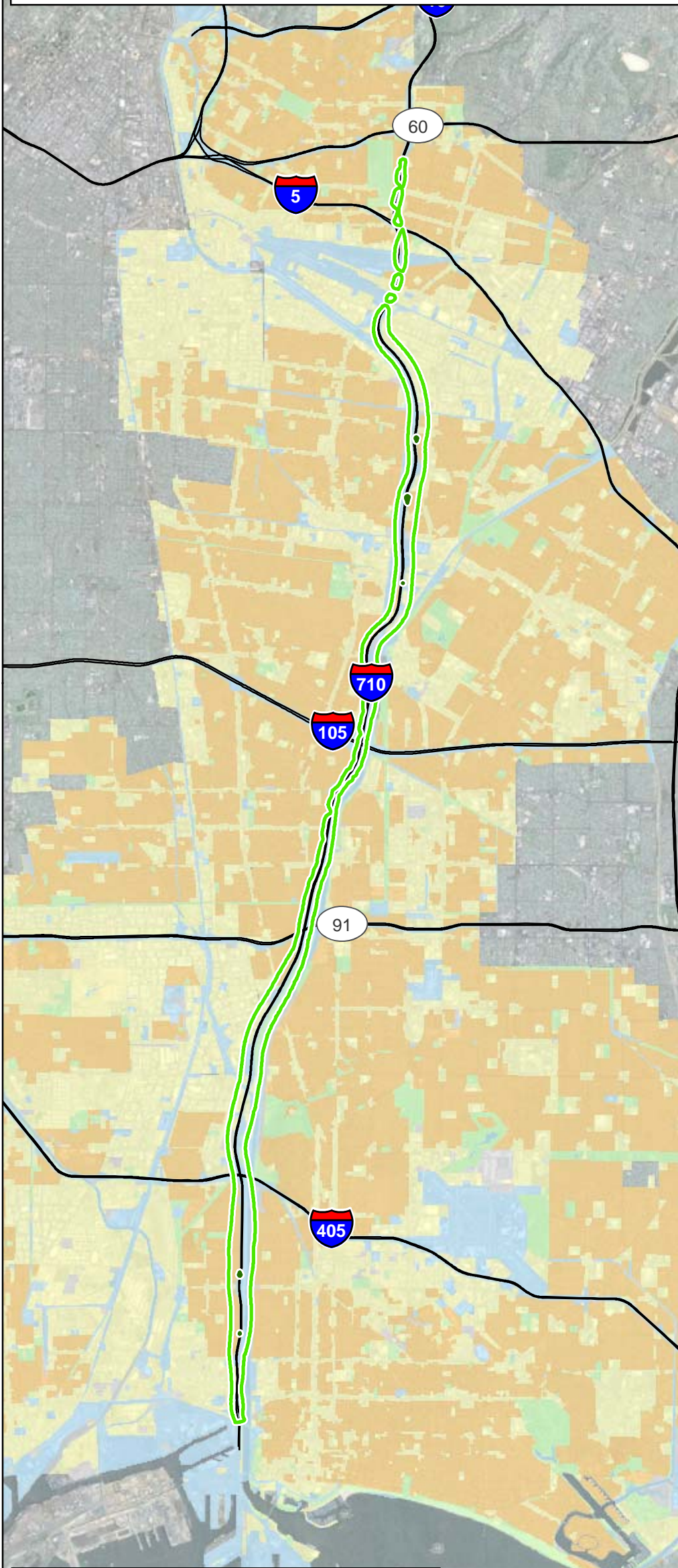
Legend

Maximum Incremental Annual PM₁₀ Impact (µg/m³)

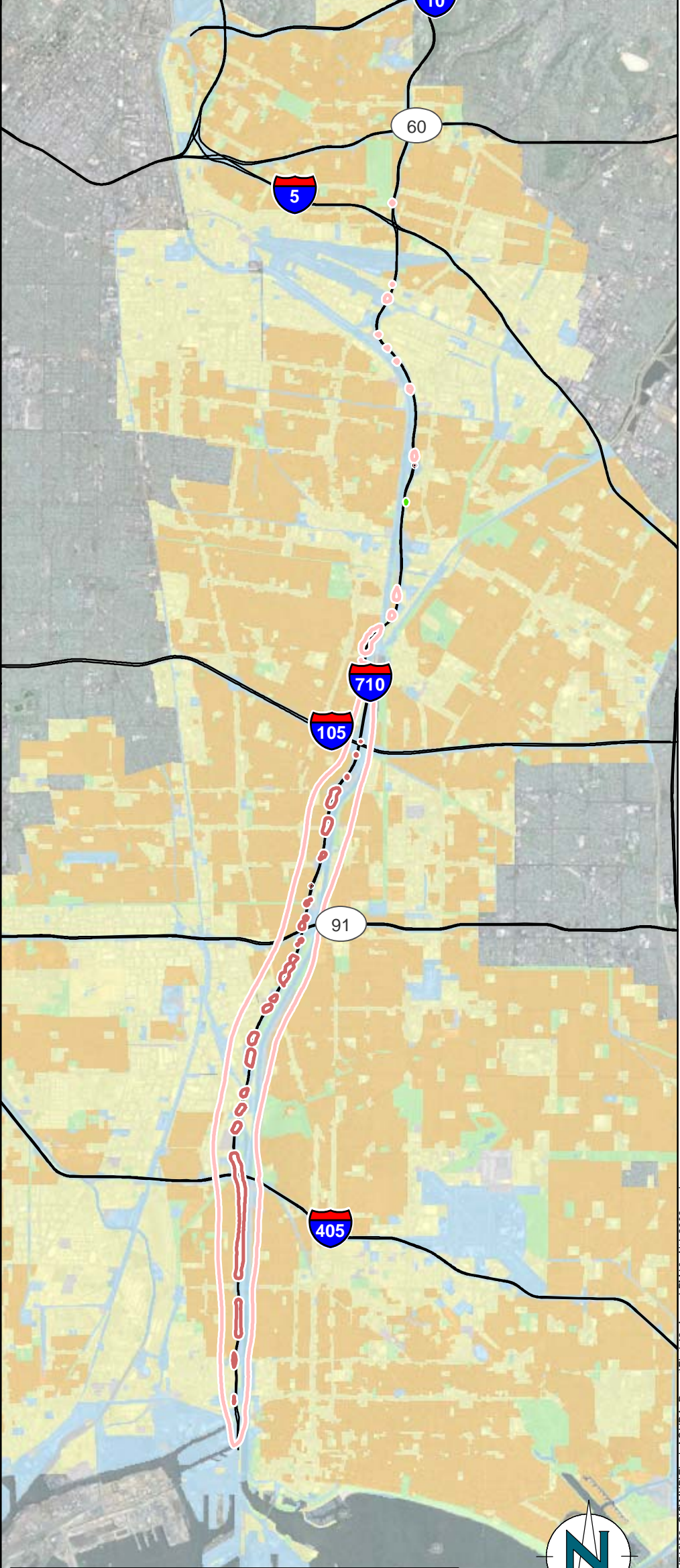
- -5.0
- -1.0
- 1.0
- 5.0

Land Use (TBM 2007)

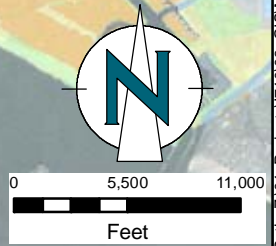
- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts



Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



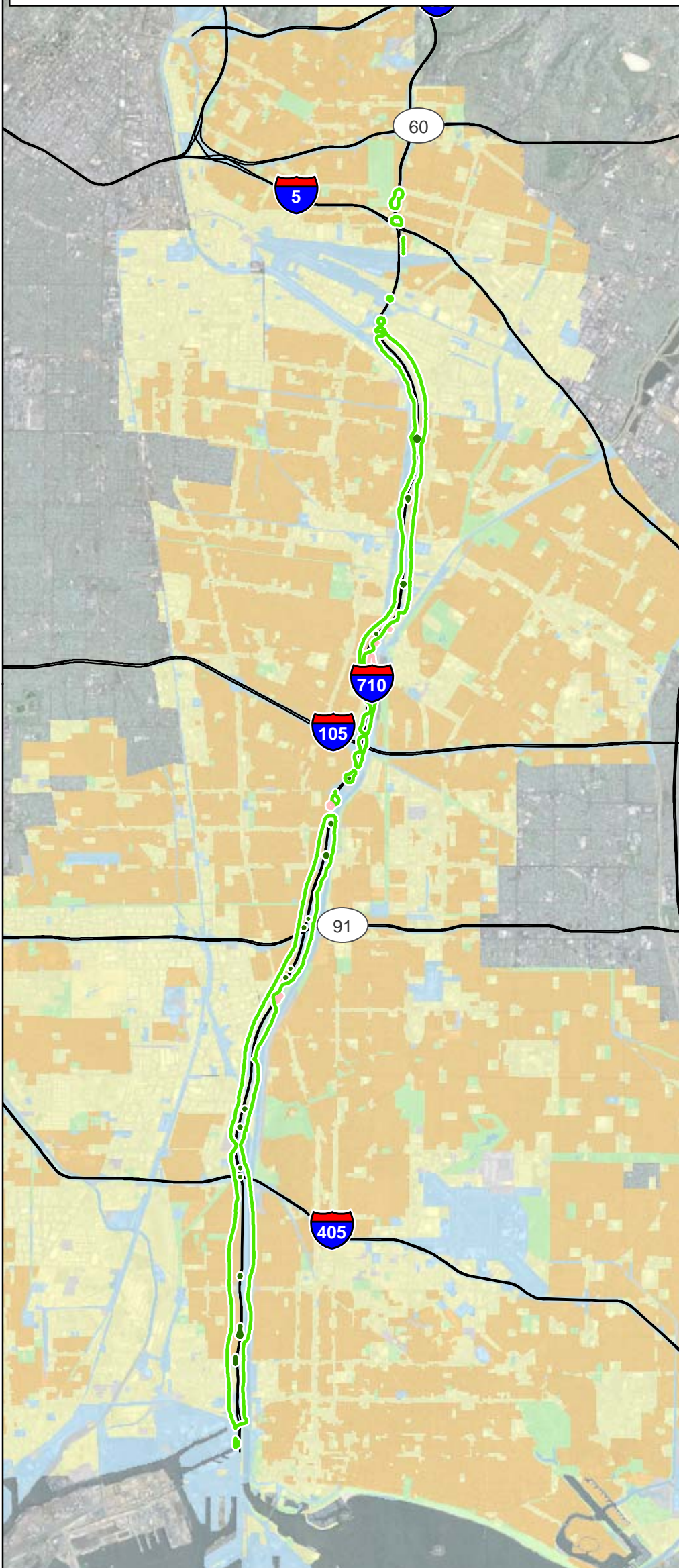
Legend

Maximum Incremental Annual PM₁₀ Impact (µg/m³)

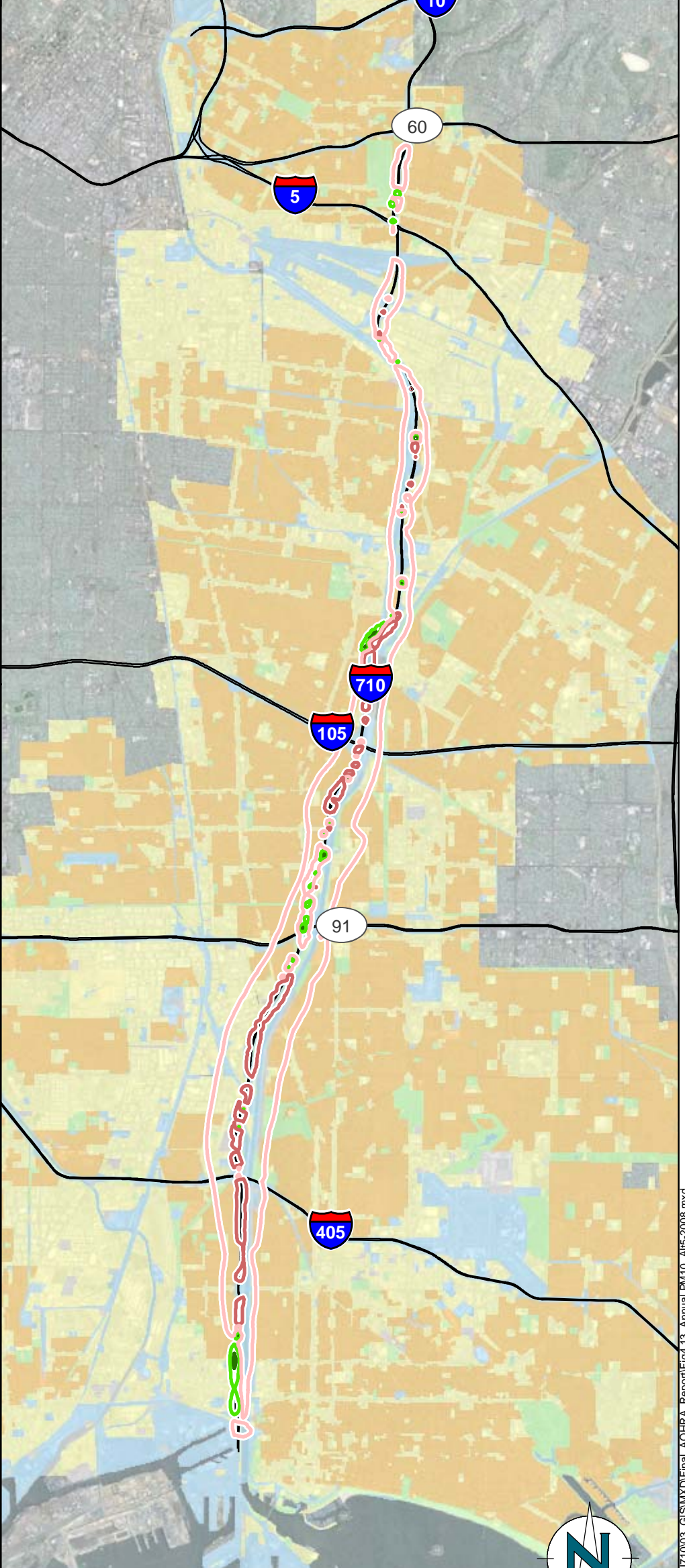
- -5.0
- -1.0
- 1.0
- 5.0

Land Use (TBM 2007)

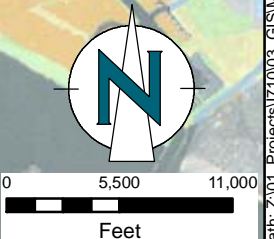
- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts



Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



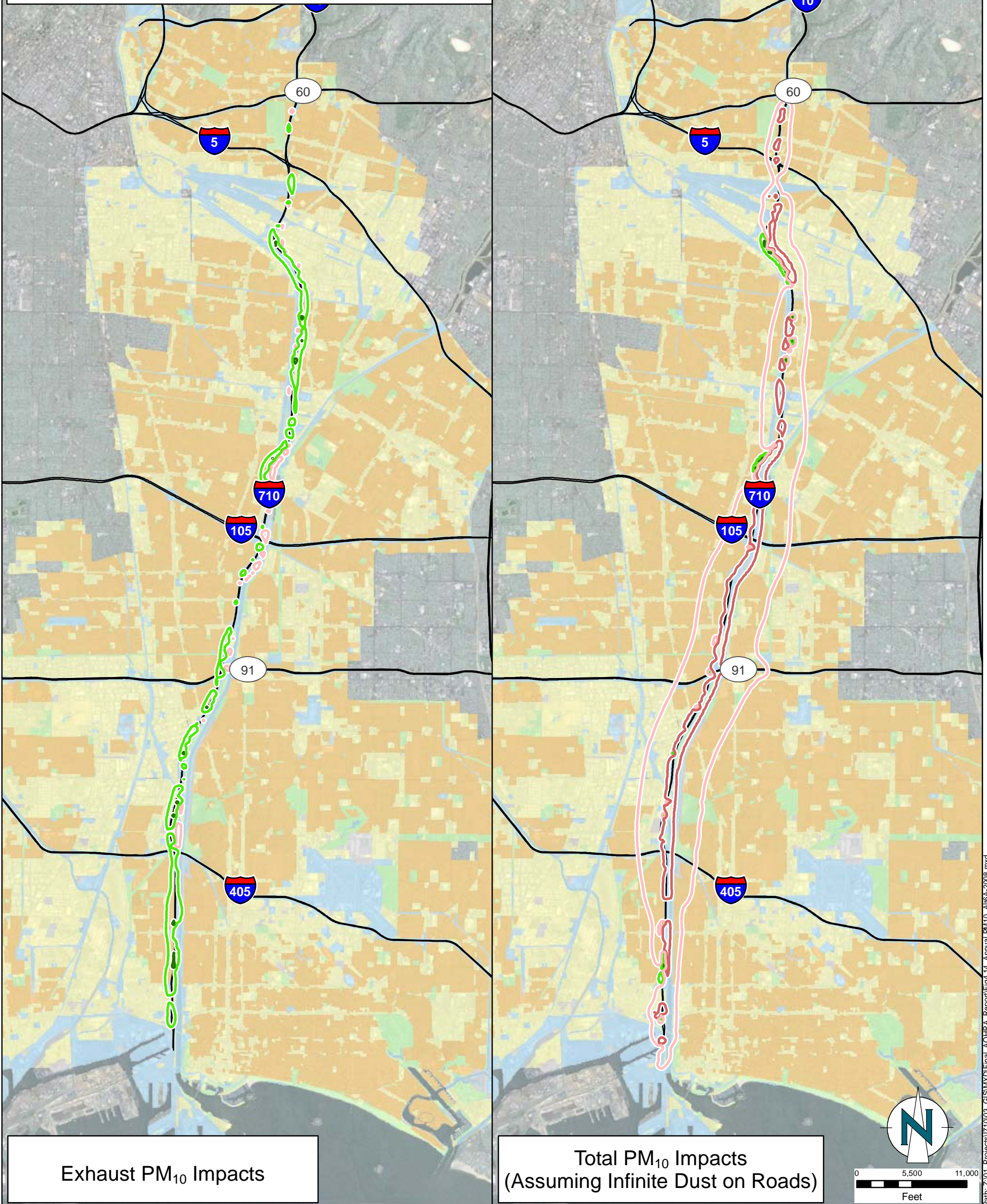
Legend

Maximum Incremental Annual PM₁₀ Impact (µg/m³)

- -5.0
- -1.0
- 1.0
- 5.0

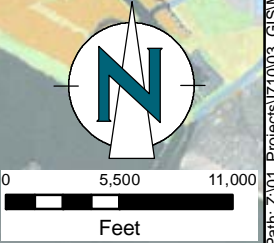
Land Use (TBM 2007)

- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts

Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



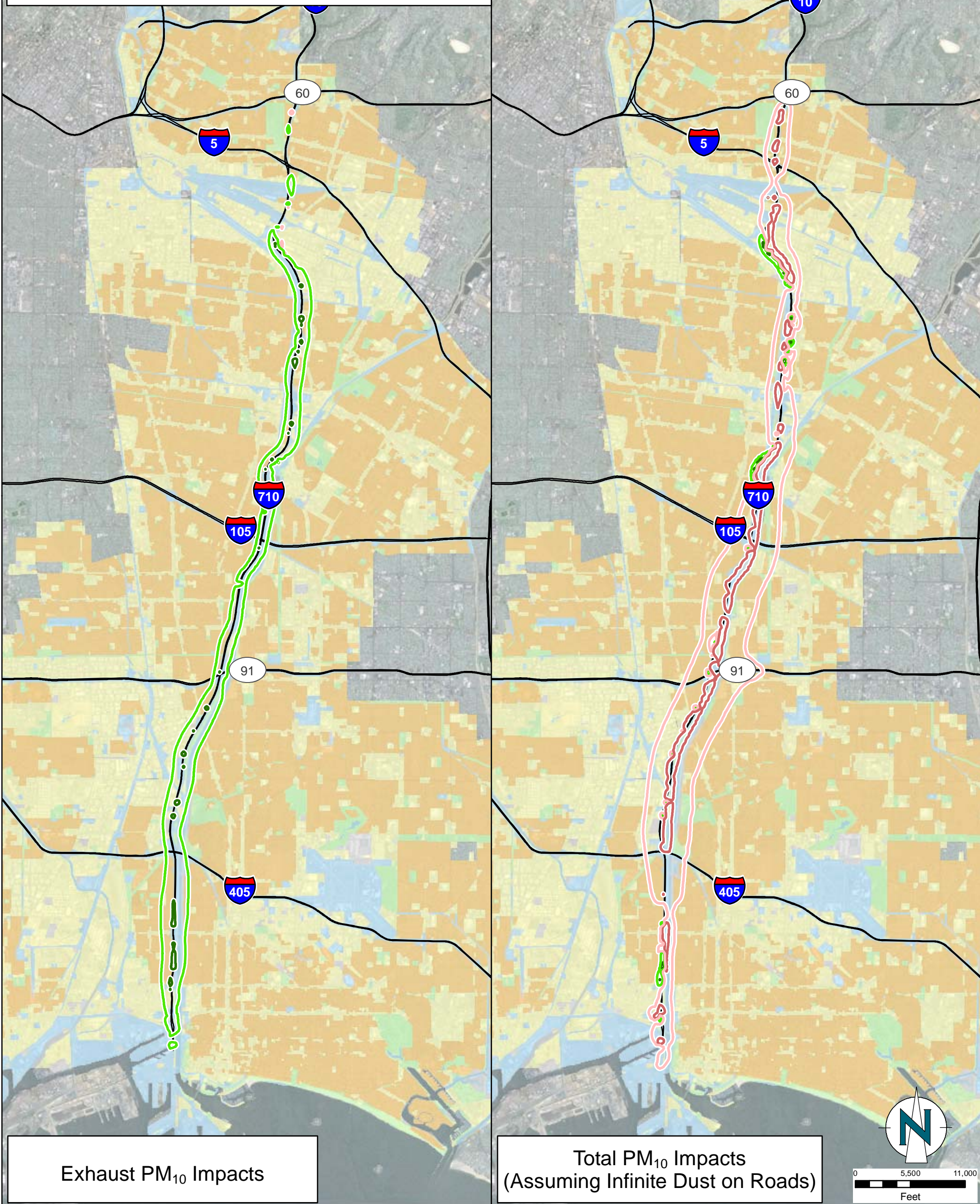
Legend

Maximum Incremental Annual PM₁₀ Impact (µg/m³)

- -5.0
- -1.0
- 1.0
- 5.0

Land Use (TBM 2007)

- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts

Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)

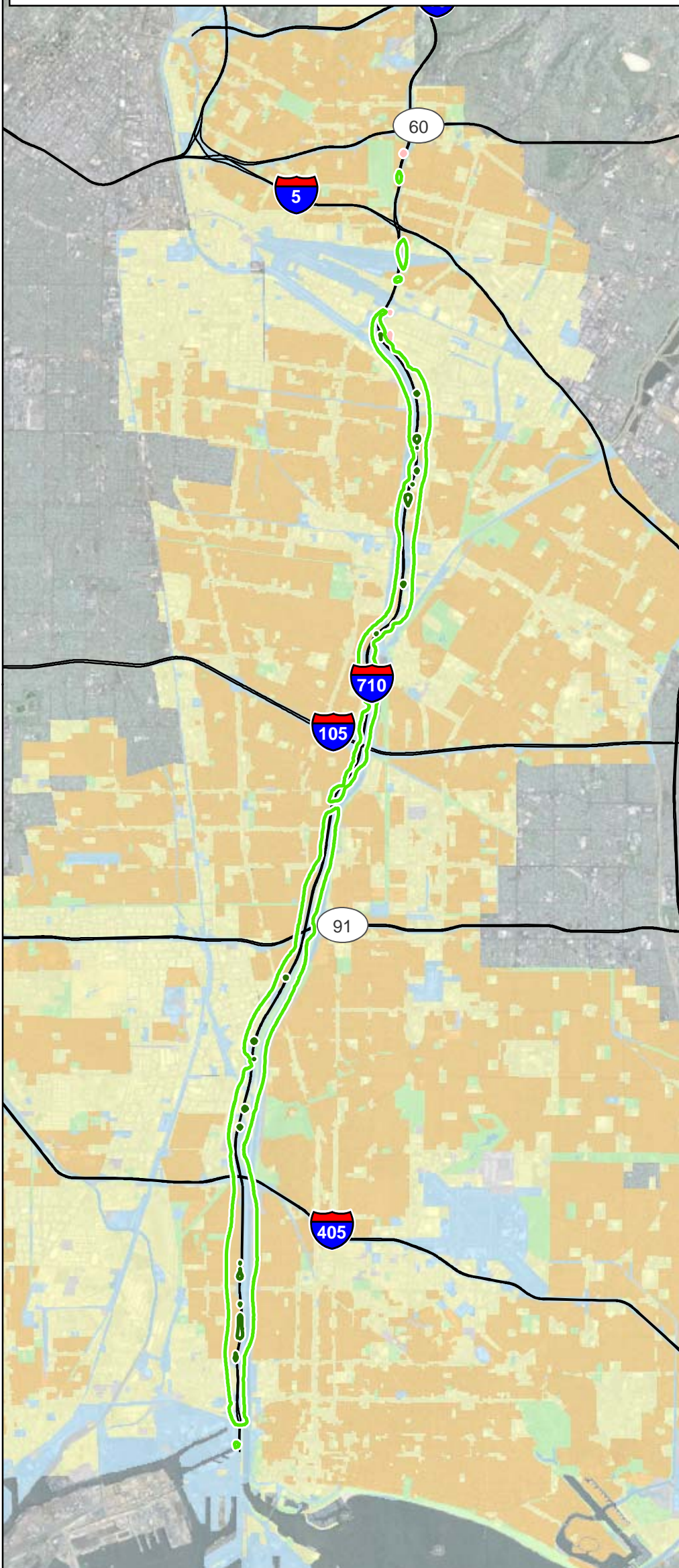
Legend

Maximum Incremental Annual PM₁₀ Impact (µg/m³)

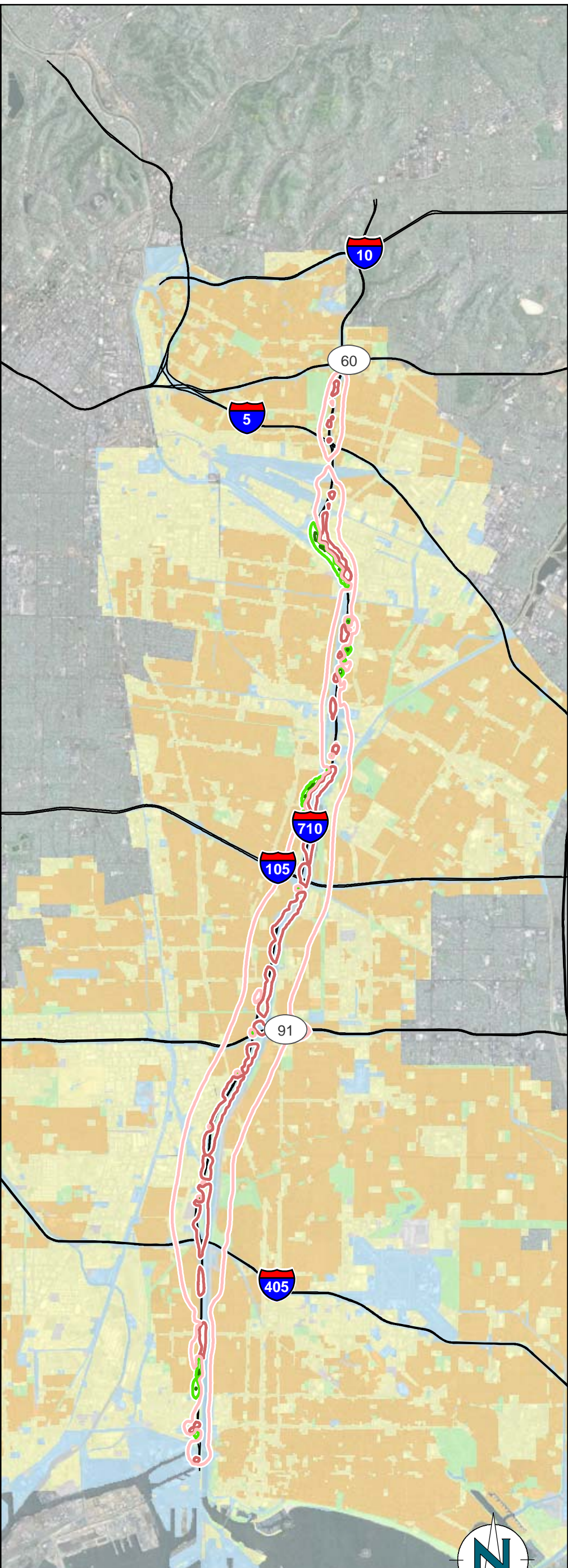
- -5.0
- -1.0
- 1.0
- 5.0

Land Use (TBM 2007)

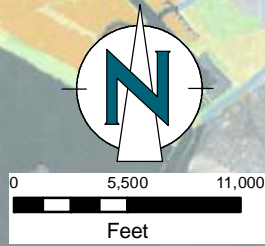
- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts



Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



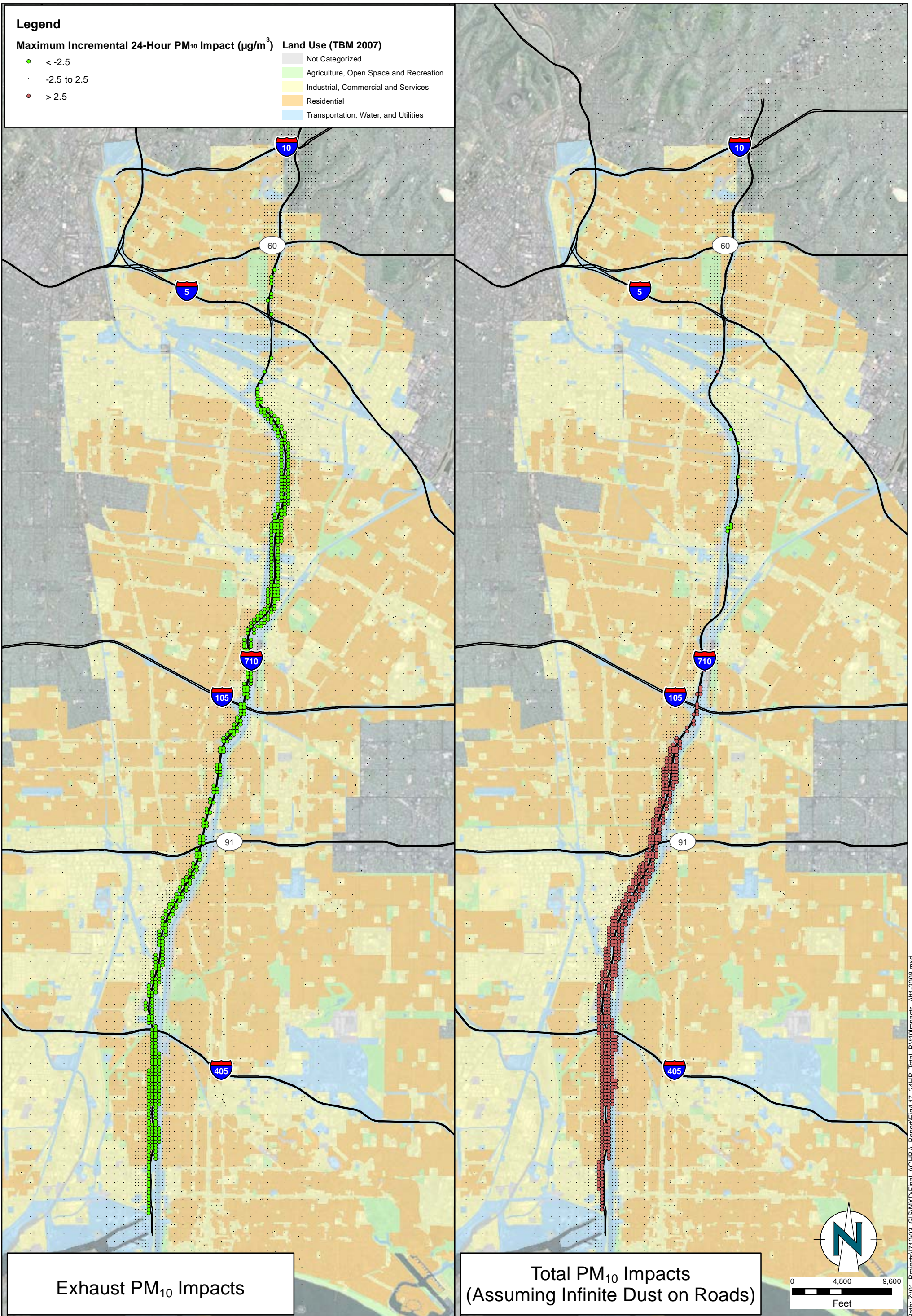
Legend

Maximum Incremental 24-Hour PM₁₀ Impact (µg/m³)

- < -2.5
- -2.5 to 2.5
- > 2.5

Land Use (TBM 2007)

- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities

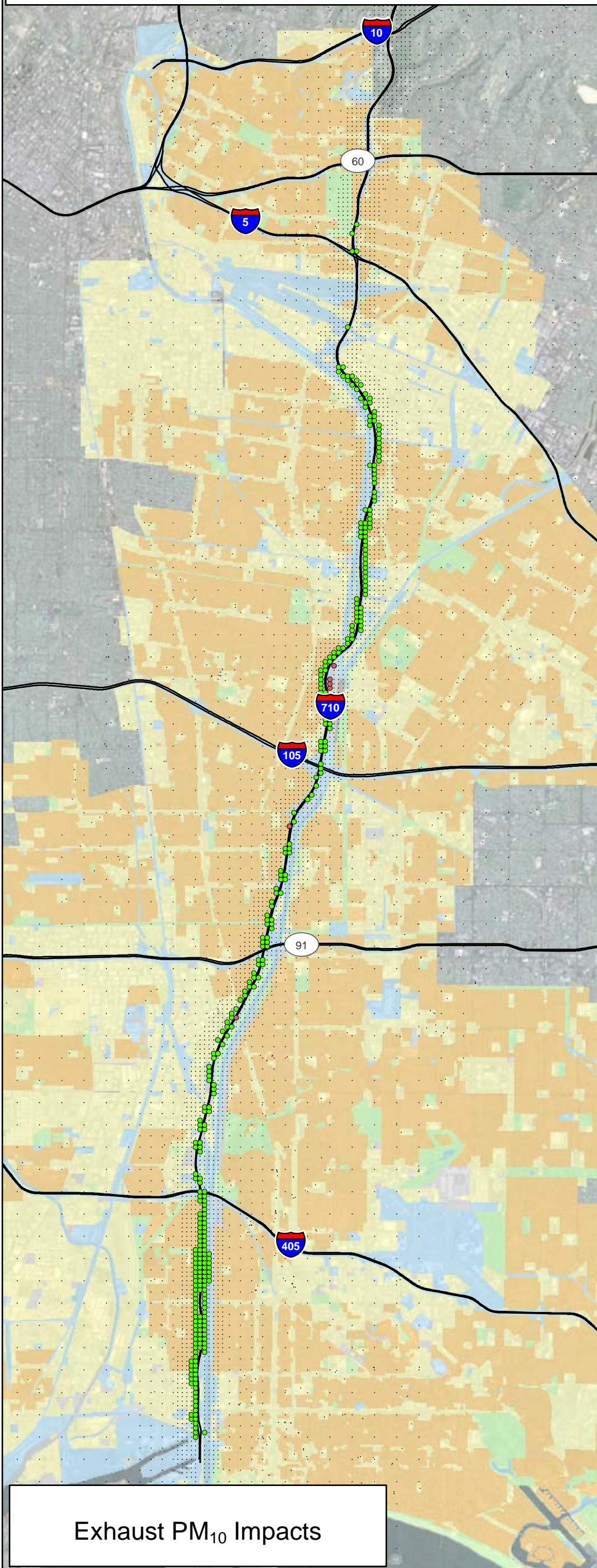


Exhaust PM₁₀ Impacts

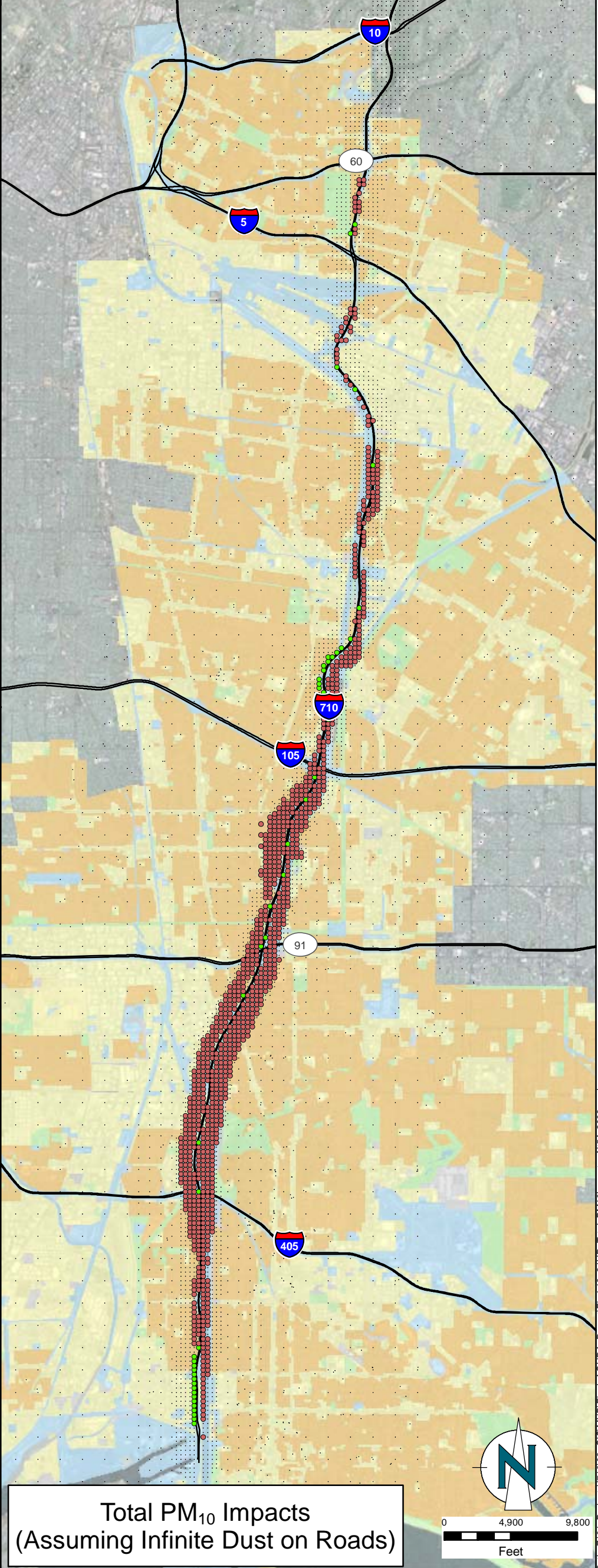
Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)

Legend

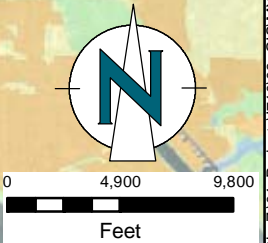
Maximum Incremental 24-Hour PM ₁₀ Impact (µg/m ³)	Land Use (TBM 2007)
● < -2.5	Not Categorized
○ -2.5 to 2.5	Agriculture, Open Space and Recreation
● > 2.5	Industrial, Commercial and Services
	Residential
	Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts



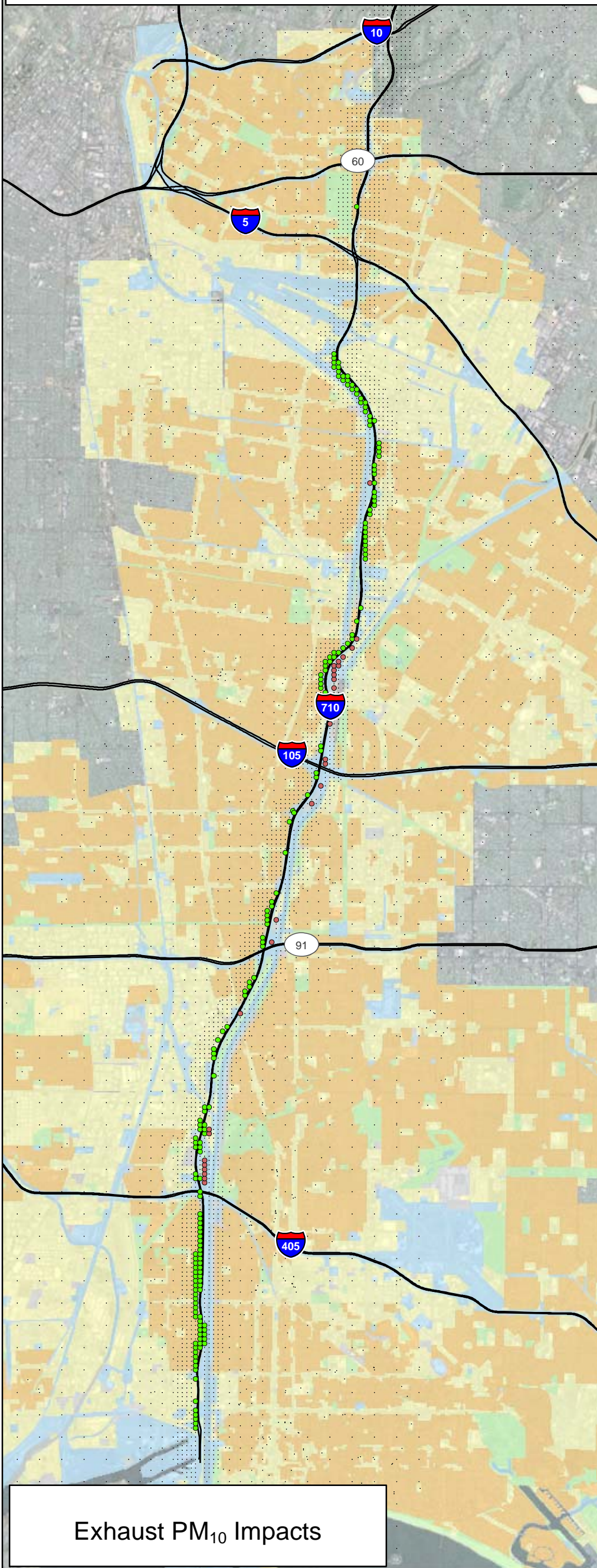
Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



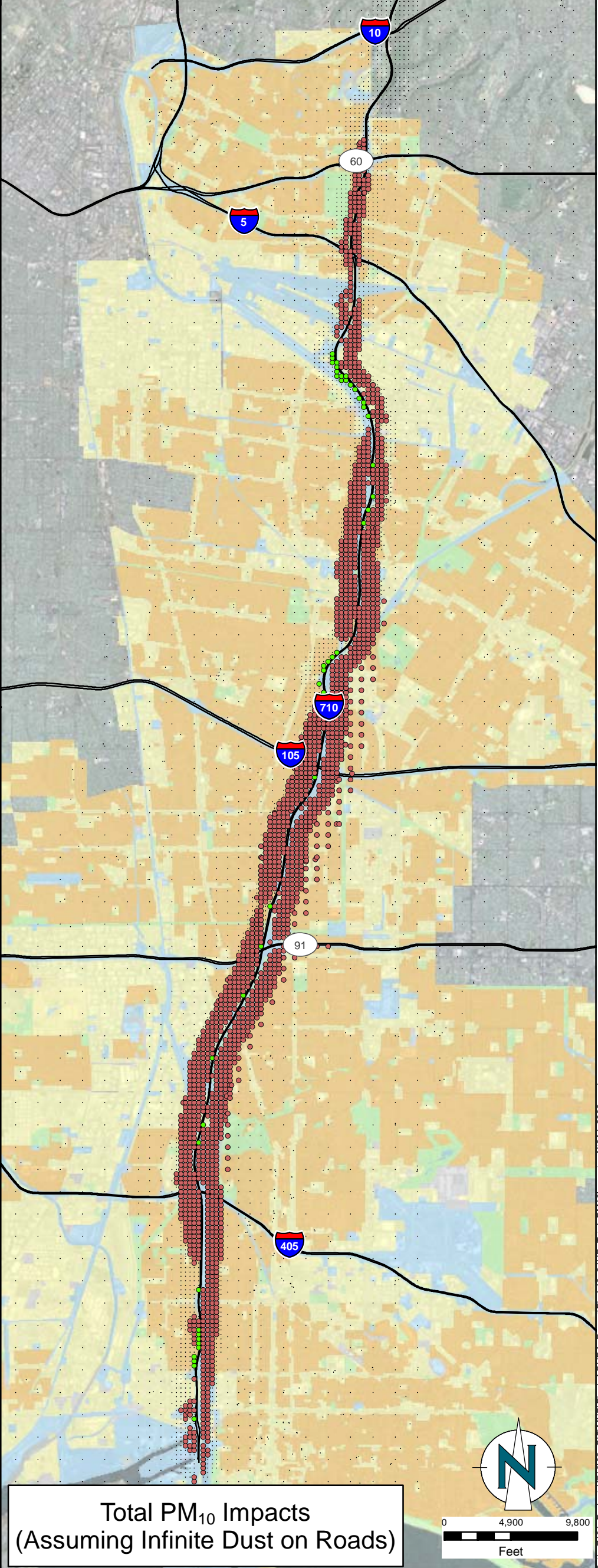
Path: Z:\01_Projects\171003_GIS\MXD\Final_AO\RA_Report\Fig4.18_24HR_Total_PM10Impacts_Alt5A-2008.mxd

Legend

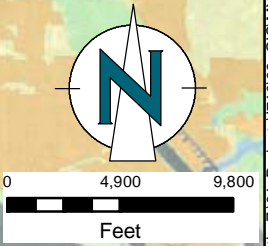
- | | |
|--|--|
| Maximum Incremental 24-Hour PM₁₀ Impact (µg/m³) | Land Use (TBM 2007) |
| ● < -2.5 | ■ Not Categorized |
| ○ -2.5 to 2.5 | ■ Agriculture, Open Space and Recreation |
| ● > 2.5 | ■ Industrial, Commercial and Services |
| | ■ Residential |
| | ■ Transportation, Water, and Utilities |



Exhaust PM₁₀ Impacts

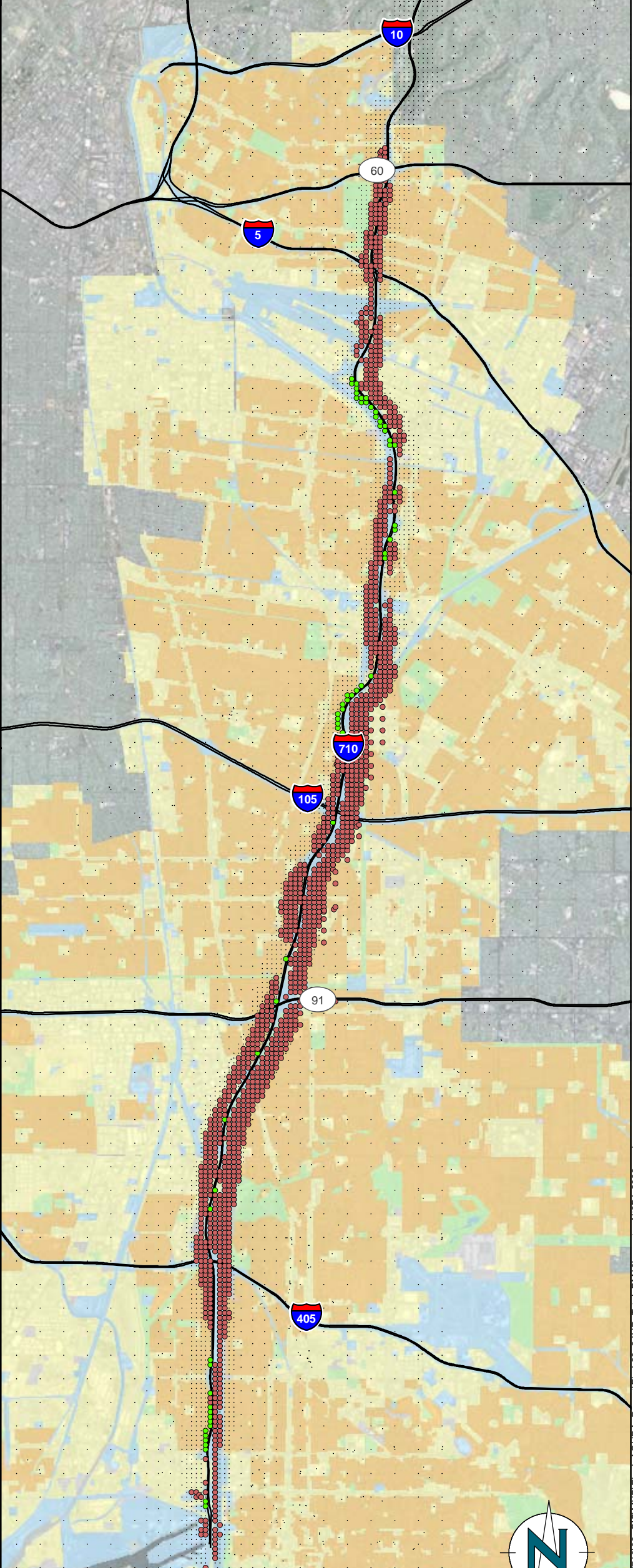
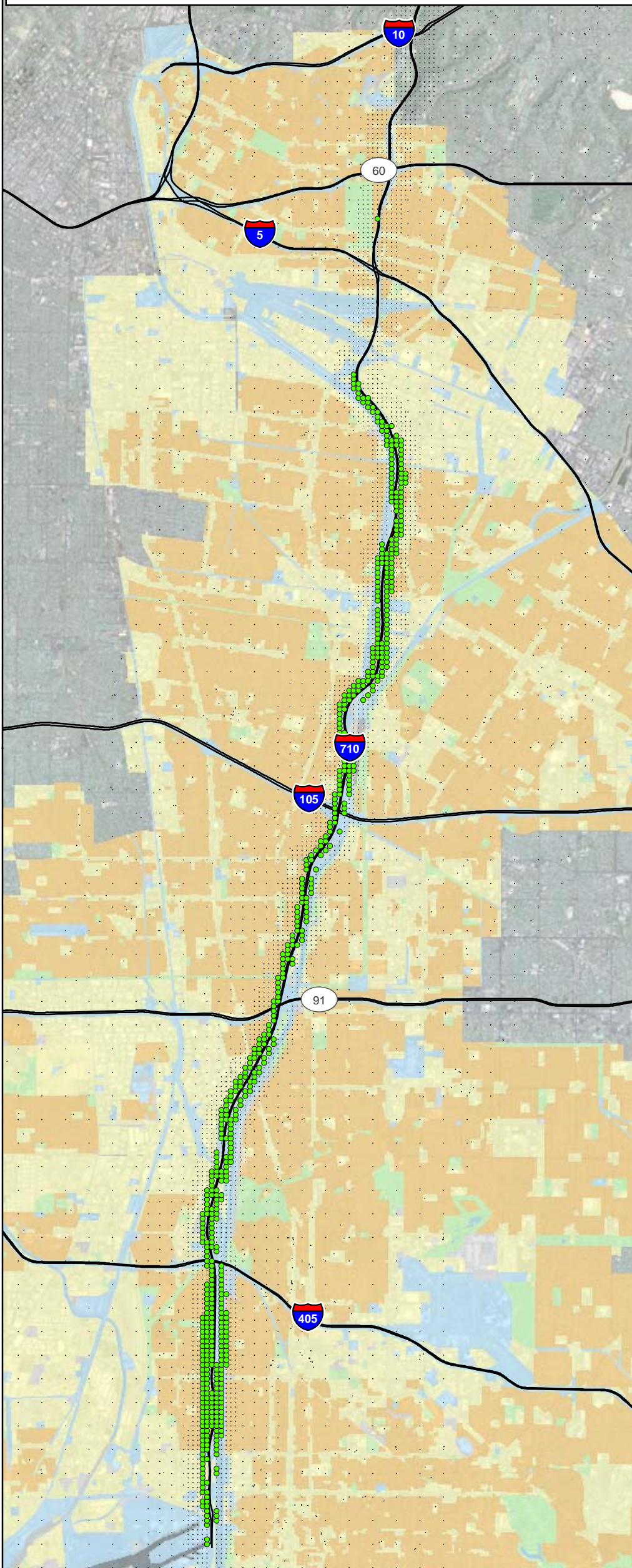


Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



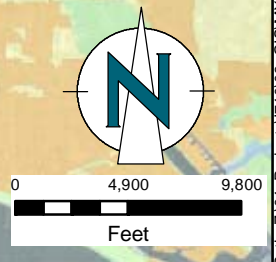
Legend

- | | |
|--|--|
| Maximum Incremental 24-Hour PM₁₀ Impact (µg/m³) | Land Use (TBM 2007) |
| ● < -2.5 | ■ Not Categorized |
| ○ -2.5 to 2.5 | ■ Agriculture, Open Space and Recreation |
| ● > 2.5 | ■ Industrial, Commercial and Services |
| | ■ Residential |
| | ■ Transportation, Water, and Utilities |



Exhaust PM₁₀ Impacts

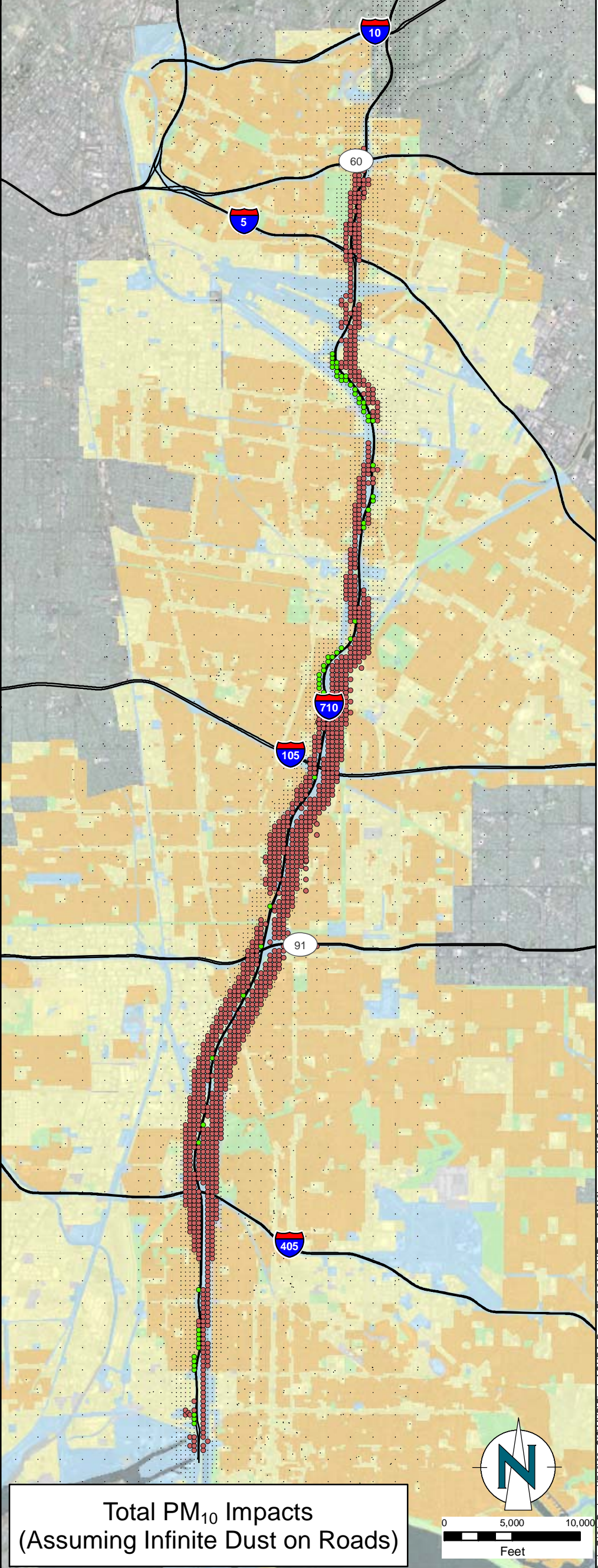
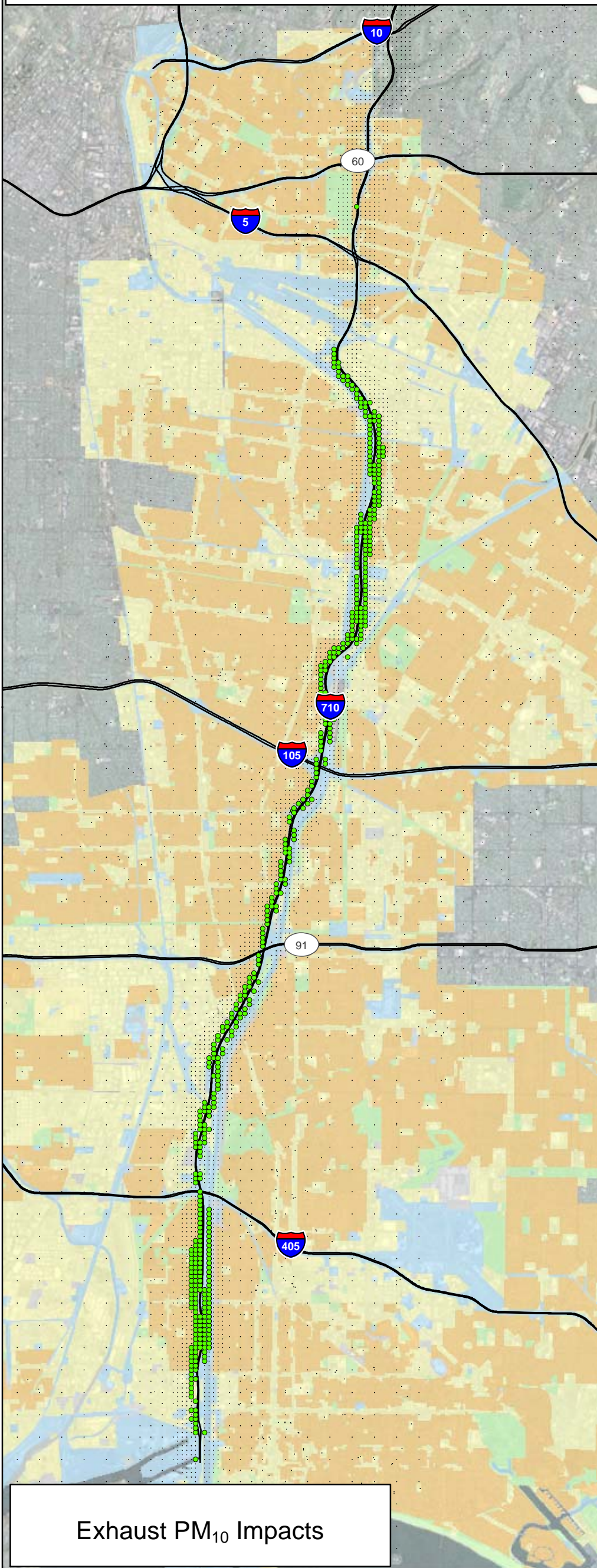
Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



Path: Z:\01_Projects\171003_GIS\MXD\Final_AO\RA_Report\Fig4.20_24HR_Total_PM10Impacts_Alt6B1-2008.mxd

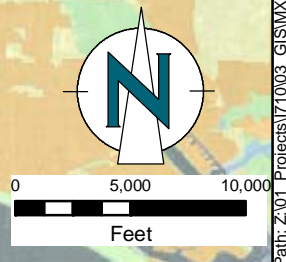
Legend

Maximum Incremental 24-Hour PM ₁₀ Impact (µg/m ³)	Land Use (TBM 2007)
● < -2.5	Not Categorized
○ -2.5 to 2.5	Agriculture, Open Space and Recreation
● > 2.5	Industrial, Commercial and Services
	Residential
	Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts

Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



Path: Z:\01_Projects\171003_GIS\MXD\Final_AO\HRA_Report\Fig4.21_24HR_Total_PM10Impacts_Alt6C-2008.mxd

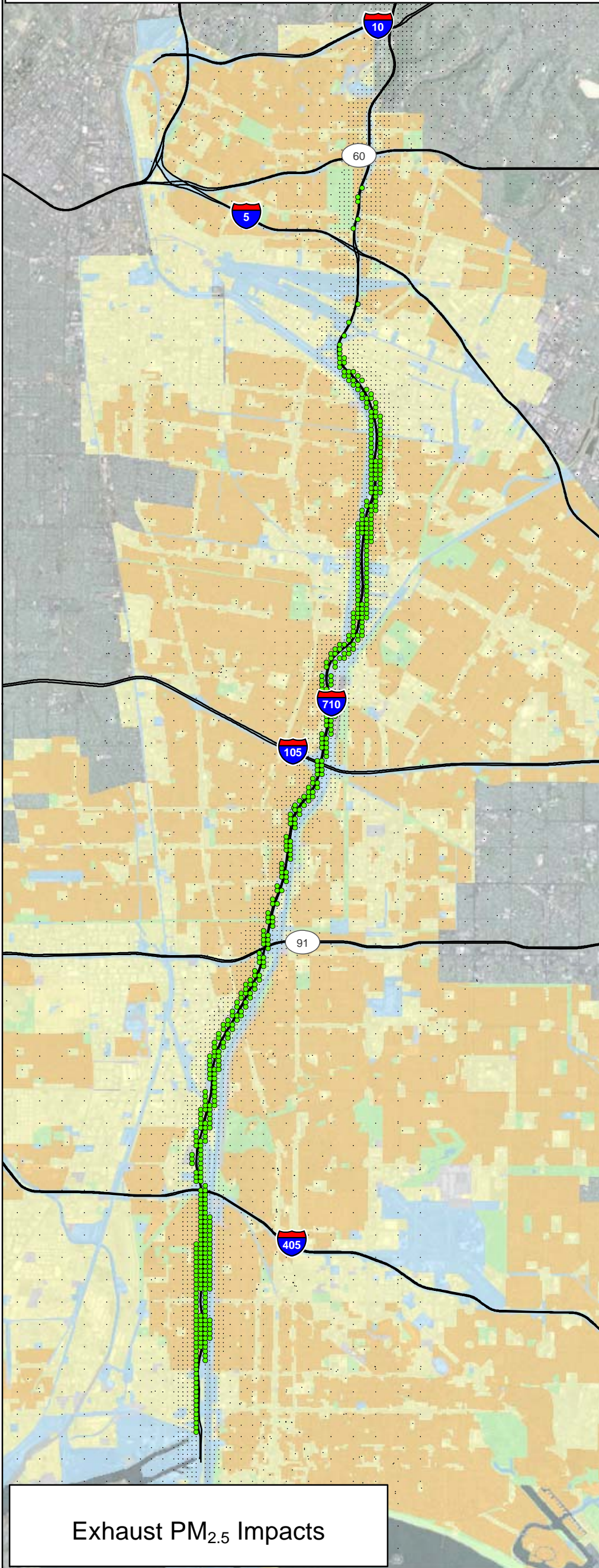
Legend

Maximum Incremental 24-Hour PM_{2.5} Impact (µg/m³)

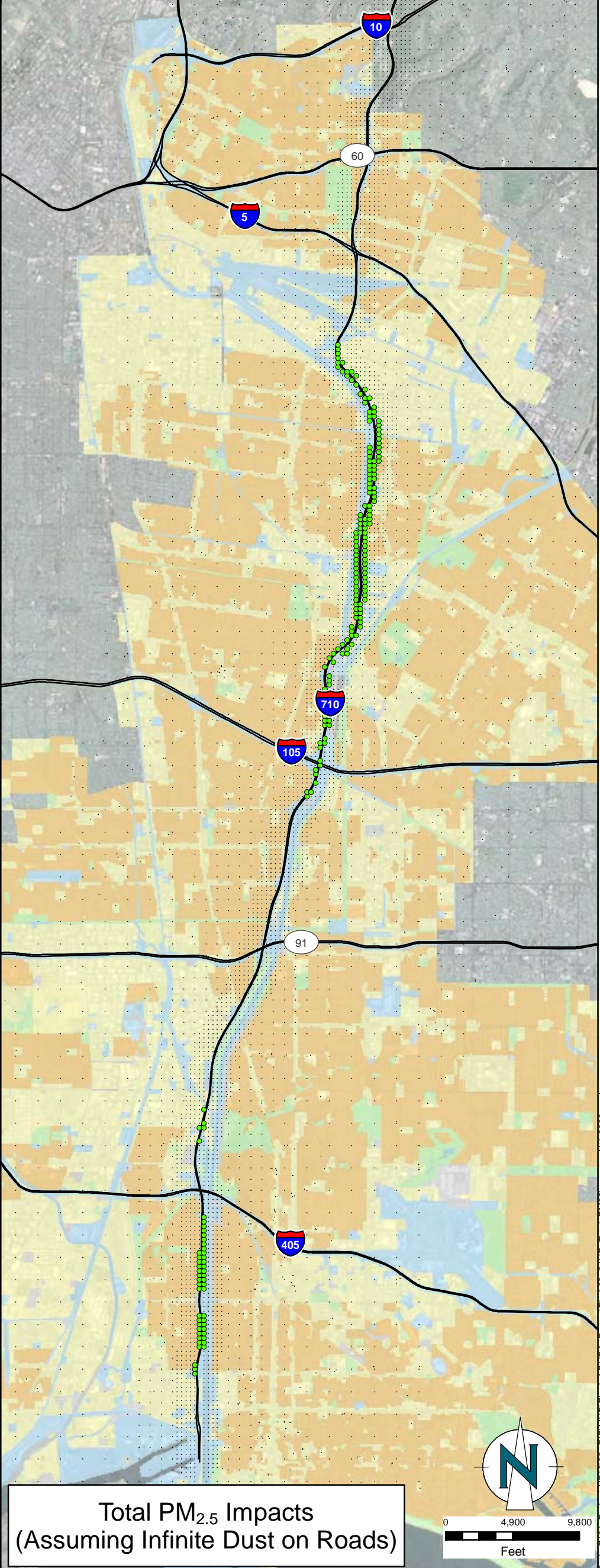
- < -2.5
- -2.5 to 2.5
- > 2.5

Land Use (TBM 2007)

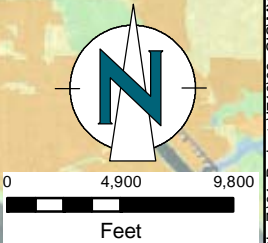
- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM_{2.5} Impacts



Total PM_{2.5} Impacts
(Assuming Infinite Dust on Roads)



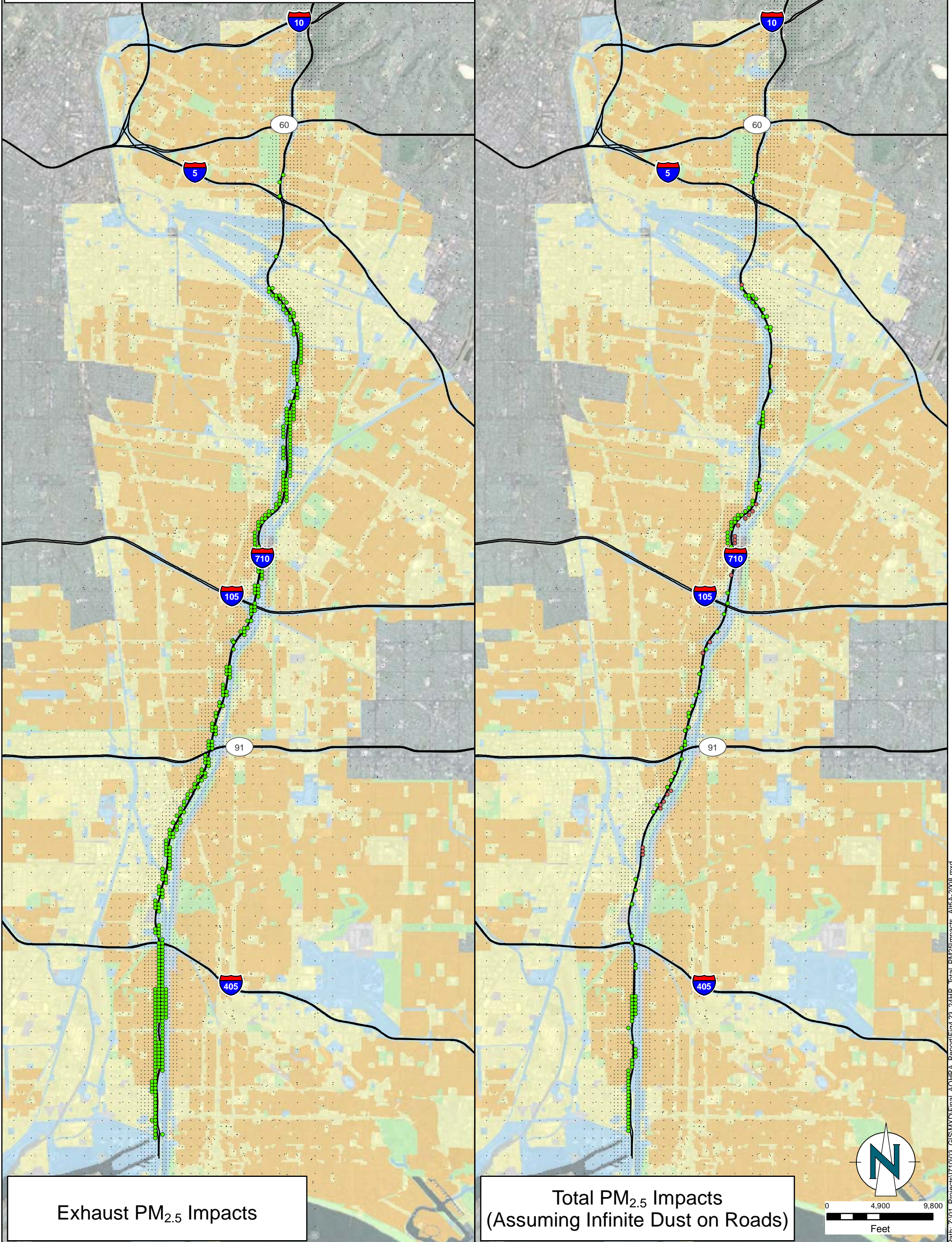
Legend

Maximum Incremental 24-Hour PM_{2.5} Impact (µg/m³)

- < -2.5
- -2.5 to 2.5
- > 2.5

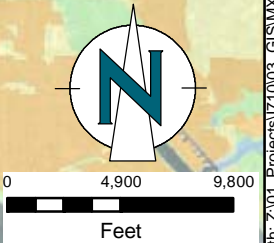
Land Use (TBM 2007)

- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM_{2.5} Impacts

Total PM_{2.5} Impacts
(Assuming Infinite Dust on Roads)



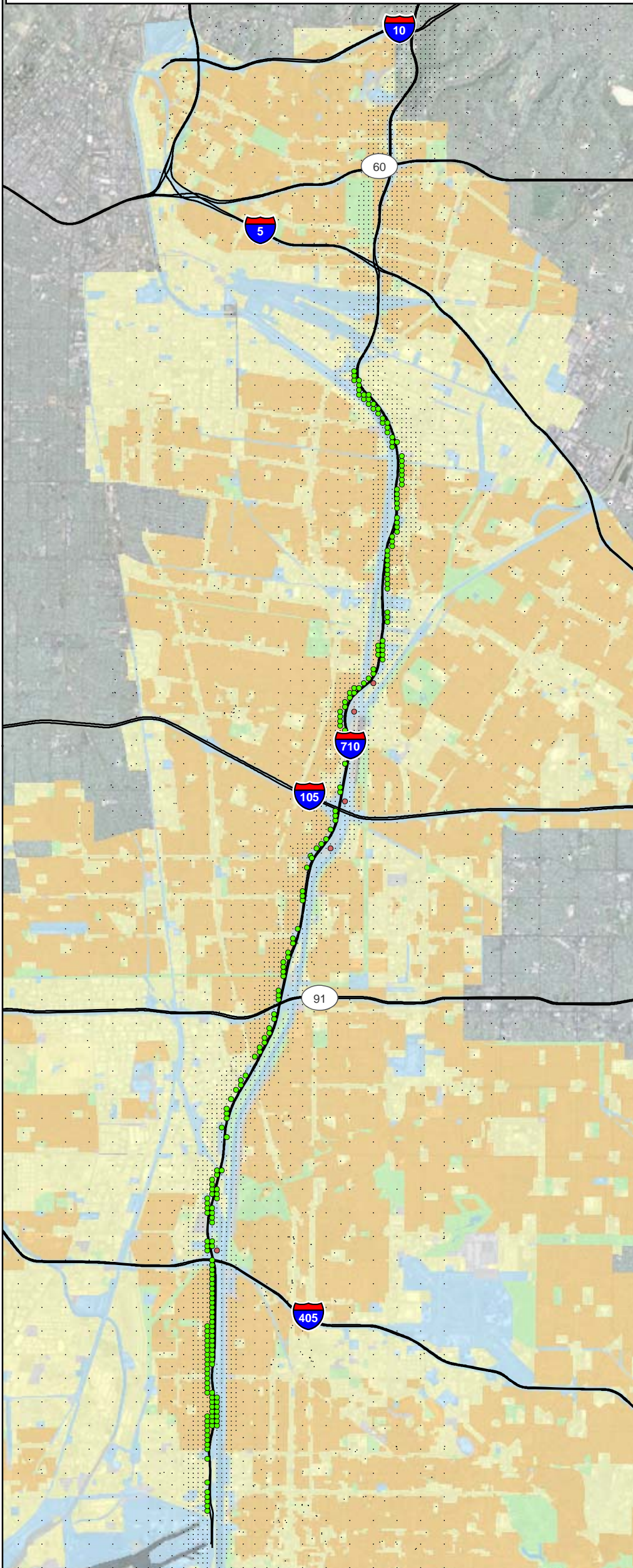
Legend

Maximum Incremental 24-Hour PM_{2.5} Impact (µg/m³)

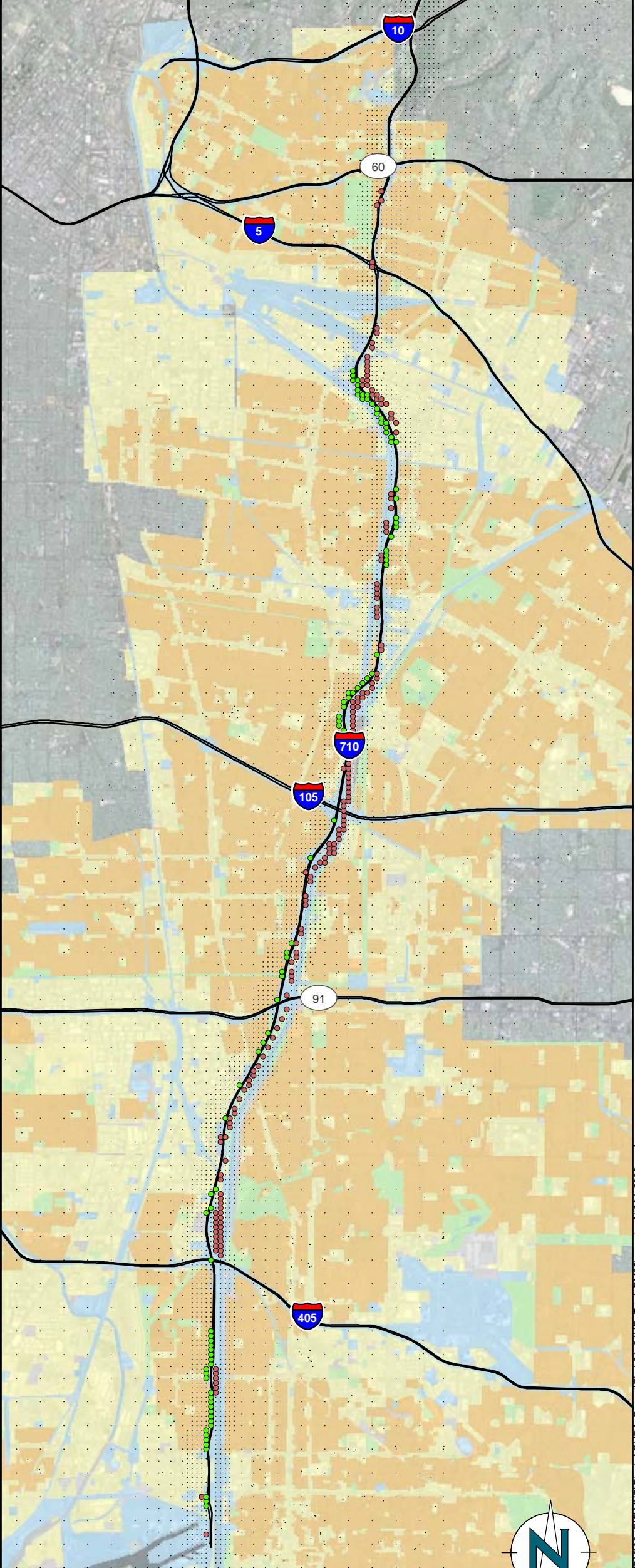
- < -2.5
- -2.5 to 2.5
- > 2.5

Land Use (TBM 2007)

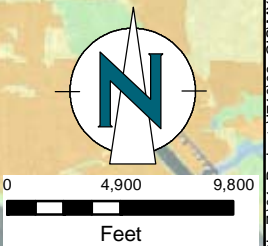
- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM_{2.5} Impacts

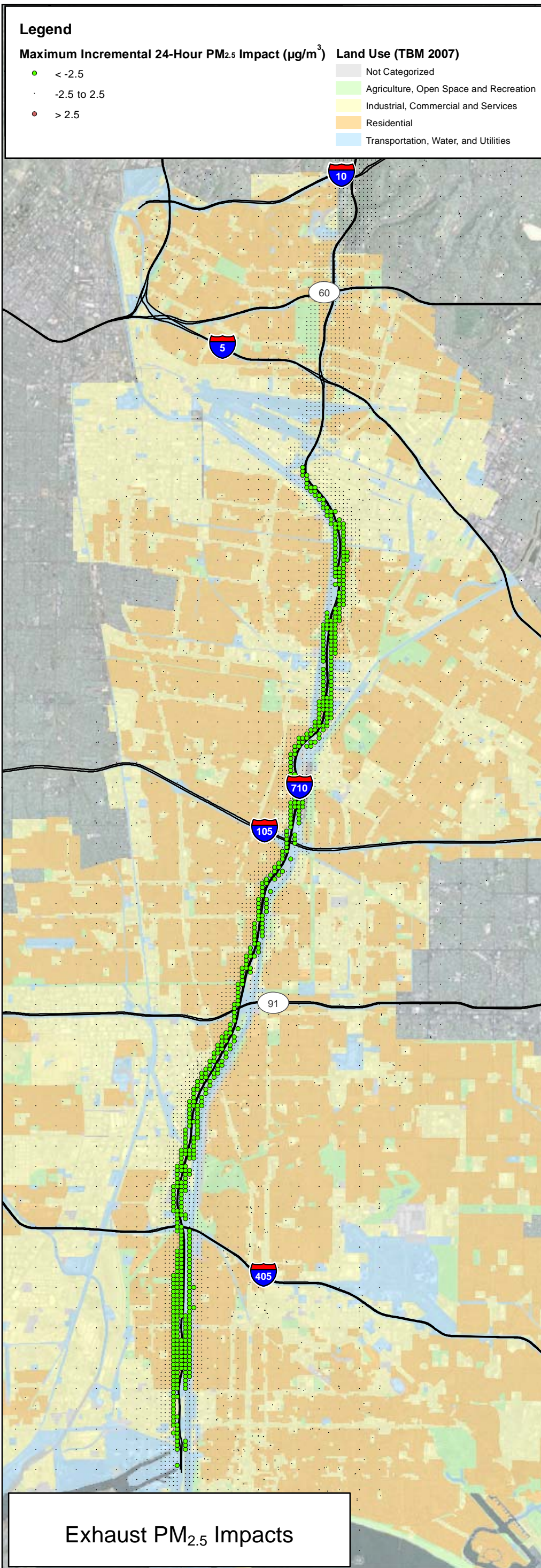


Total PM_{2.5} Impacts
(Assuming Infinite Dust on Roads)

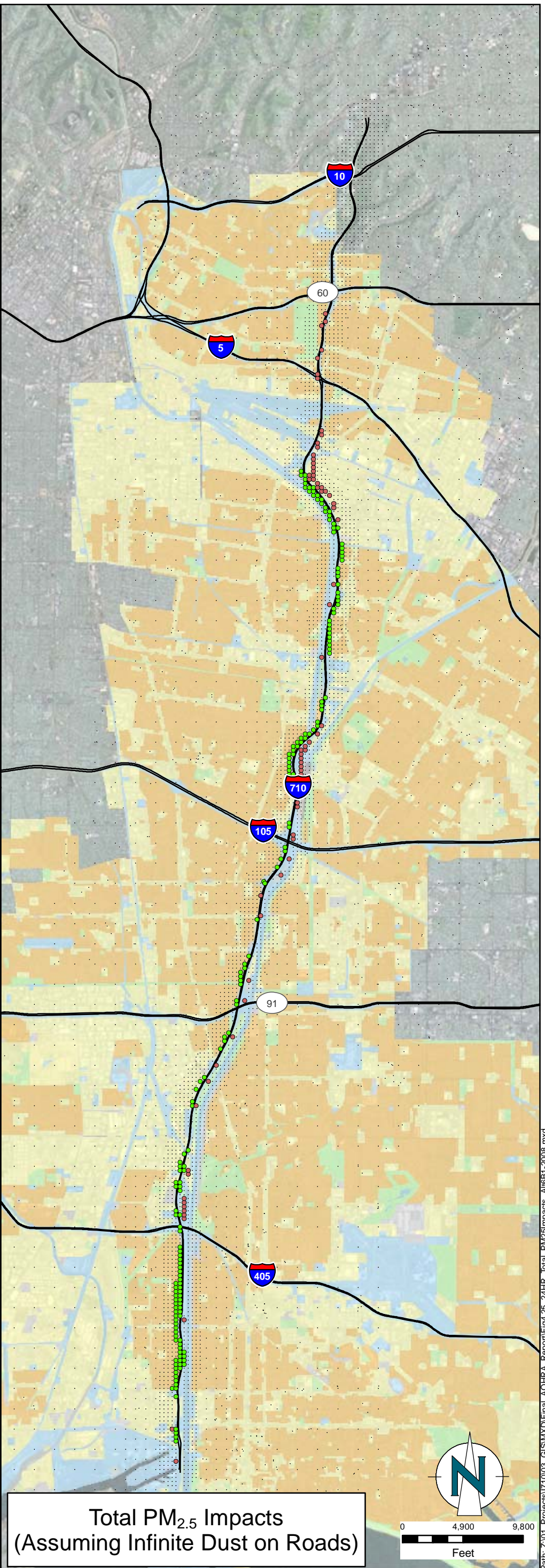


Legend

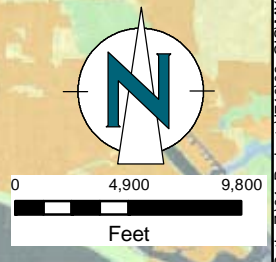
- | | |
|---|---|
| <p>Maximum Incremental 24-Hour PM_{2.5} Impact (µg/m³)</p> <ul style="list-style-type: none"> ● < -2.5 ● -2.5 to 2.5 ● > 2.5 | <p>Land Use (TBM 2007)</p> <ul style="list-style-type: none"> Not Categorized Agriculture, Open Space and Recreation Industrial, Commercial and Services Residential Transportation, Water, and Utilities |
|---|---|



Exhaust PM_{2.5} Impacts



Total PM_{2.5} Impacts
(Assuming Infinite Dust on Roads)



Path: Z:\01_Projects\171003_GIS\MXD\Final_AO\RA_Report\Fig4.25_24HR_Total_PM25Impacts_A16B1-2008.mxd

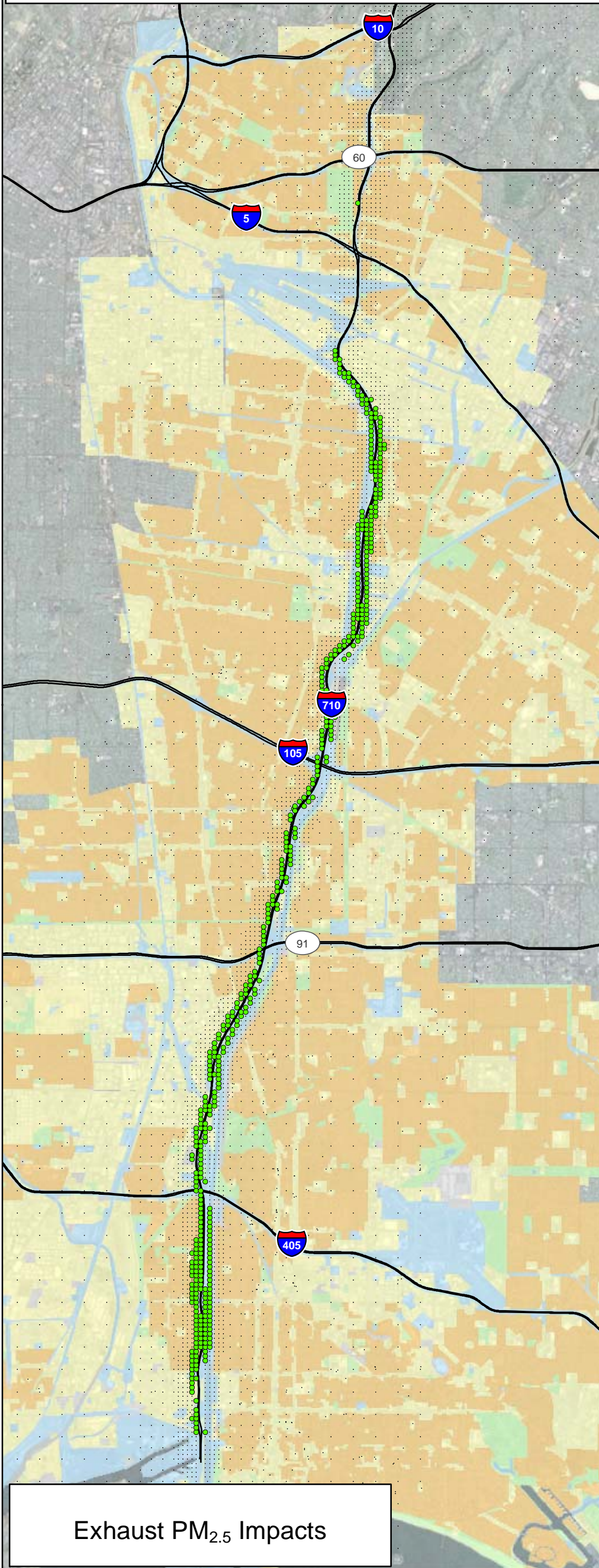
Legend

Maximum Incremental 24-Hour PM_{2.5} Impact (µg/m³)

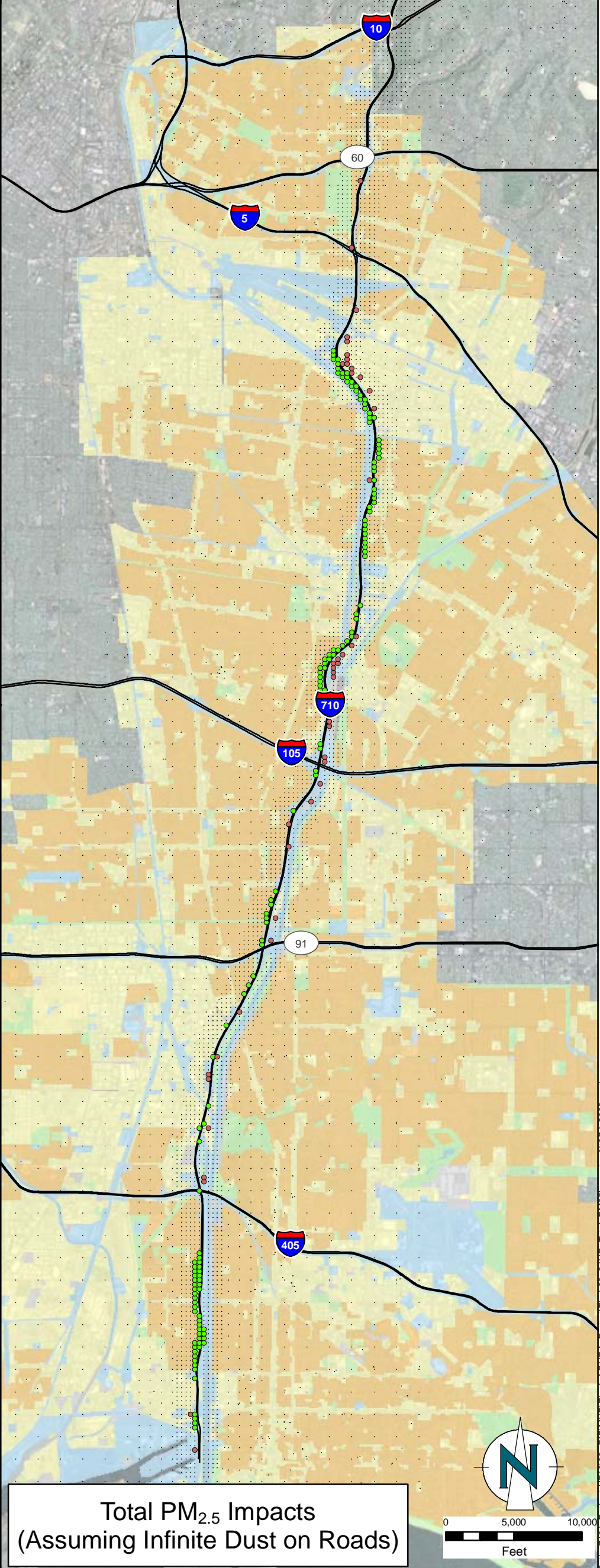
- < -2.5
- -2.5 to 2.5
- > 2.5

Land Use (TBM 2007)

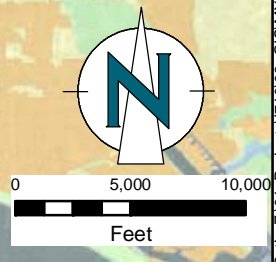
- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM_{2.5} Impacts



Total PM_{2.5} Impacts
(Assuming Infinite Dust on Roads)



Path: Z:\01_Projects\171003_GIS\MXD\Final_AO\RA_Report\Fig4.26_24HR_Total_PM25Impacts_Alt6C1-2008.mxd

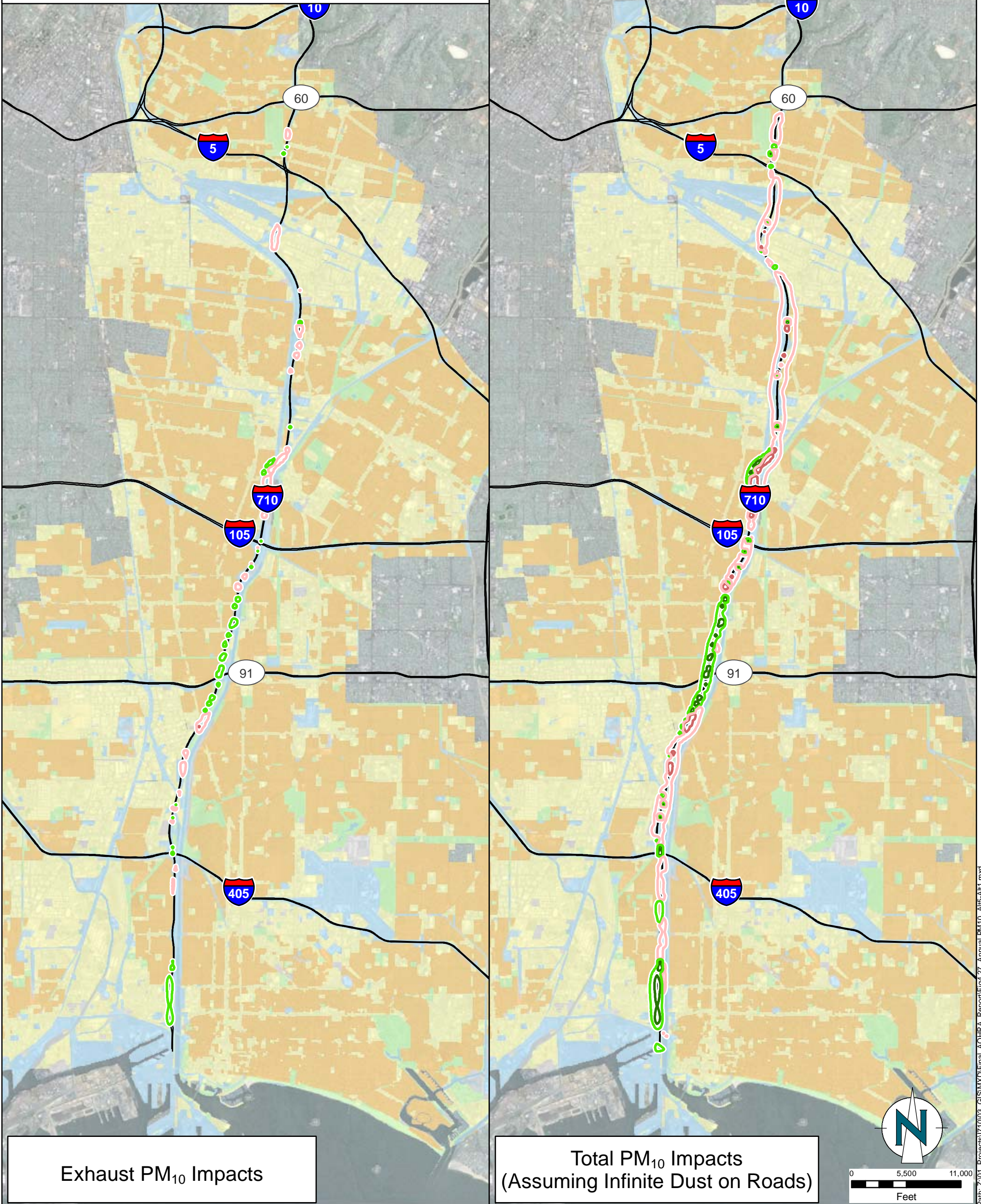
Legend

Maximum Incremental Annual PM₁₀ Impact (µg/m³)

- -5.0
- -1.0
- 1.0
- 5.0

Land Use (TBM 2007)

- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts

Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)

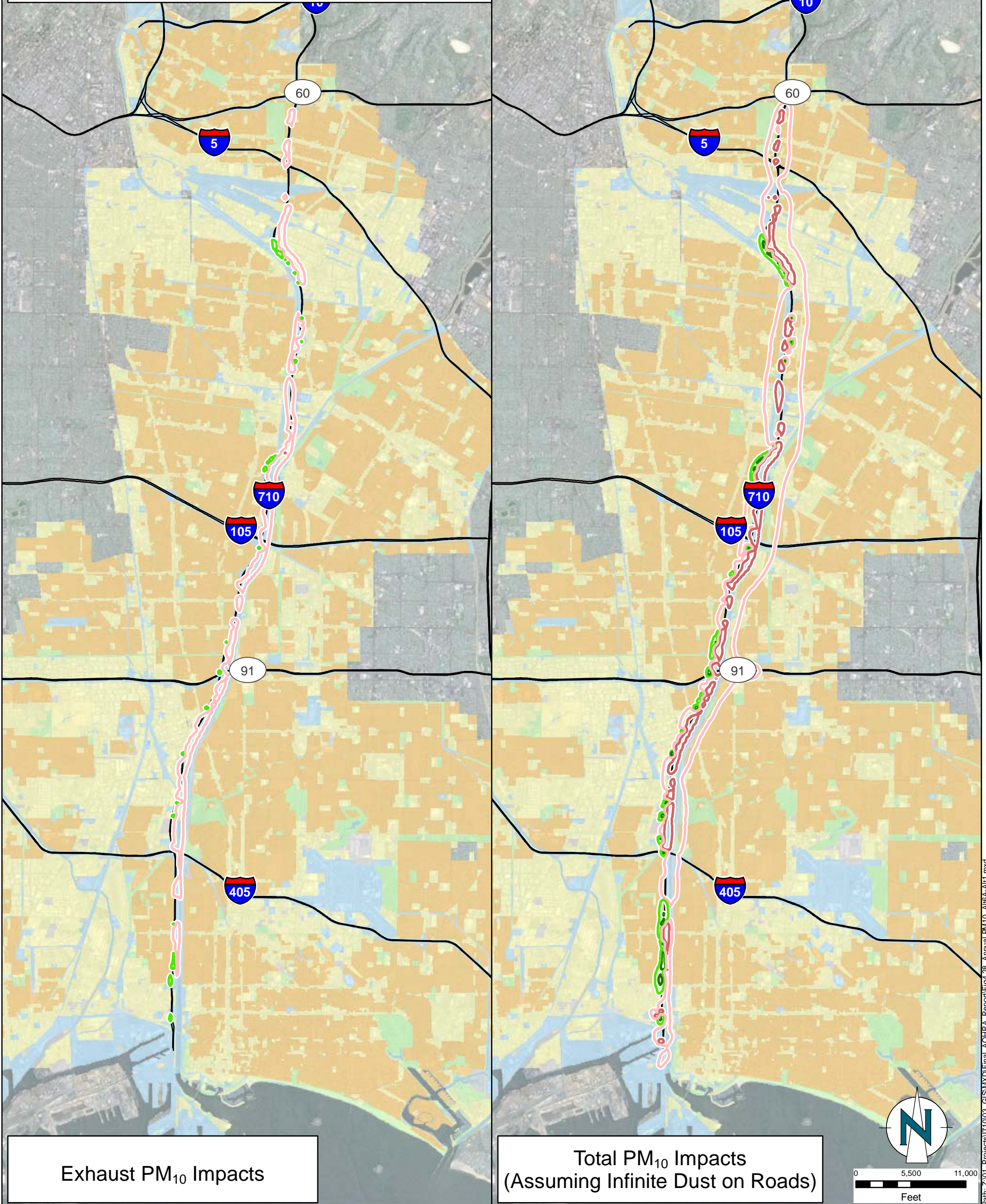
Legend

Maximum Incremental Annual PM₁₀ Impact (µg/m³)

- -5.0
- -1.0
- 1.0
- 5.0

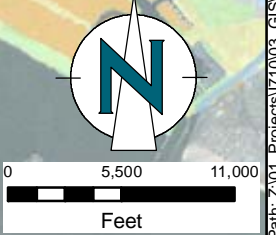
Land Use (TBM 2007)

- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts

Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



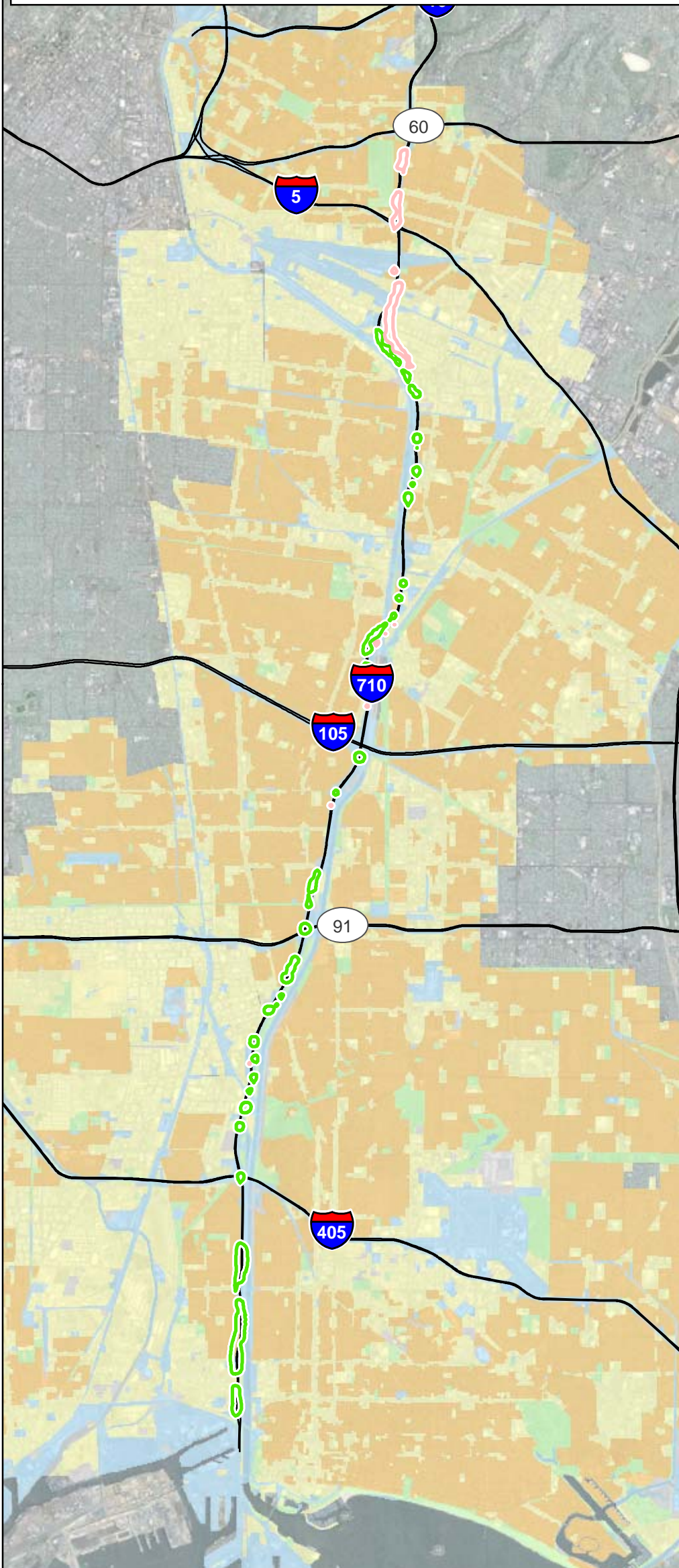
Legend

Maximum Incremental Annual PM₁₀ Impact (µg/m³)

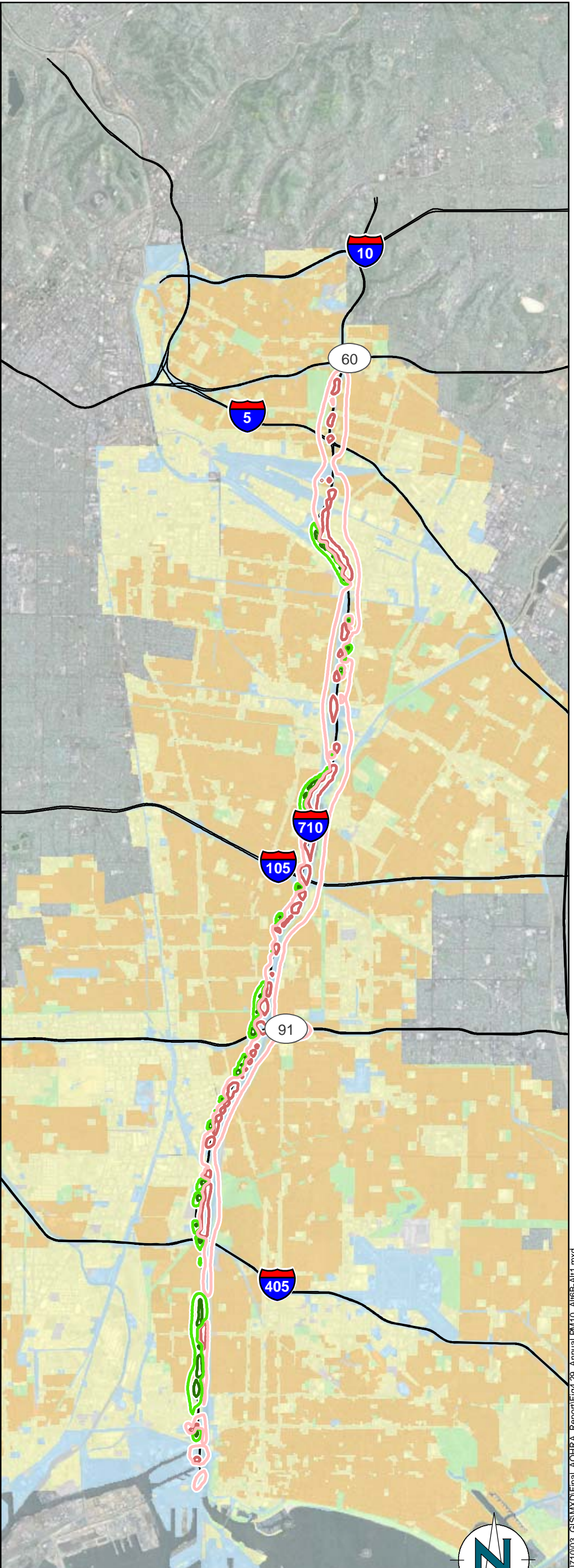
- -5.0
- -1.0
- 1.0
- 5.0

Land Use (TBM 2007)

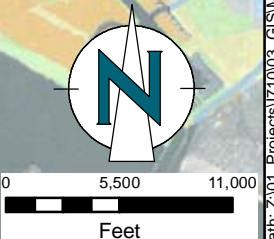
- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts



Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



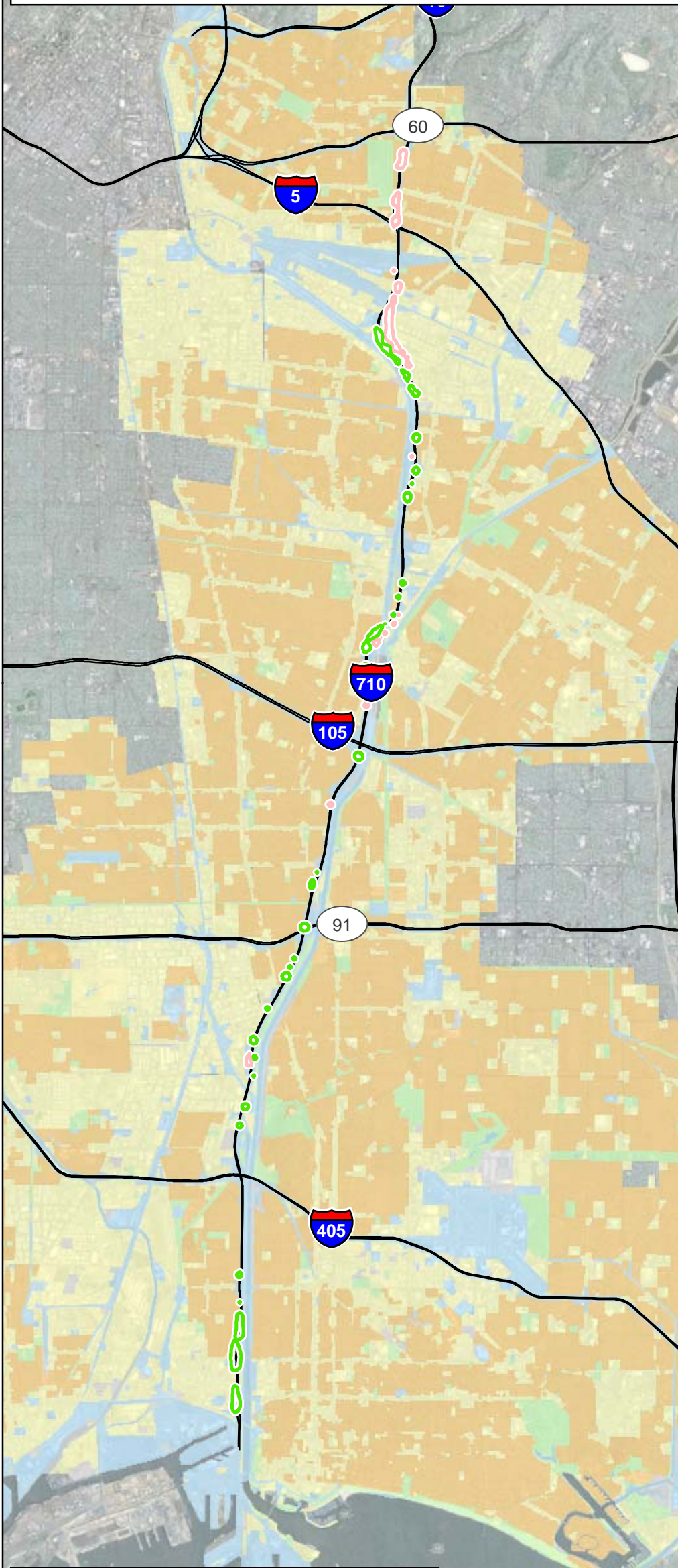
Legend

Maximum Incremental Annual PM₁₀ Impact (µg/m³)

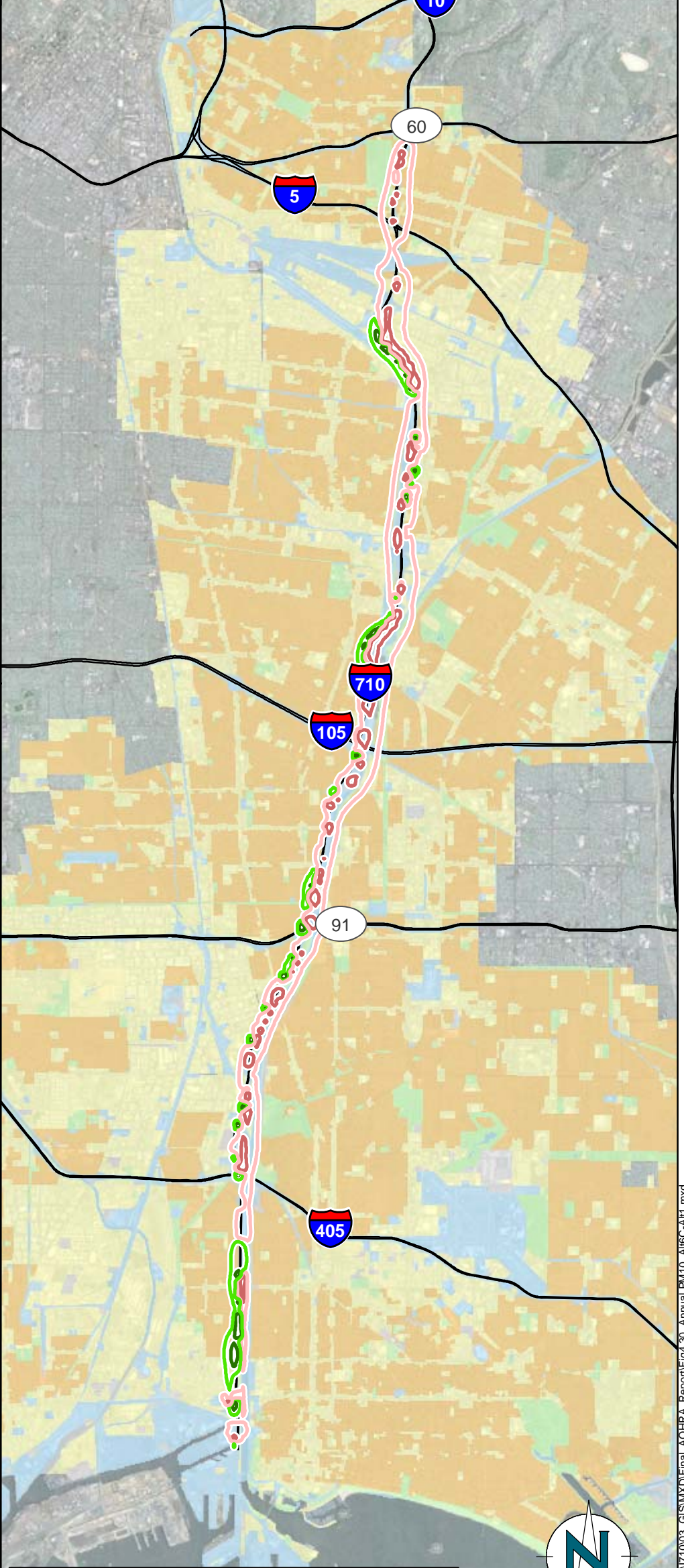
- -5.0
- -1.0
- 1.0
- 5.0

Land Use (TBM 2007)

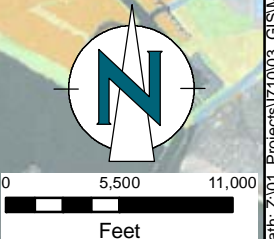
- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts



Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



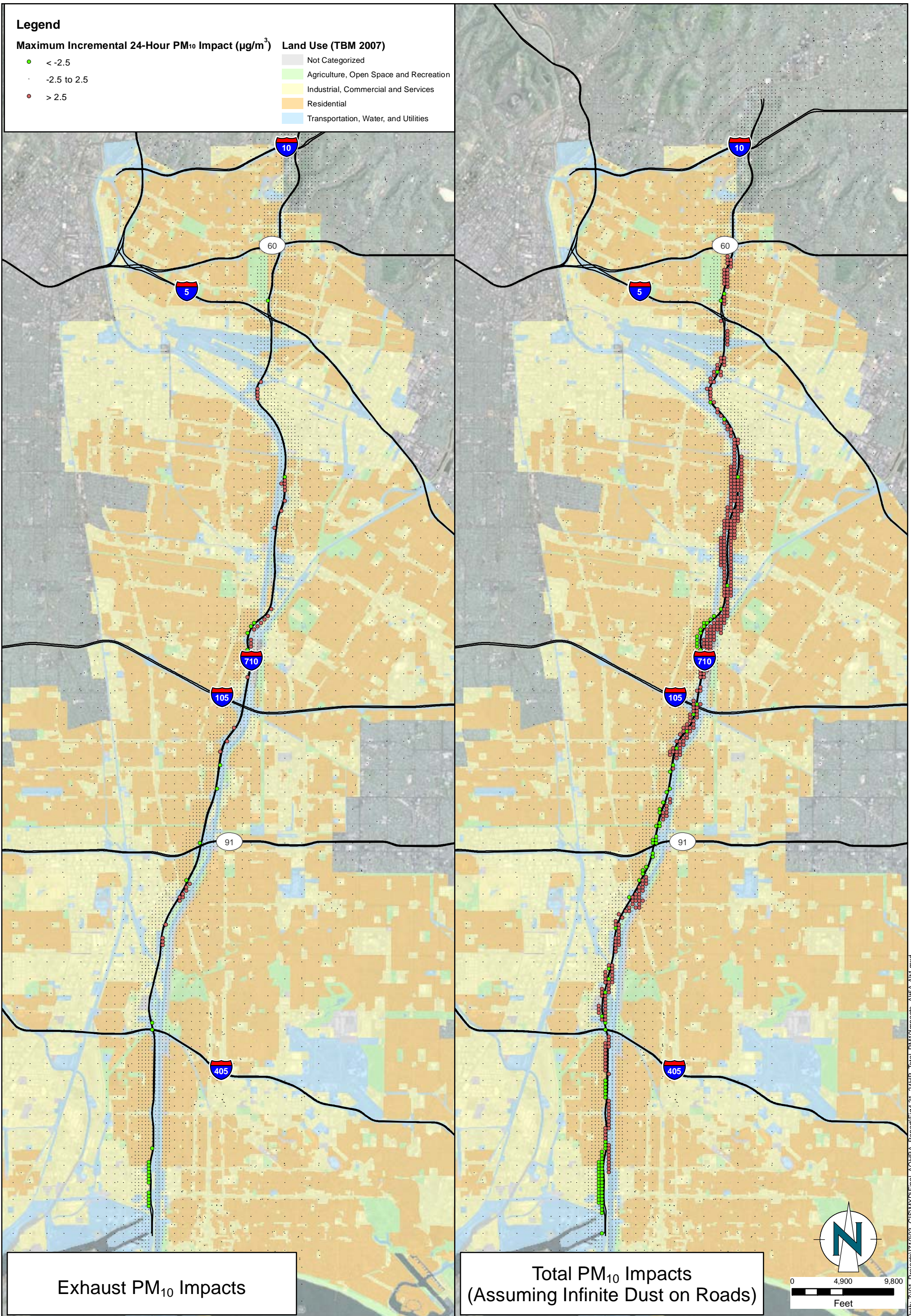
Legend

Maximum Incremental 24-Hour PM₁₀ Impact (µg/m³)

- < -2.5
- -2.5 to 2.5
- > 2.5

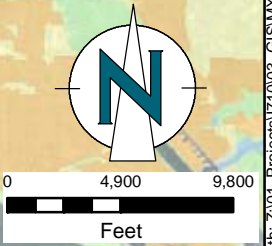
Land Use (TBM 2007)

- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts

Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



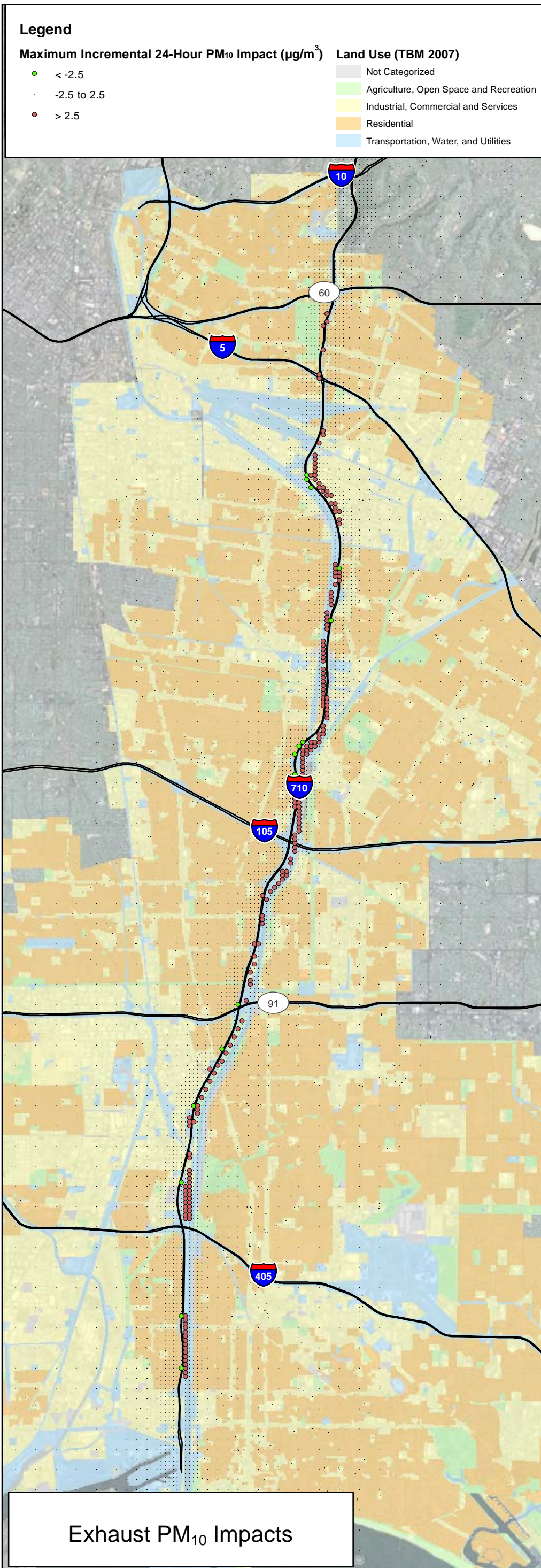
Legend

Maximum Incremental 24-Hour PM₁₀ Impact (µg/m³)

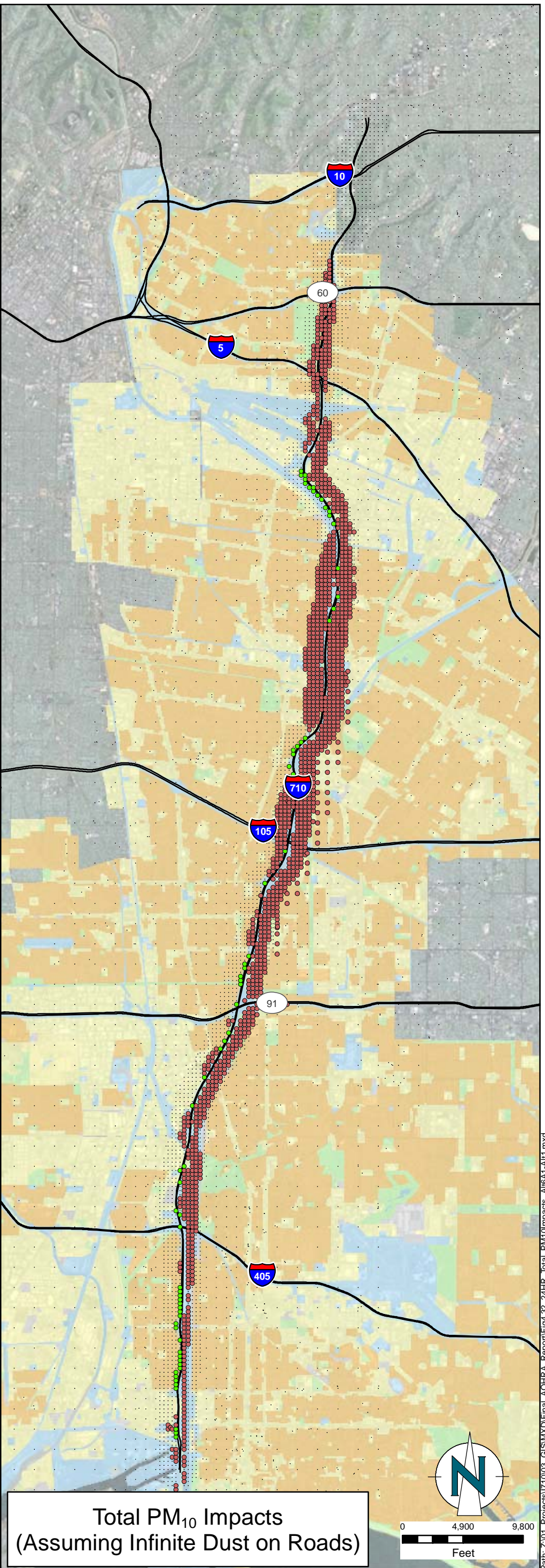
- < -2.5
- -2.5 to 2.5
- > 2.5

Land Use (TBM 2007)

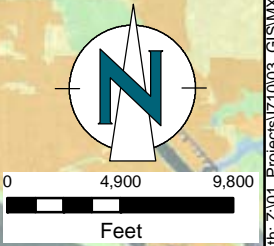
- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts



Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



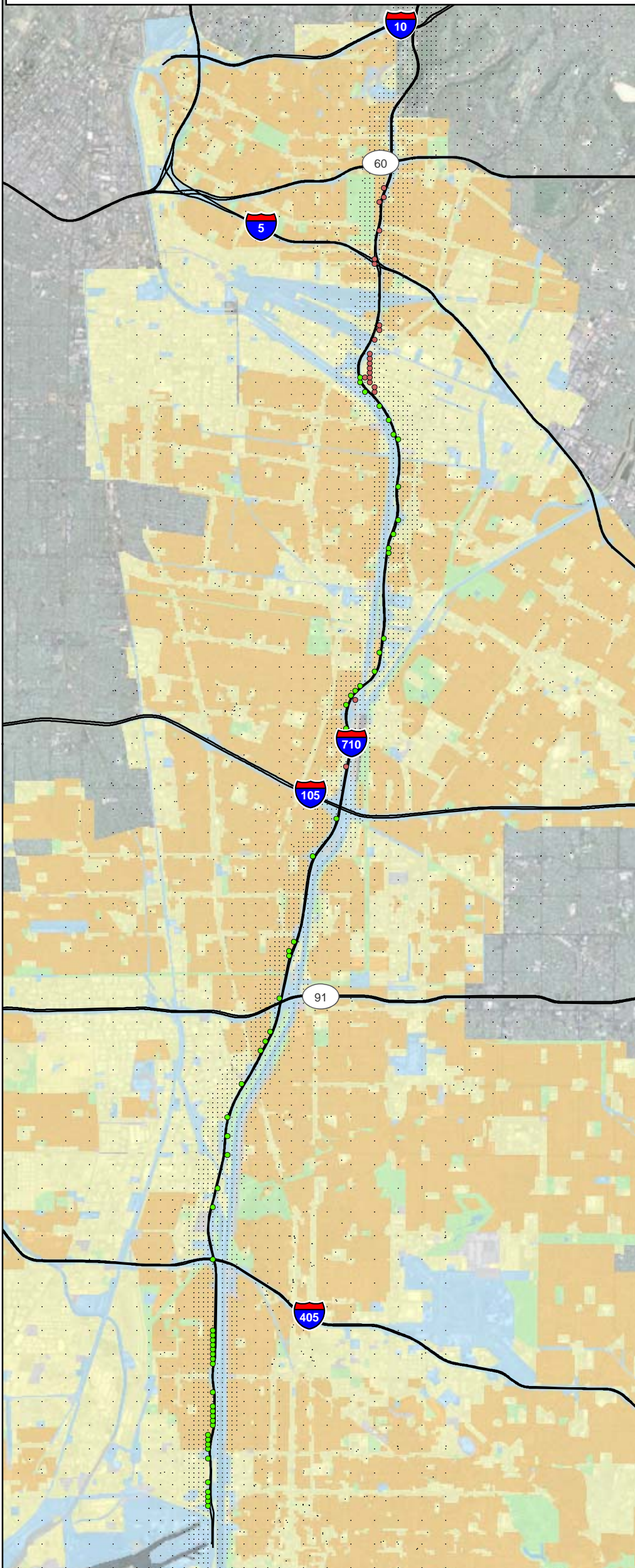
Legend

Maximum Incremental 24-Hour PM₁₀ Impact (µg/m³)

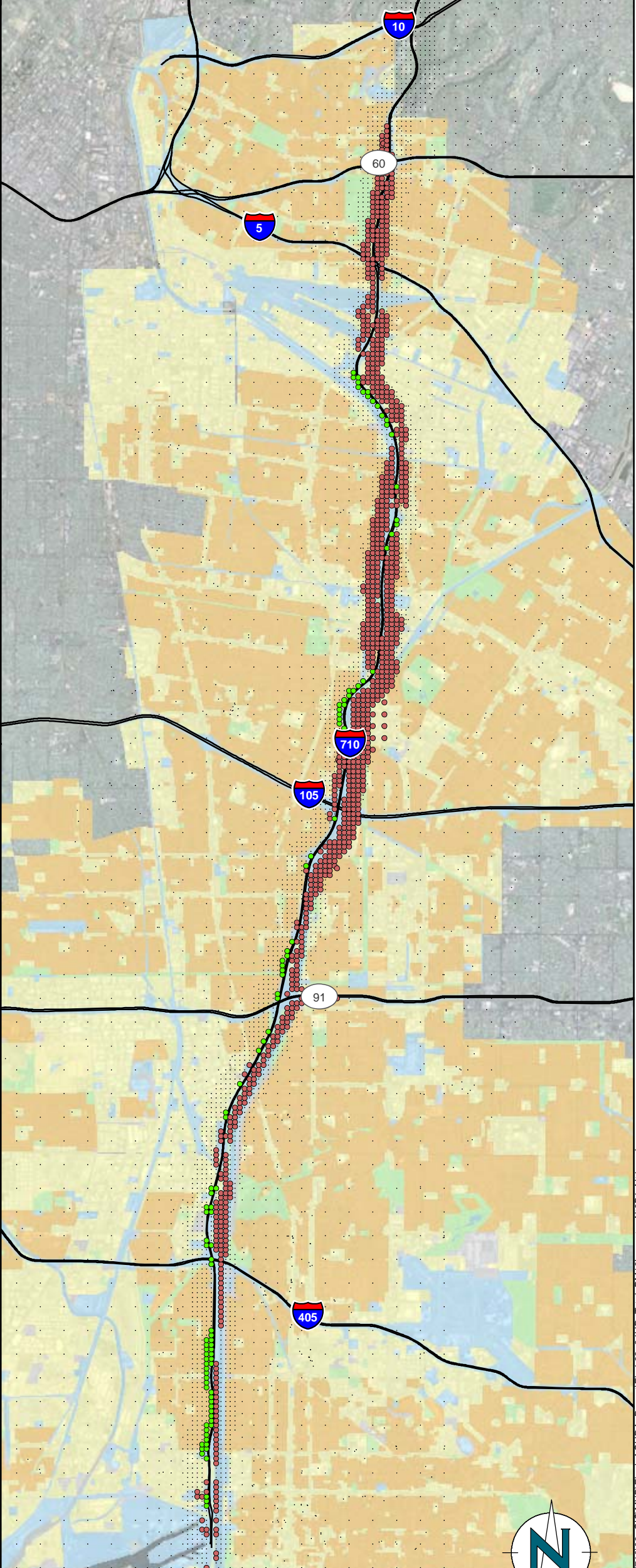
- < -2.5
- -2.5 to 2.5
- > 2.5

Land Use (TBM 2007)

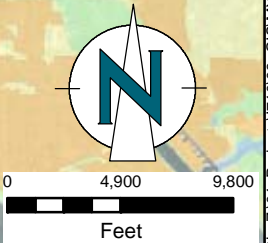
- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Exhaust PM₁₀ Impacts



Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)



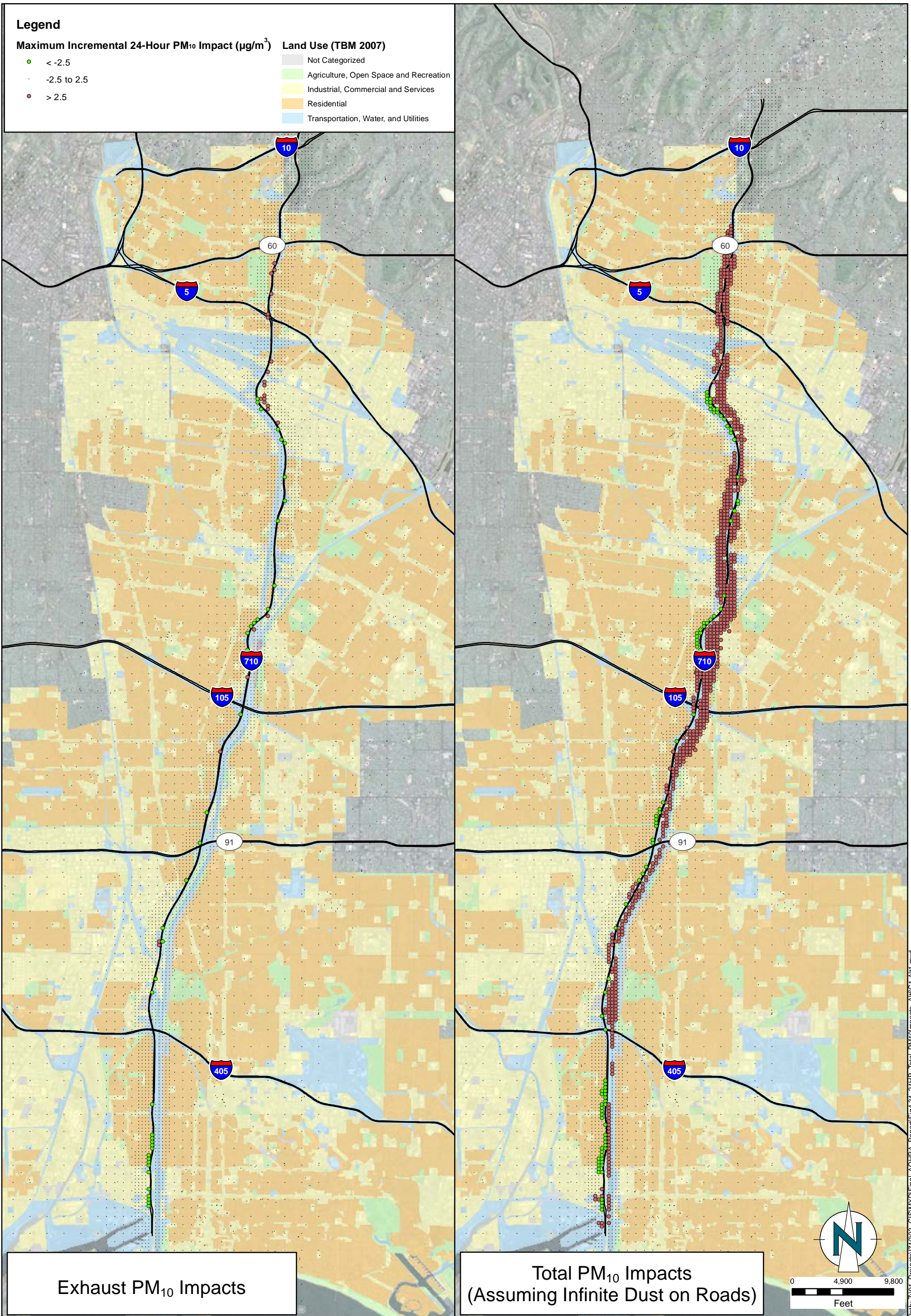
Legend

Maximum Incremental 24-Hour PM₁₀ Impact (µg/m³)

- < -2.5
- -2.5 to 2.5
- > 2.5

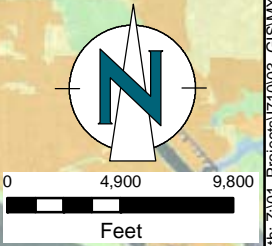
Land Use (TBM 2007)

- Not Categorized
- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



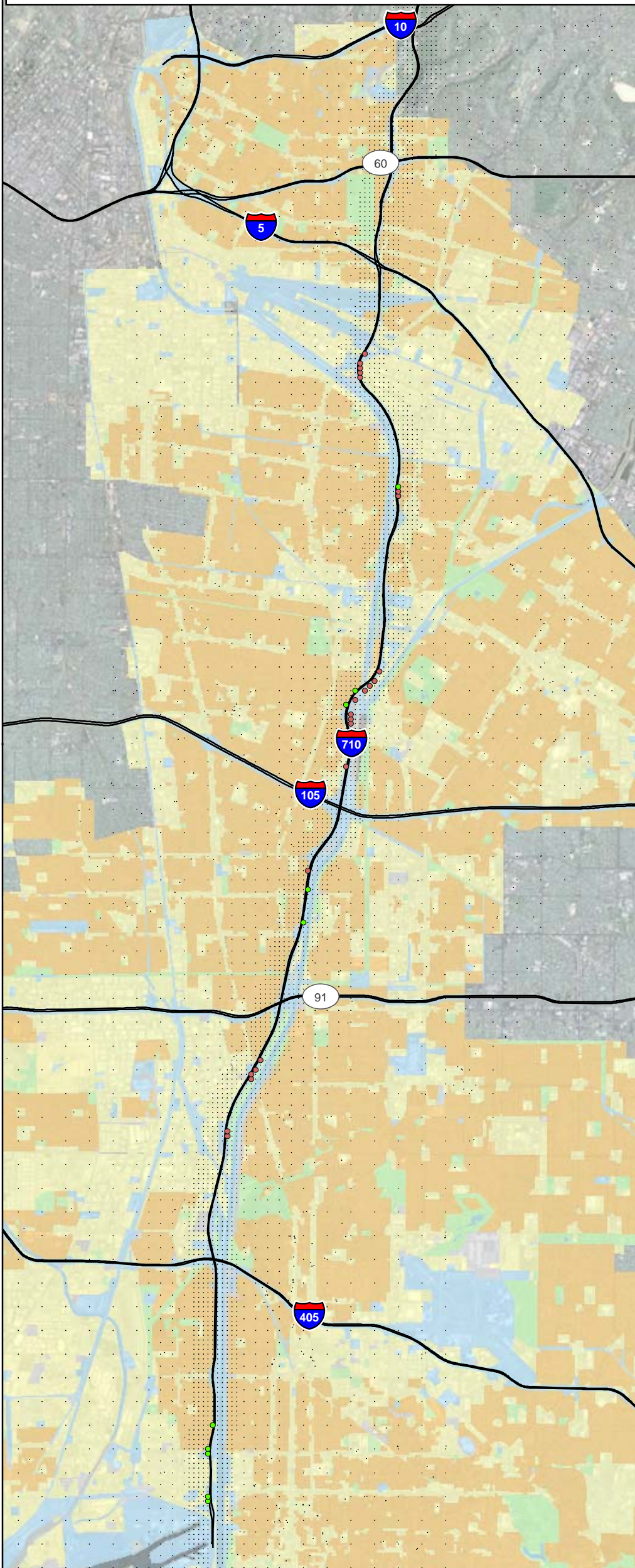
Exhaust PM₁₀ Impacts

Total PM₁₀ Impacts
(Assuming Infinite Dust on Roads)

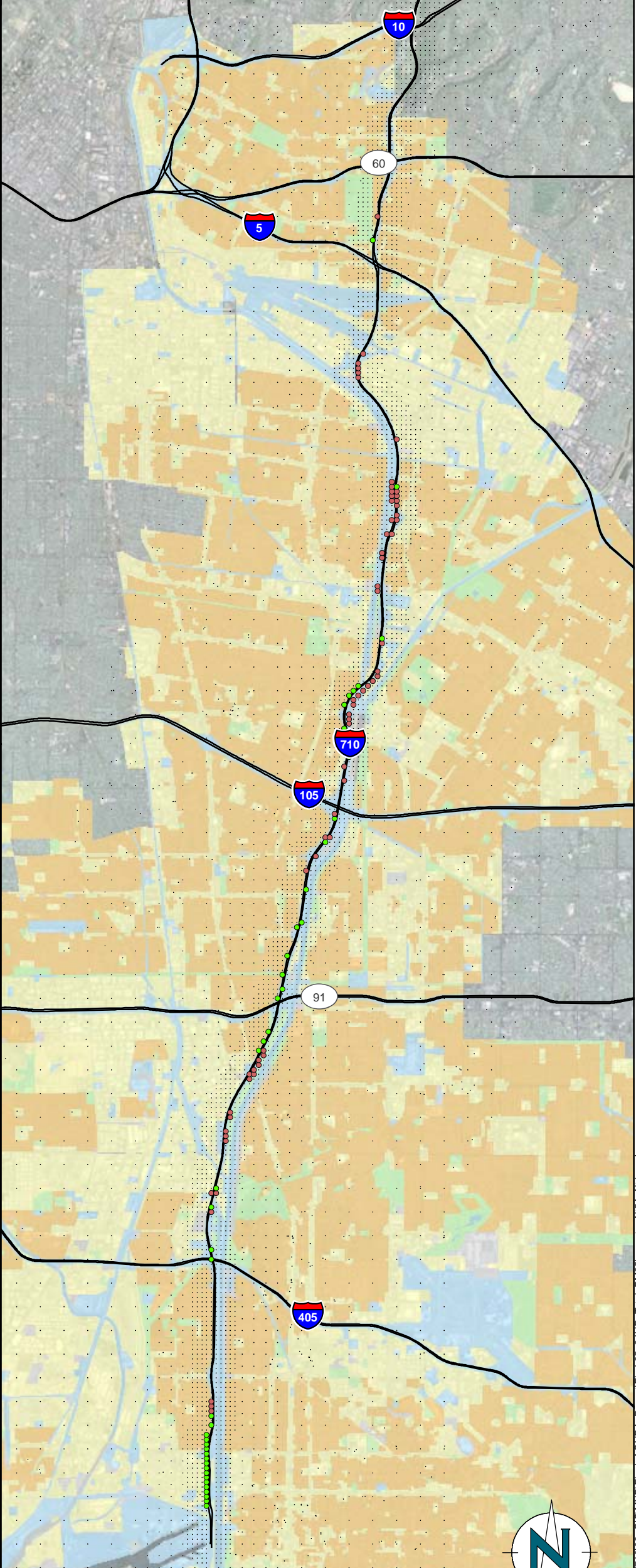


Legend

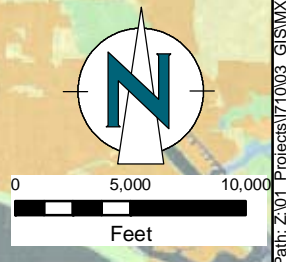
- | | |
|---|---|
| <p>Maximum Incremental 24-Hour PM_{2.5} Impact (µg/m³)</p> <ul style="list-style-type: none"> ● < -2.5 ● -2.5 to 2.5 ● > 2.5 | <p>Land Use (TBM 2007)</p> <ul style="list-style-type: none"> Not Categorized Agriculture, Open Space and Recreation Industrial, Commercial and Services Residential Transportation, Water, and Utilities |
|---|---|



Exhaust PM_{2.5} Impacts



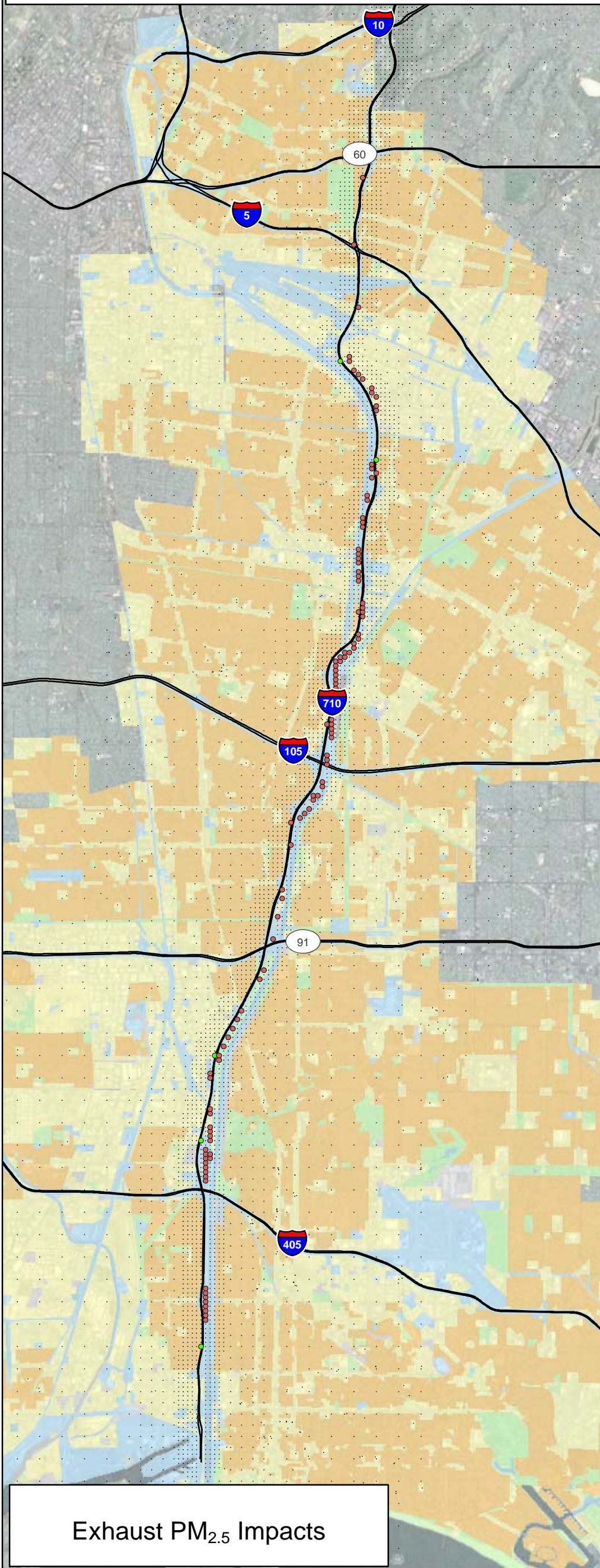
Total PM_{2.5} Impacts
(Assuming Infinite Dust on Roads)



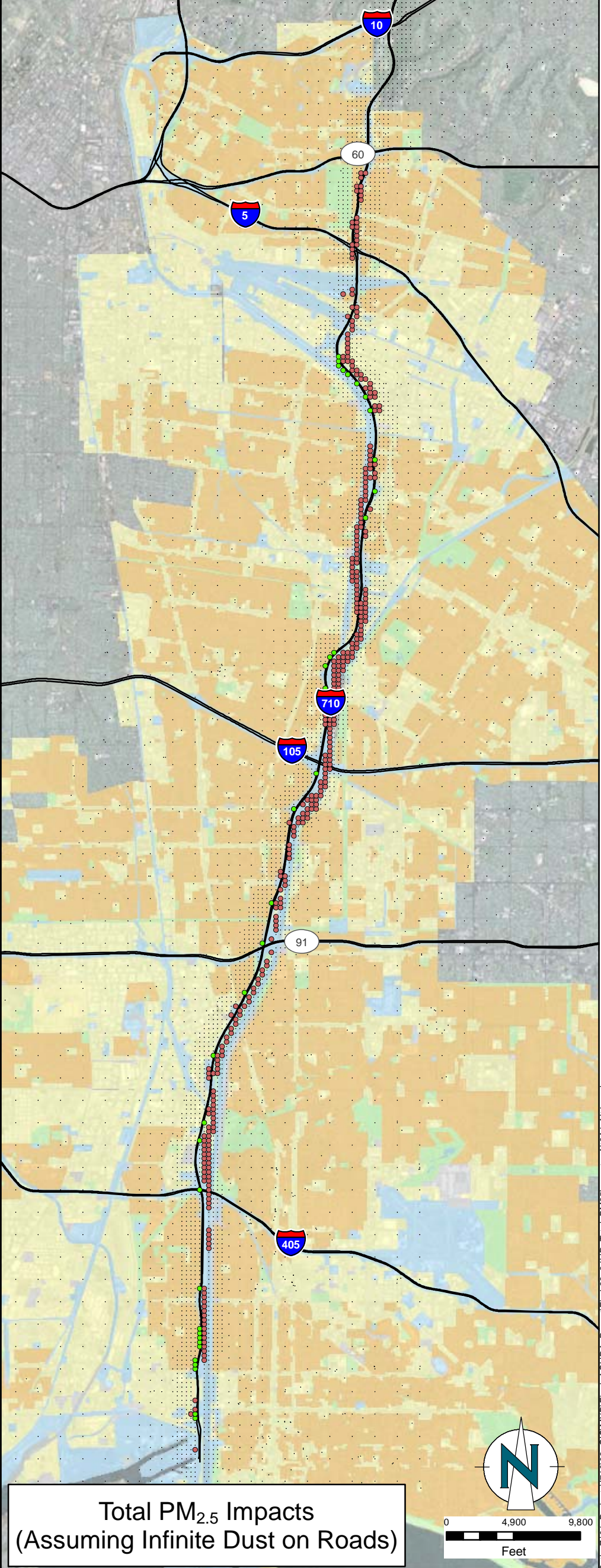
Path: Z:\01_Projects\17003_GIS\MXD\Final_AO\RA_Report\Fig4.35_24HR_Total_PM25Impacts_Alt5A-Alt1.mxd

Legend

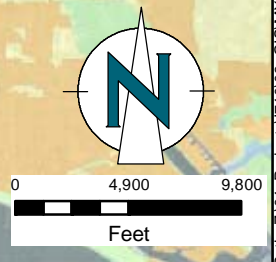
- | | |
|---|---|
| <p>Maximum Incremental 24-Hour PM_{2.5} Impact (µg/m³)</p> <ul style="list-style-type: none"> ● < -2.5 ● -2.5 to 2.5 ● > 2.5 | <p>Land Use (TBM 2007)</p> <ul style="list-style-type: none"> Not Categorized Agriculture, Open Space and Recreation Industrial, Commercial and Services Residential Transportation, Water, and Utilities |
|---|---|



Exhaust PM_{2.5} Impacts



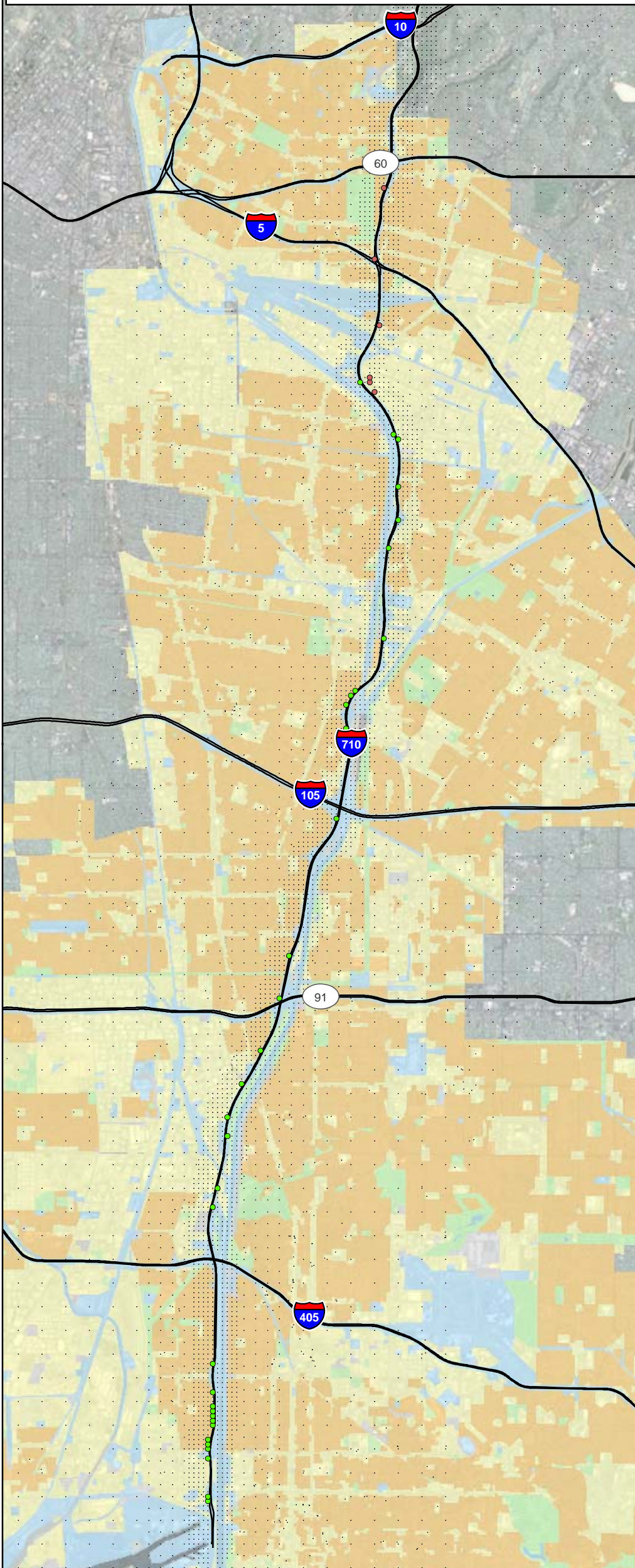
Total PM_{2.5} Impacts
(Assuming Infinite Dust on Roads)



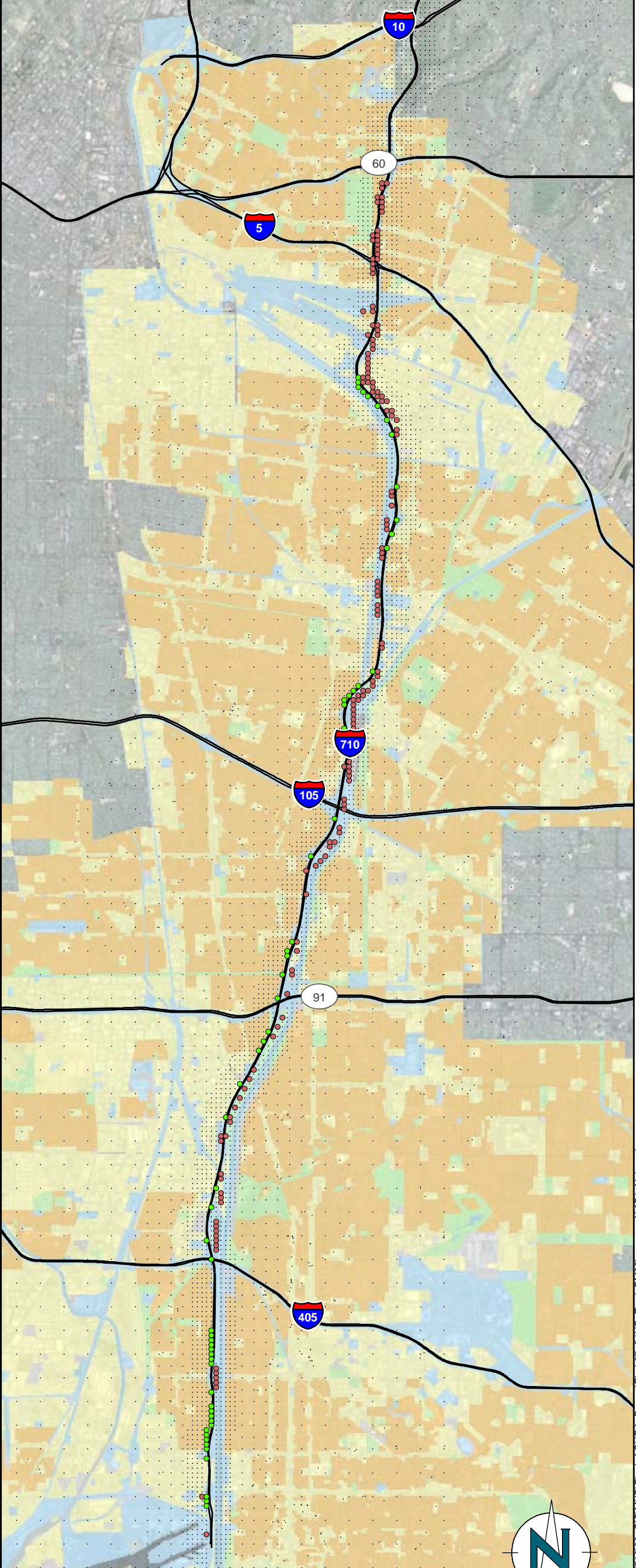
Path: Z:\01_Projects\17003_GIS\MXD\Final_AO\RA_Report\Fig4.36_24HR_Total_PM25Impacts_Alt6A1-Alt1.mxd

Legend

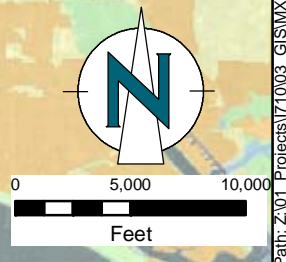
- | | |
|---|---|
| <p>Maximum Incremental 24-Hour PM_{2.5} Impact (µg/m³)</p> <ul style="list-style-type: none"> ● < -2.5 ● -2.5 to 2.5 ● > 2.5 | <p>Land Use (TBM 2007)</p> <ul style="list-style-type: none"> Not Categorized Agriculture, Open Space and Recreation Industrial, Commercial and Services Residential Transportation, Water, and Utilities |
|---|---|



Exhaust PM_{2.5} Impacts



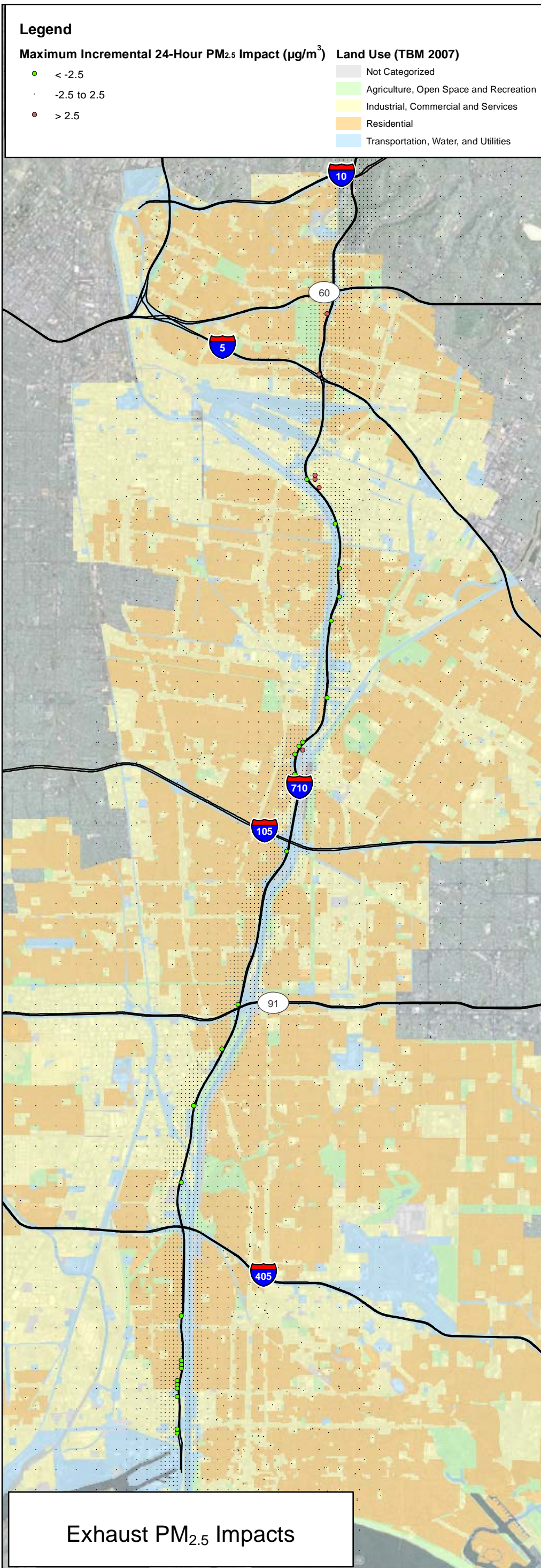
Total PM_{2.5} Impacts
(Assuming Infinite Dust on Roads)



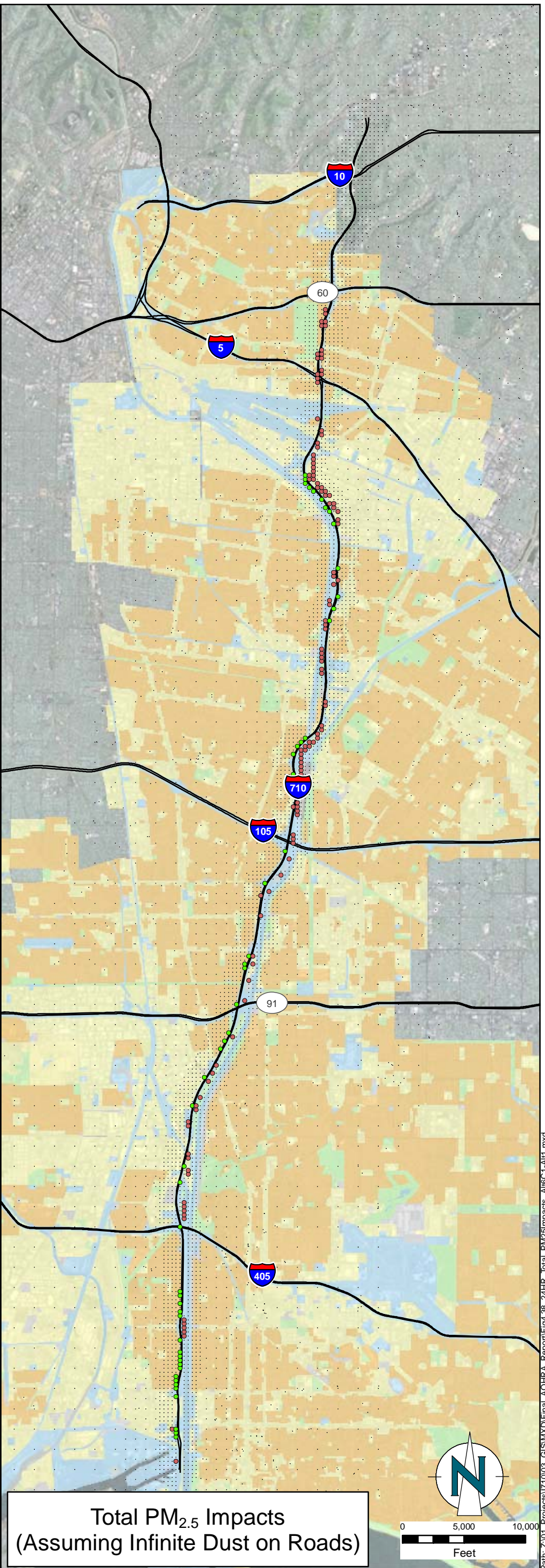
Path: Z:\01_Projects\17003_GIS\MXD\Final_AOHR_Report\Fig4.37_24HR_Total_PM25Impacts_Alt6B1-Alt1.mxd

Legend

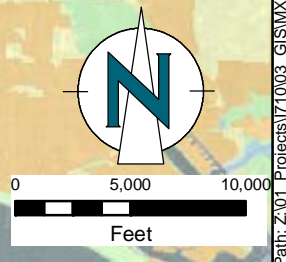
- | | |
|---|---|
| <p>Maximum Incremental 24-Hour PM_{2.5} Impact (µg/m³)</p> <ul style="list-style-type: none"> ● < -2.5 ● -2.5 to 2.5 ● > 2.5 | <p>Land Use (TBM 2007)</p> <ul style="list-style-type: none"> Not Categorized Agriculture, Open Space and Recreation Industrial, Commercial and Services Residential Transportation, Water, and Utilities |
|---|---|



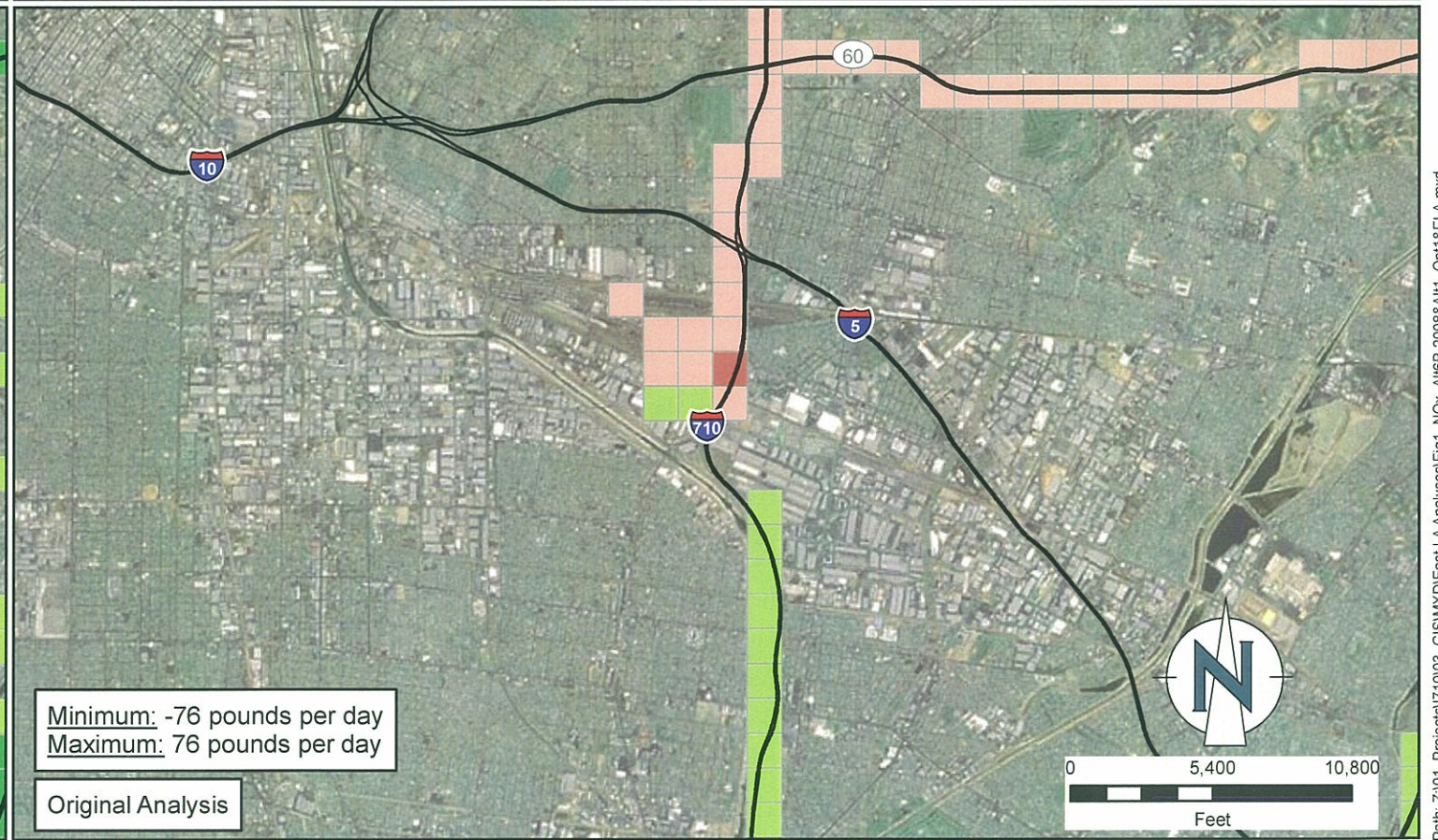
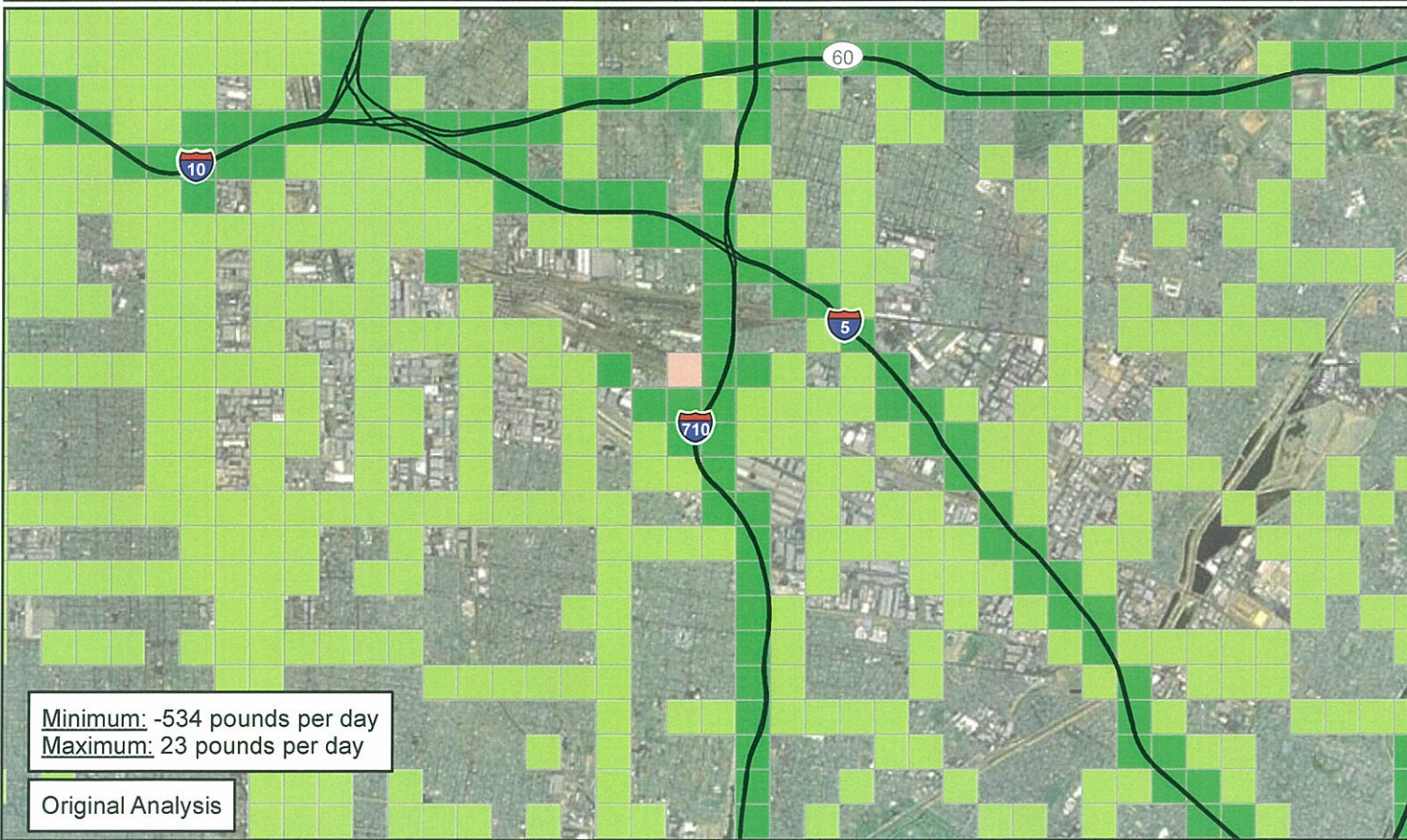
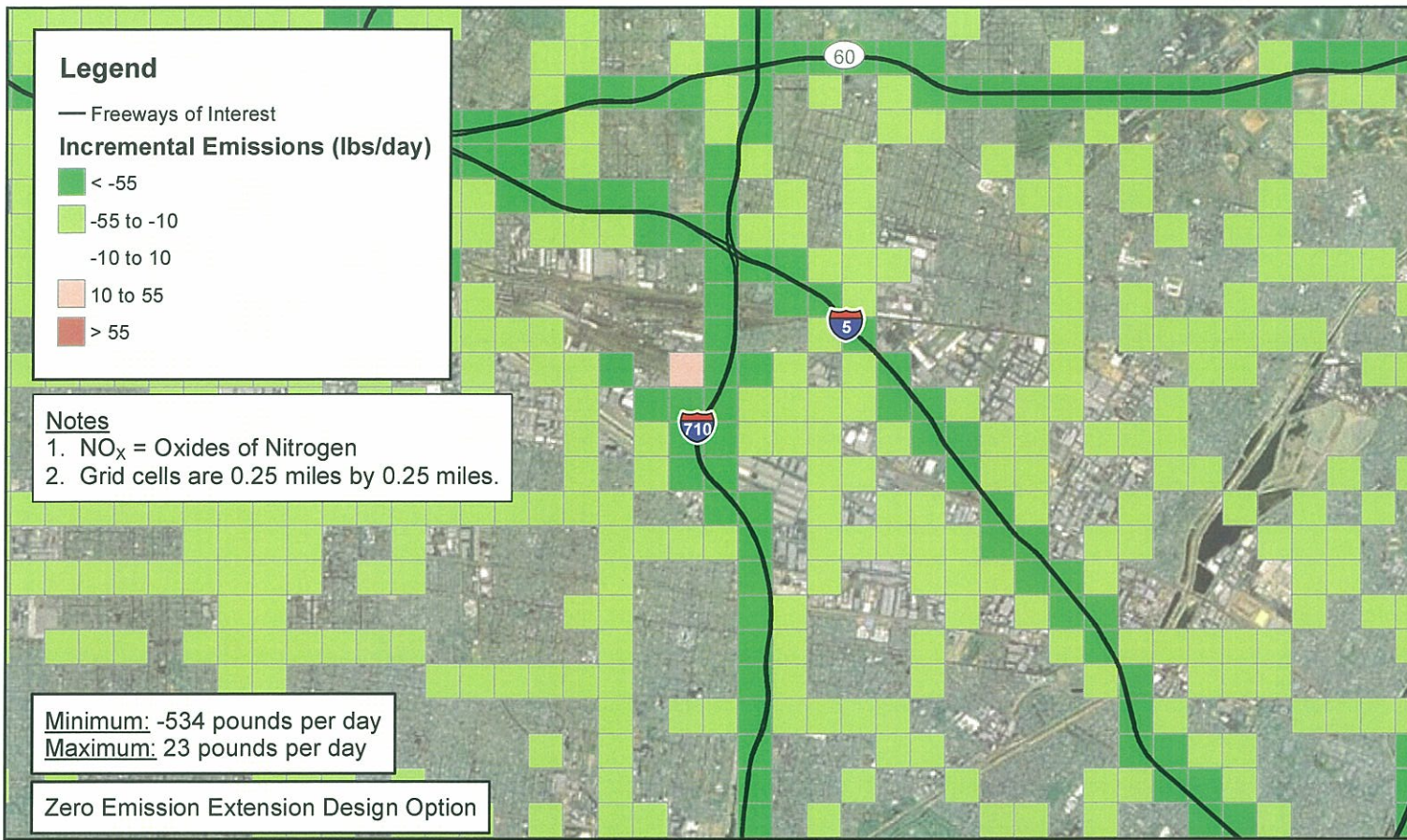
Exhaust PM_{2.5} Impacts

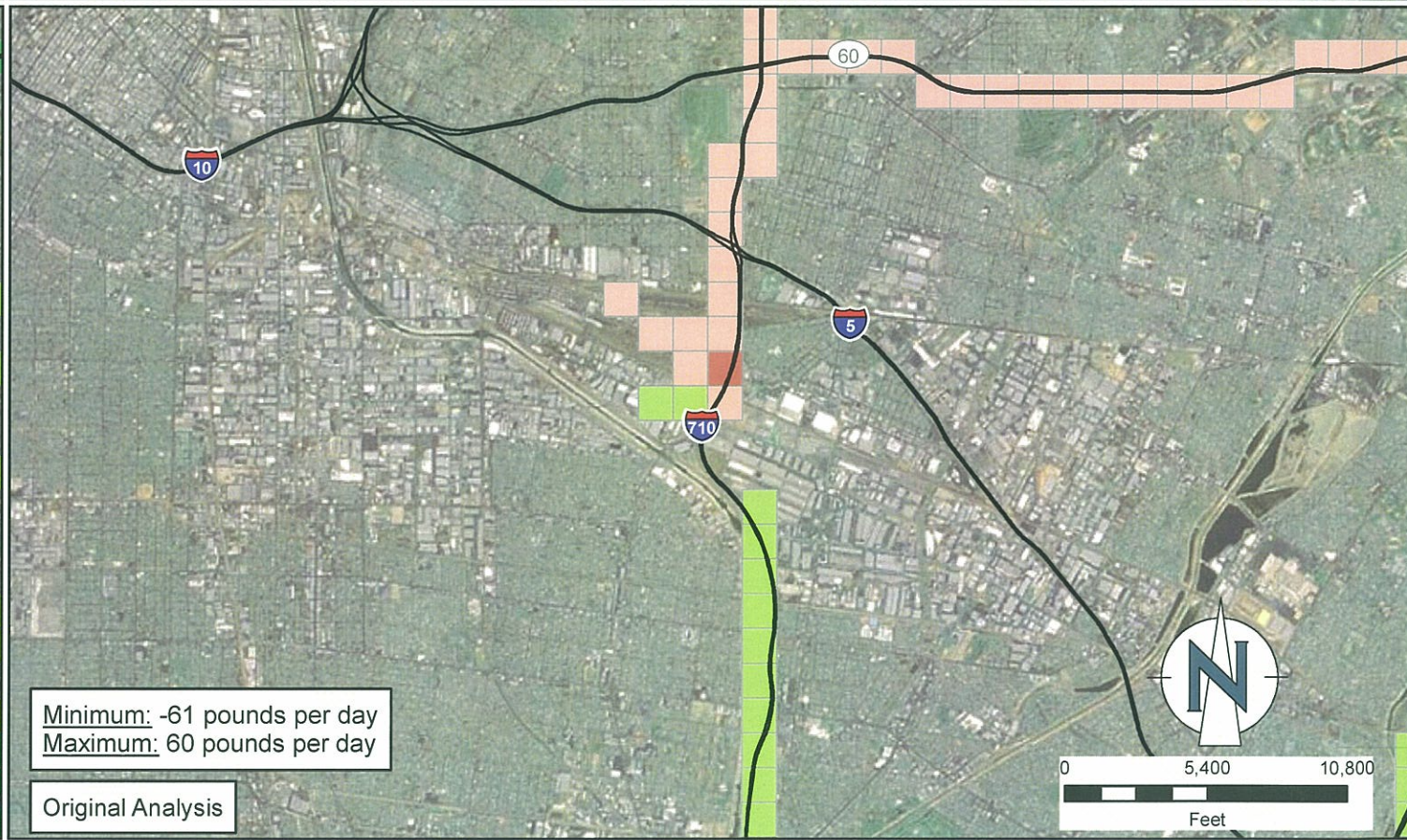
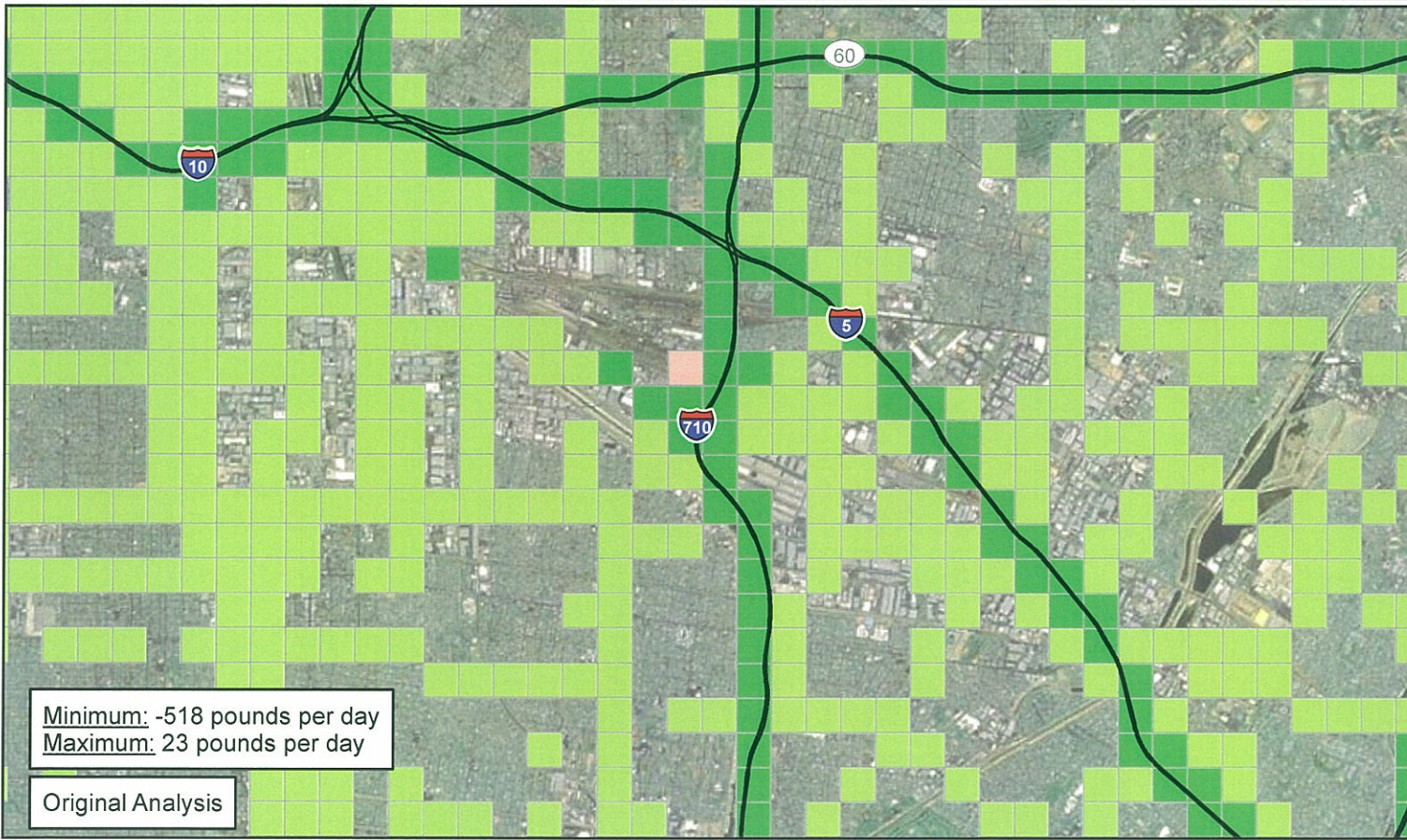
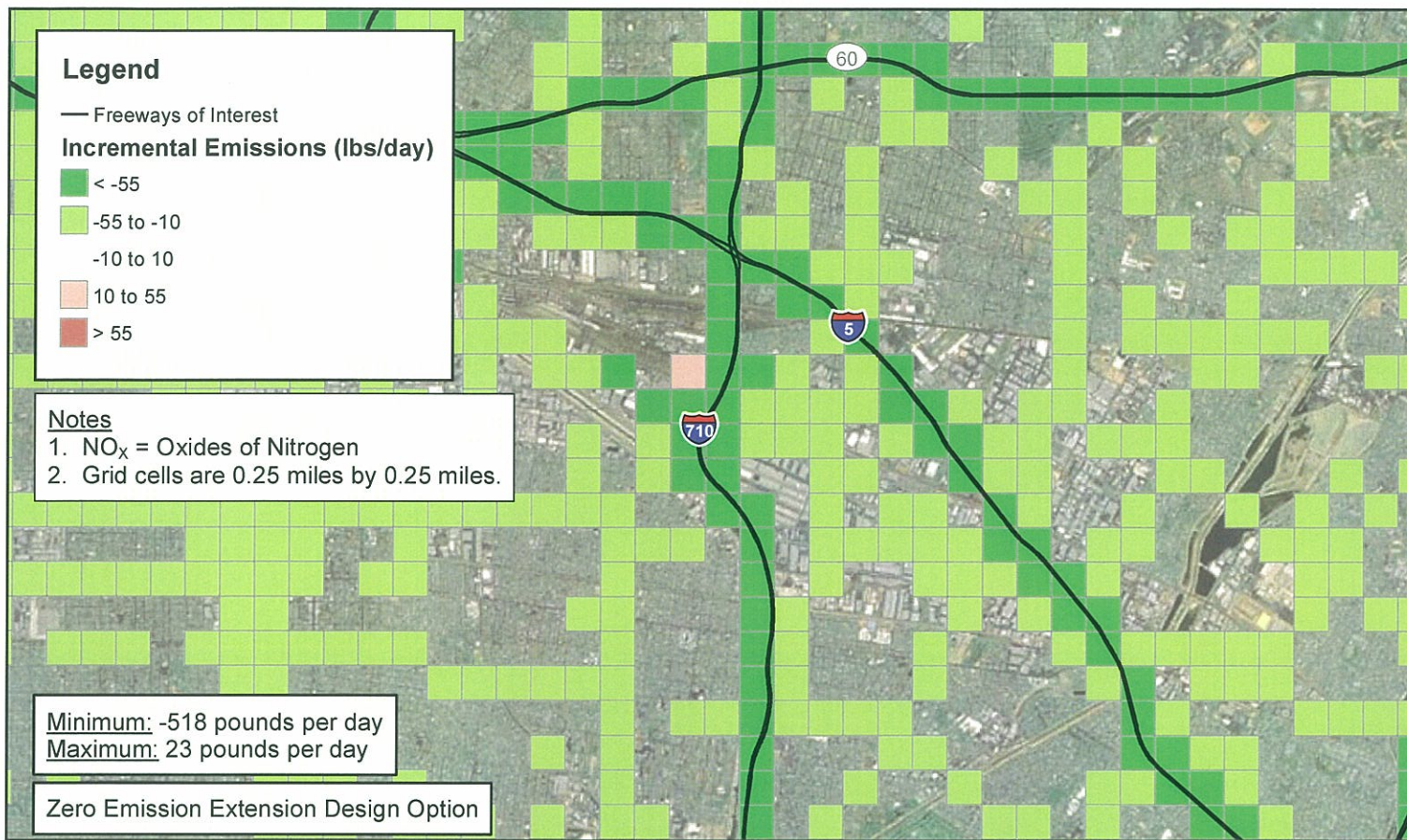


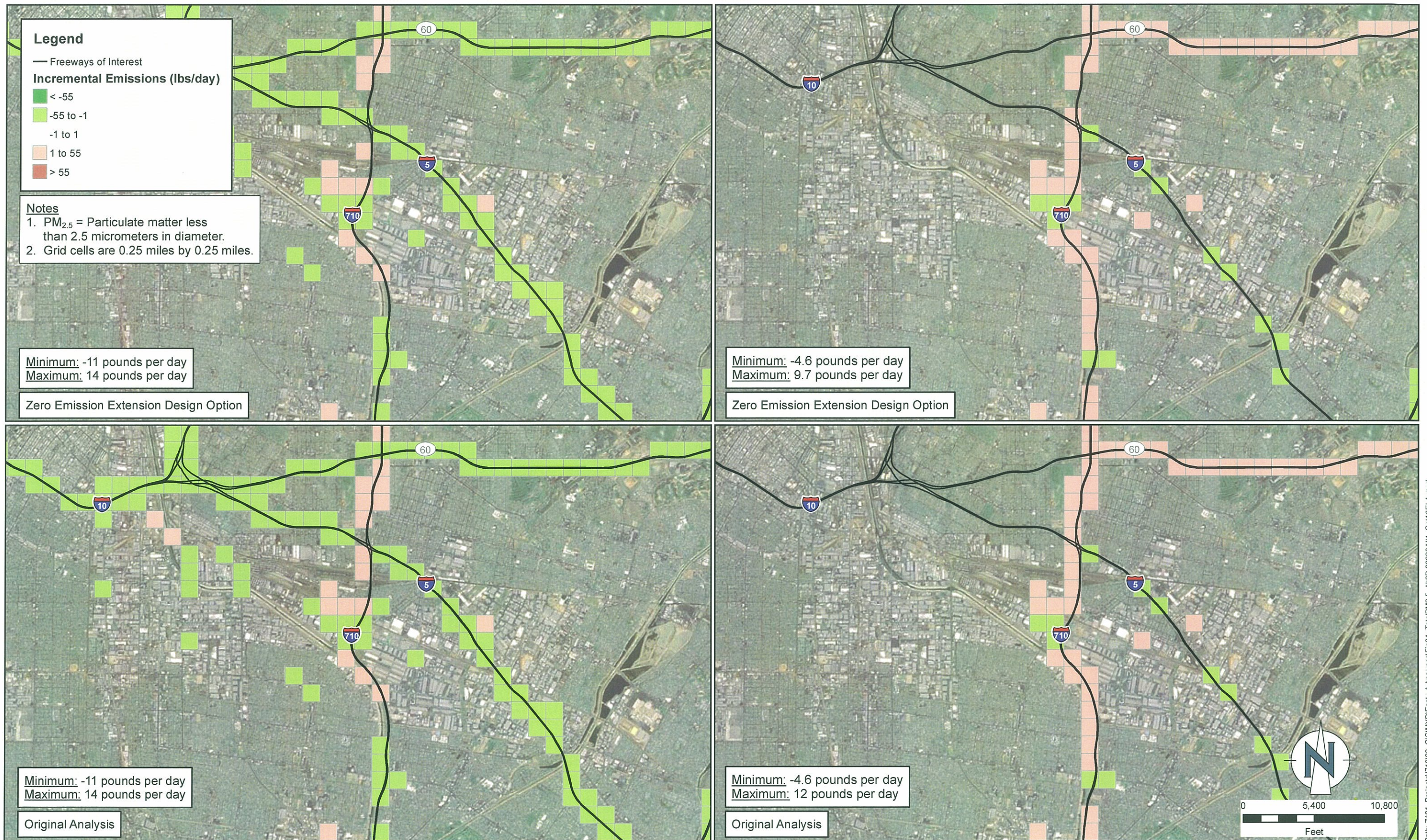
Total PM_{2.5} Impacts
(Assuming Infinite Dust on Roads)



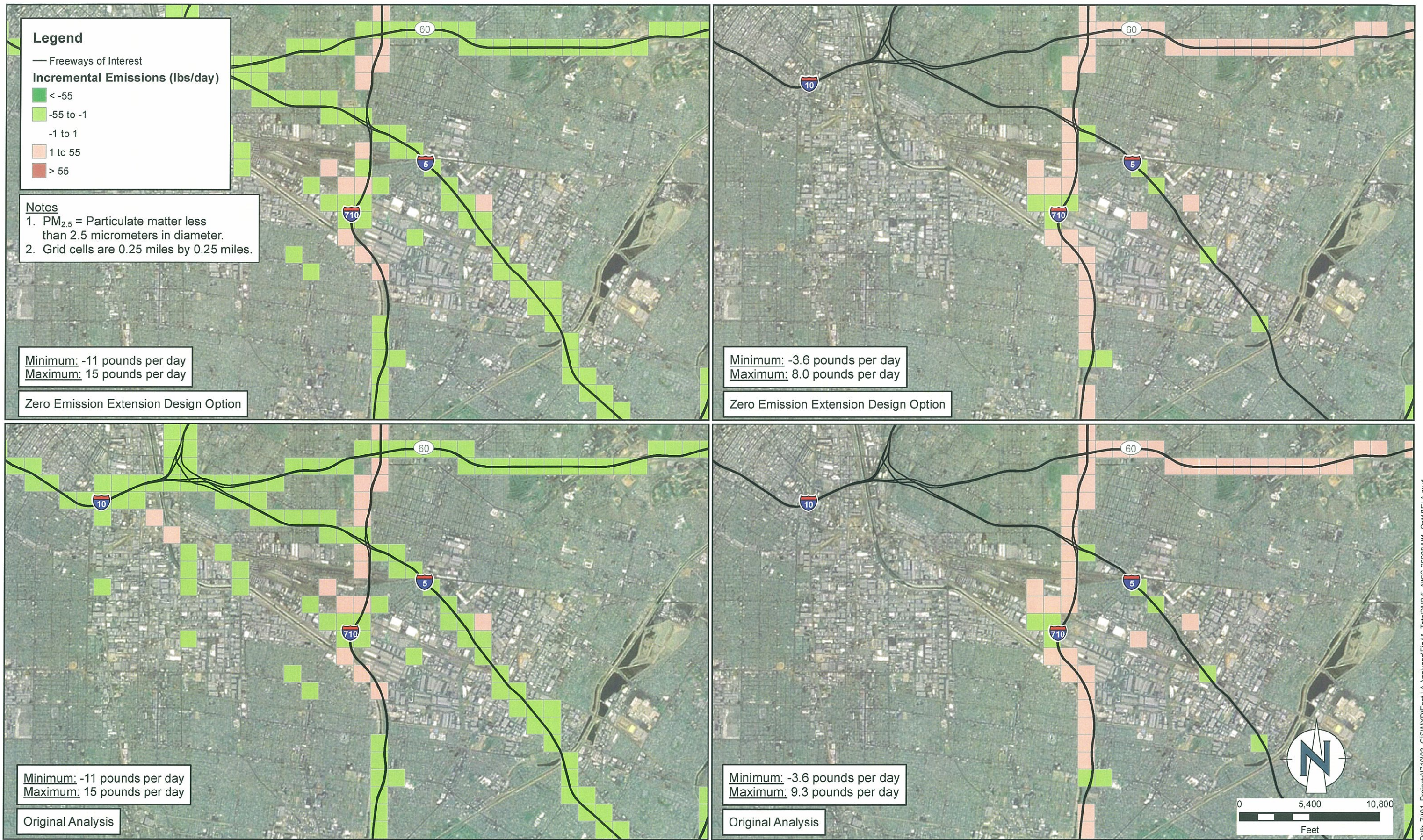
Path: Z:\01_Projects\17003_GIS\MXD\Final_AO\RA_Report\Fig4.38_24HR_Total_PM25Impacts_Alt6C-Alt1.mxd







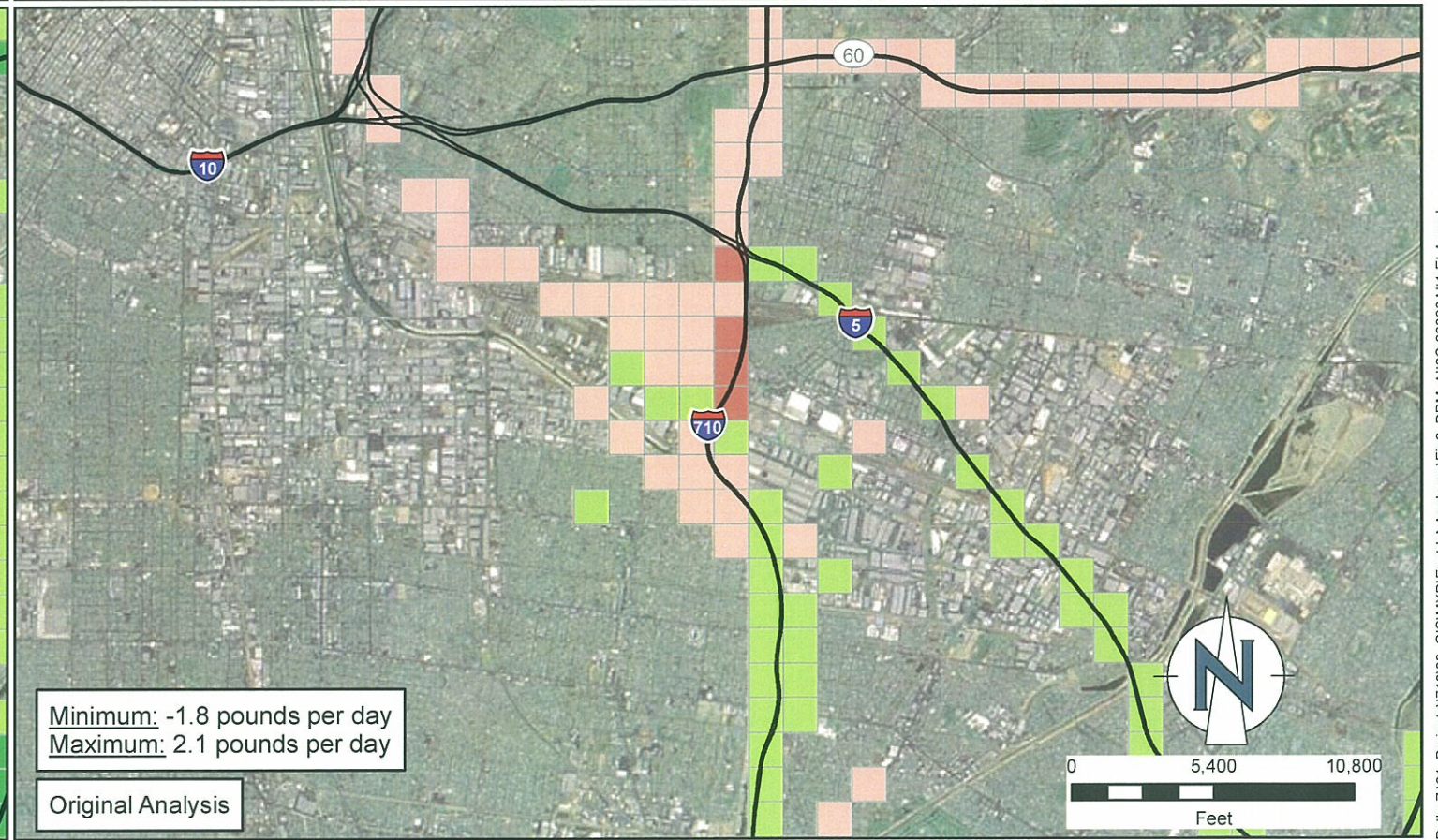
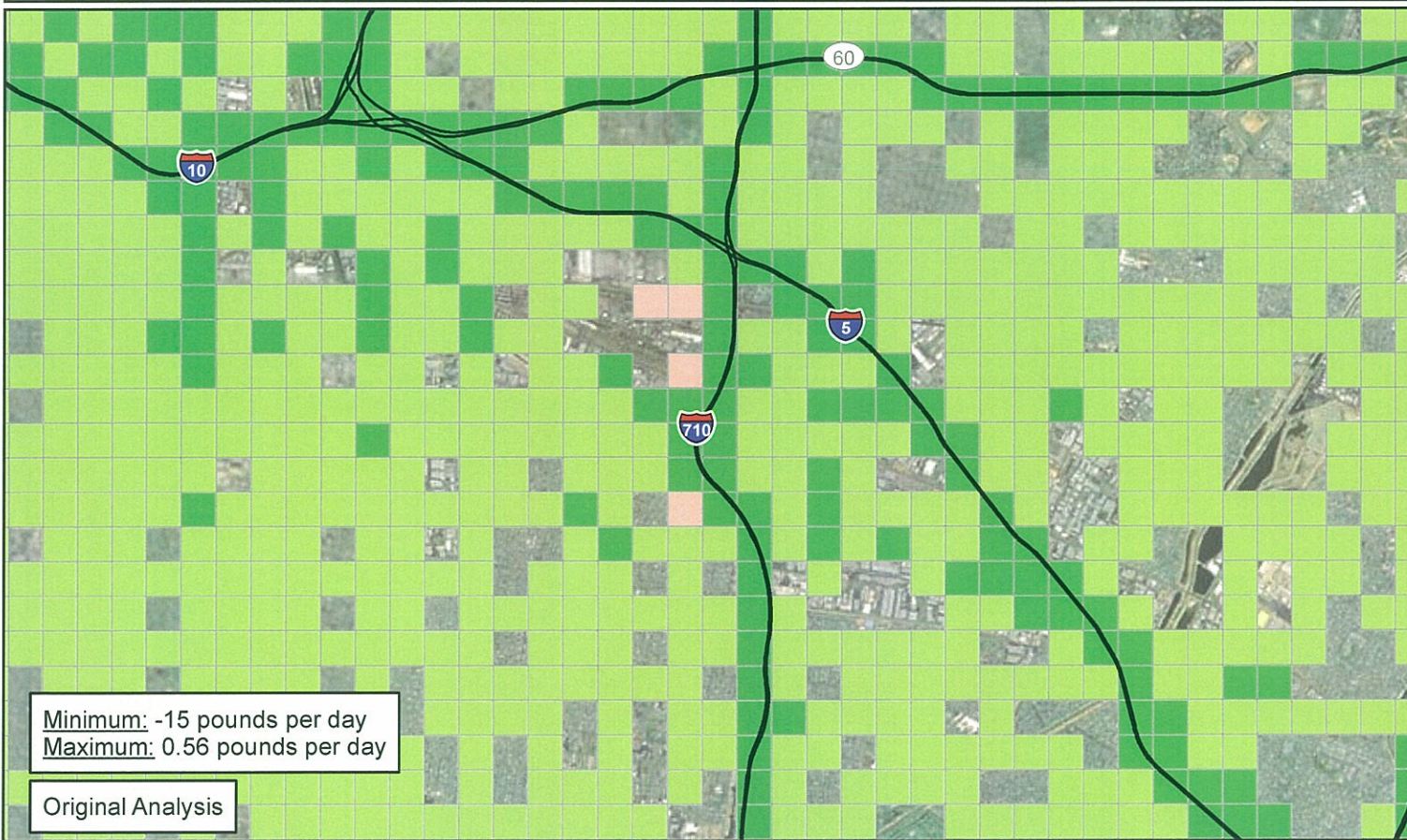
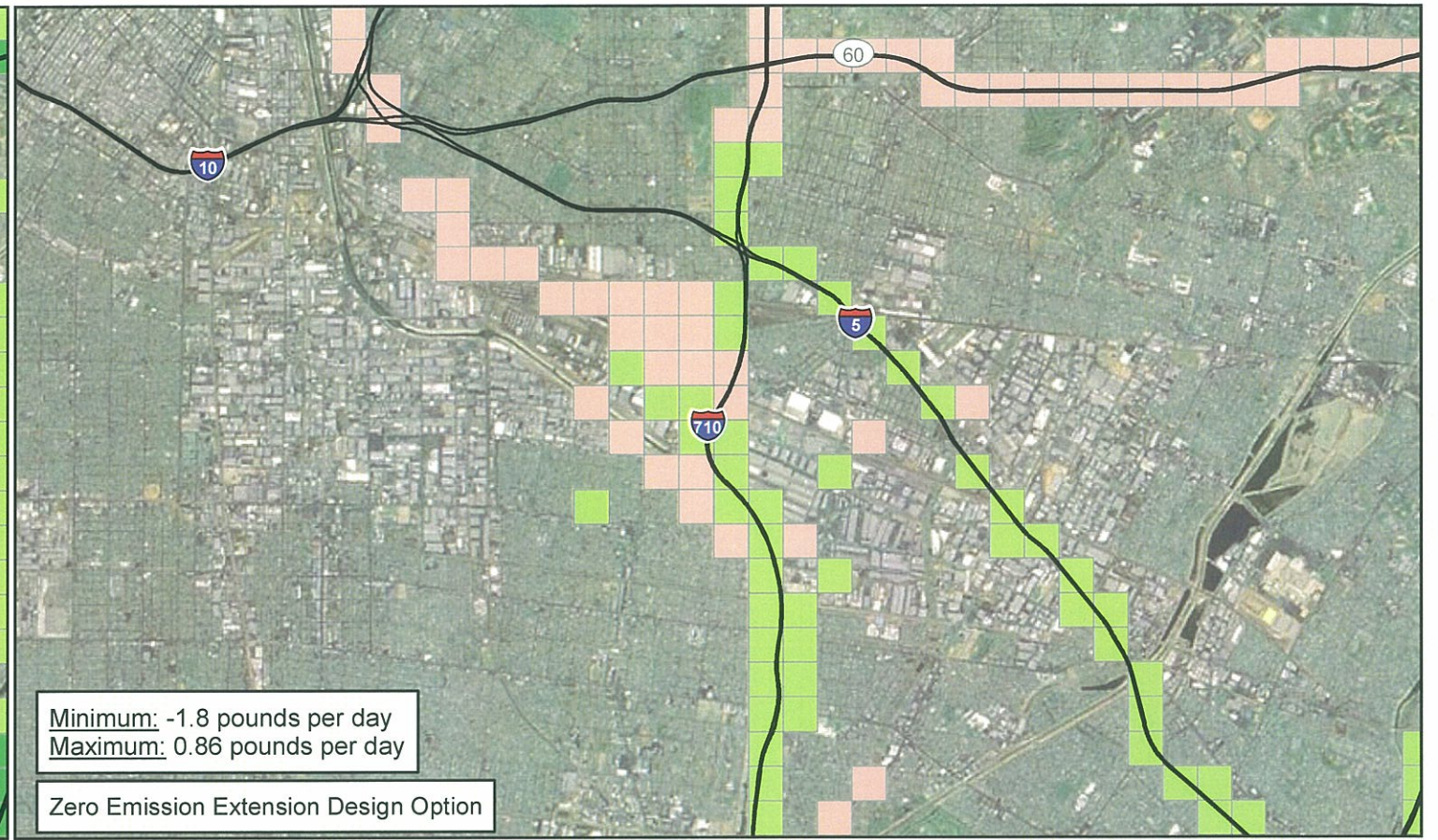
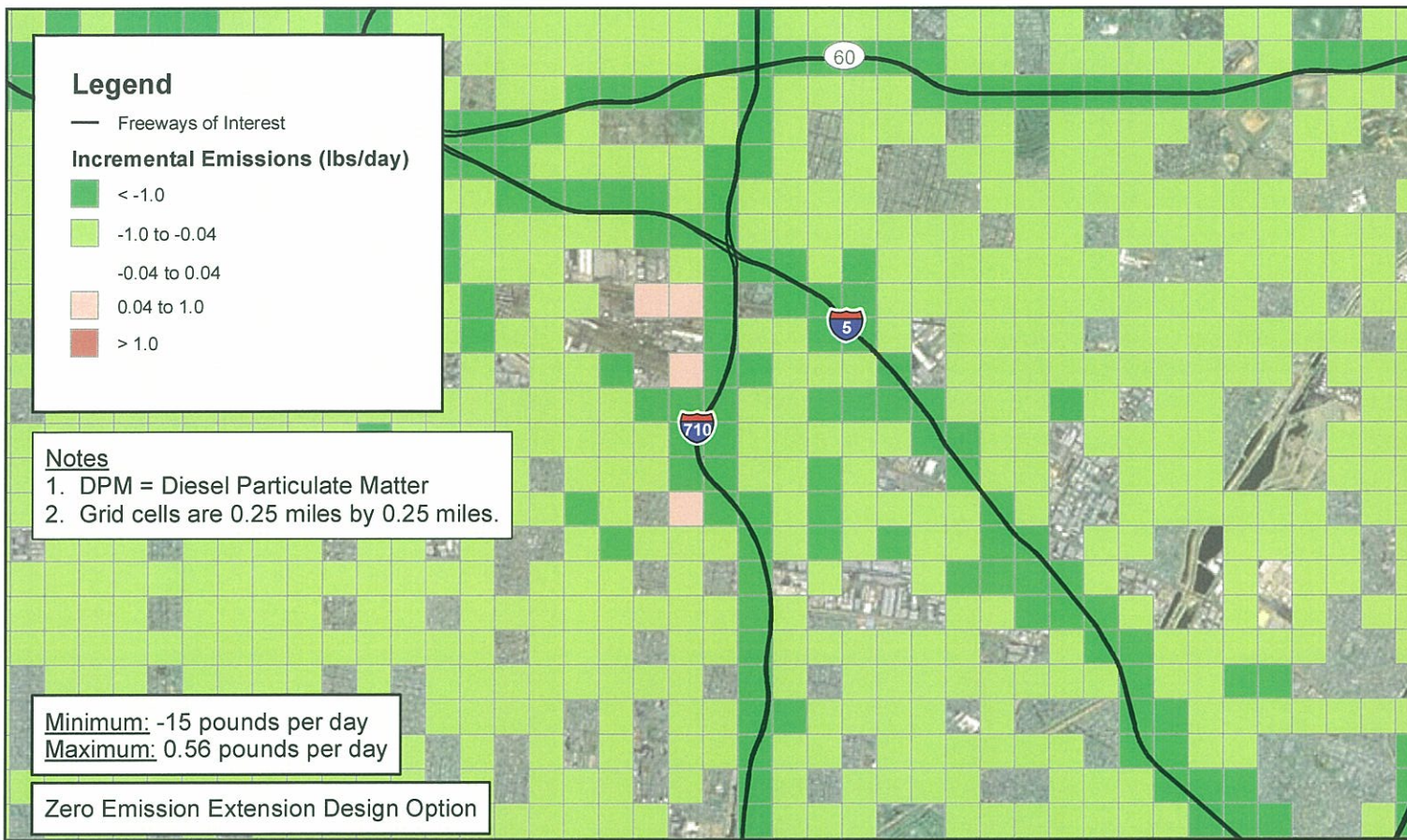




Path: Z:\01_Projects\171003_GIS\MXD\East_LA_Analyses\Fig4A_TotalPM2.5_Alt6C-2008&Alt1_Opt1&EIA.mxd









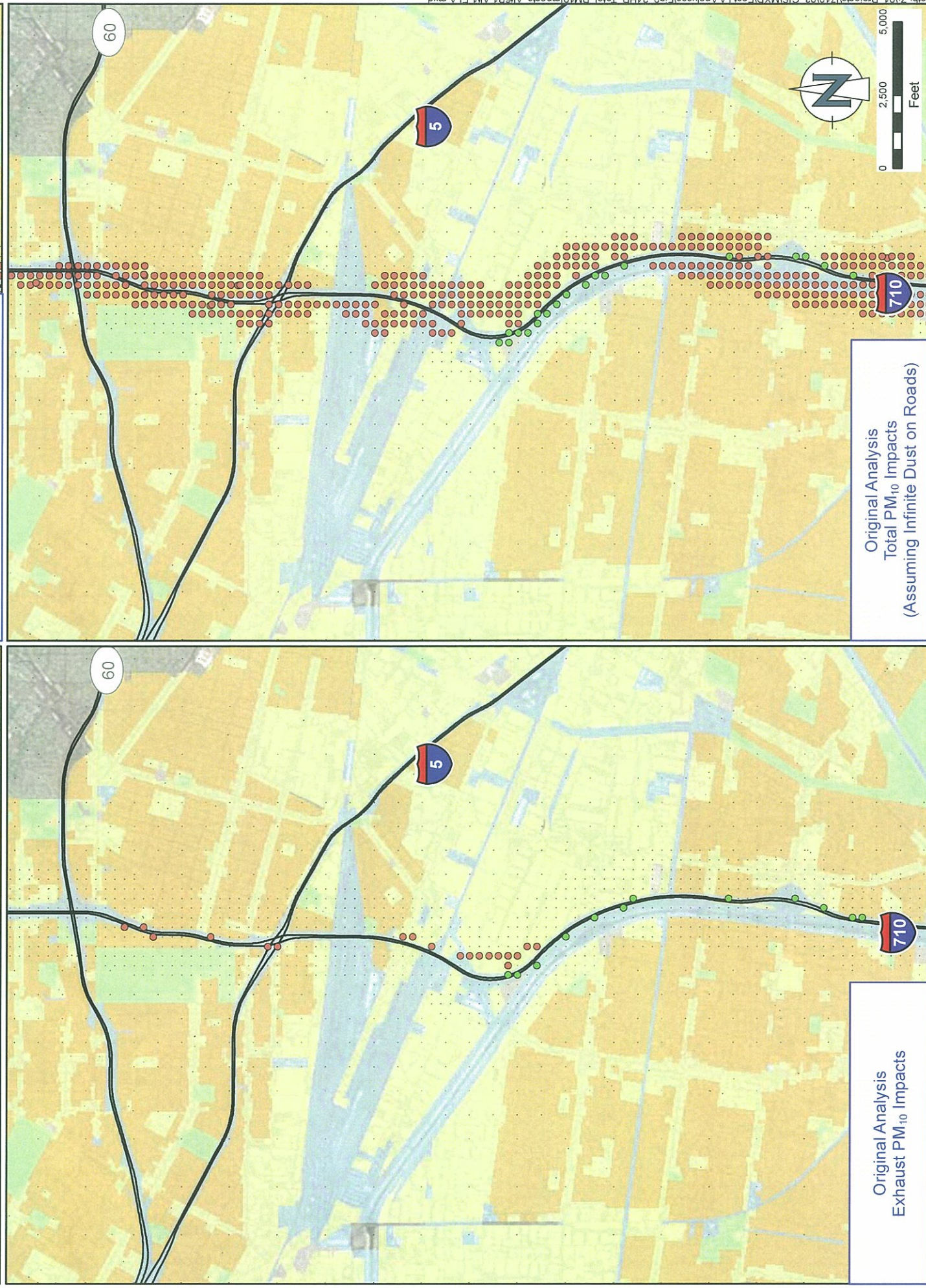
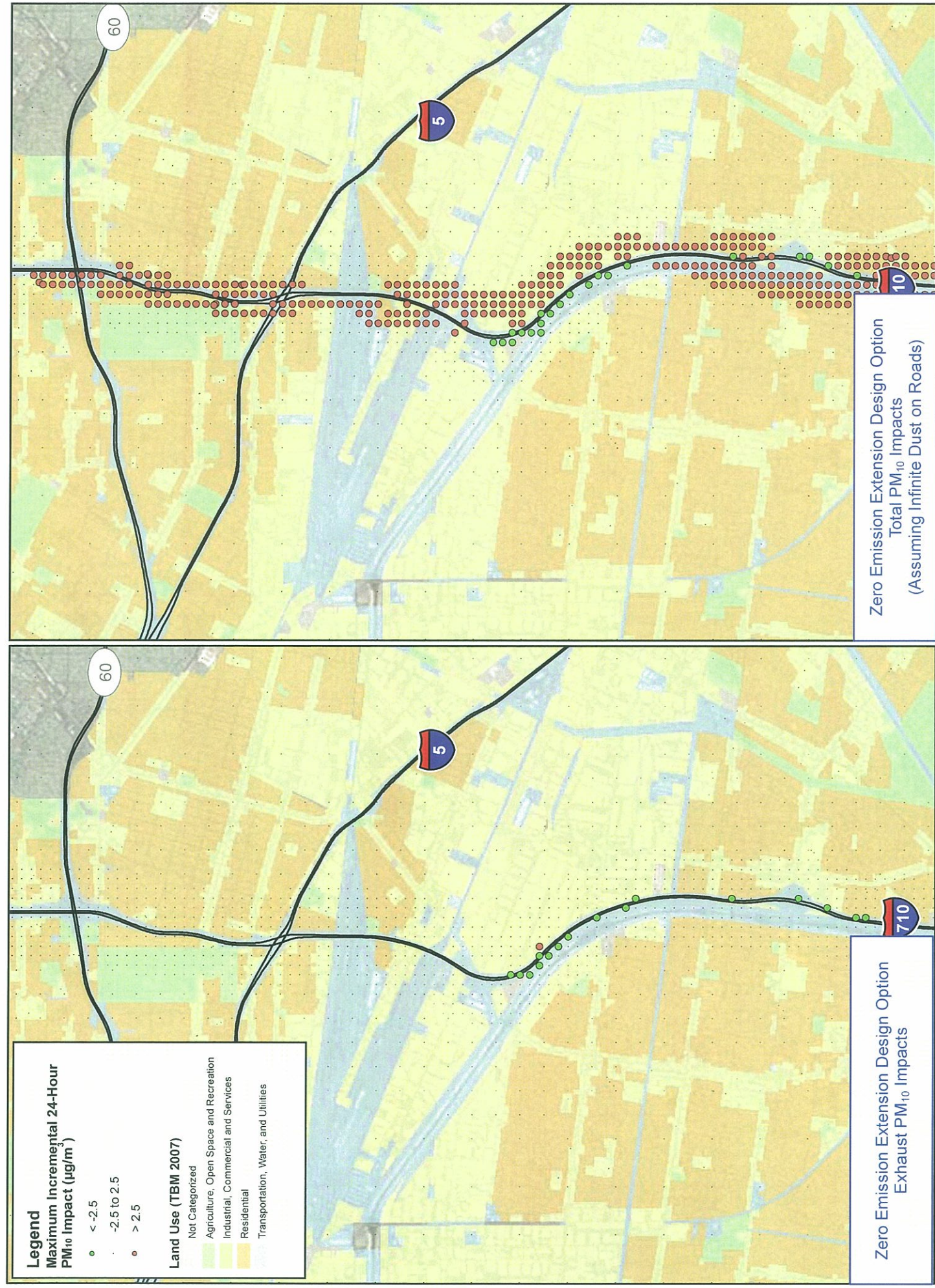
Comparison of
 2035 Alternative 6B to 2008 Baseline
 Maximum Incremental 24-Hour PM₁₀ Impacts

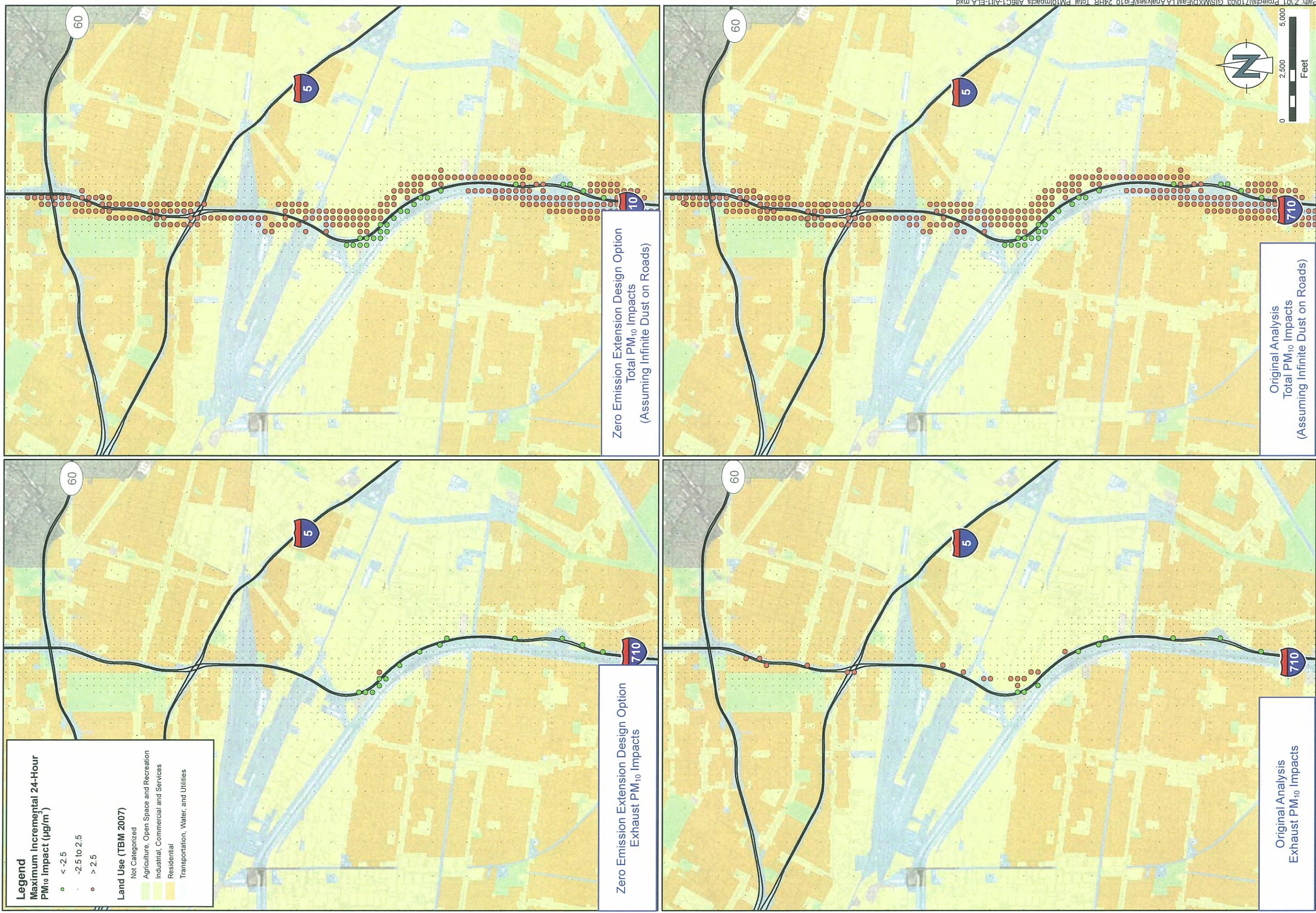
Figure
 7



Comparison of
 2035 Alternative 6C to 2008 Baseline
 Maximum Incremental 24-Hour PM₁₀ Impacts

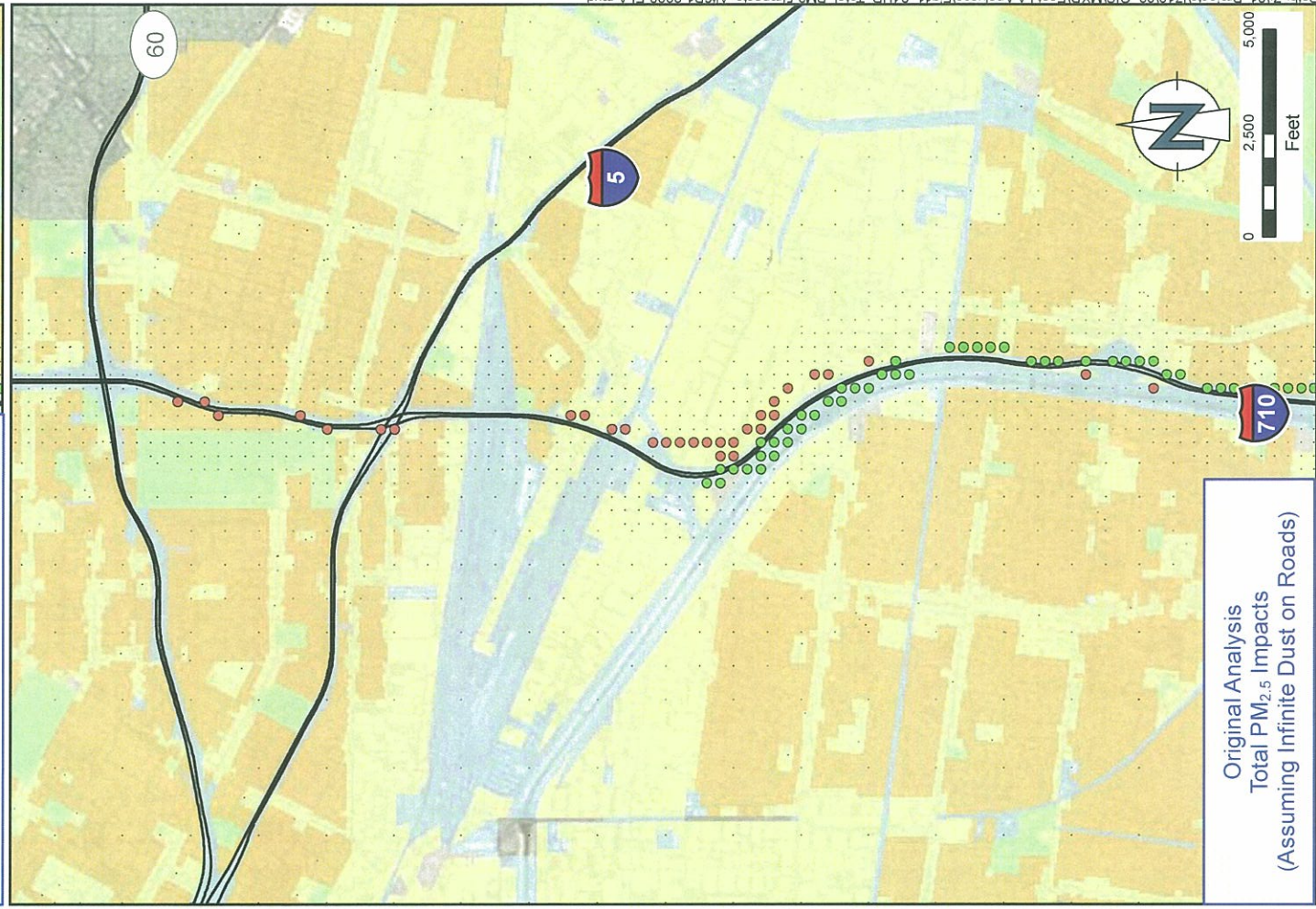
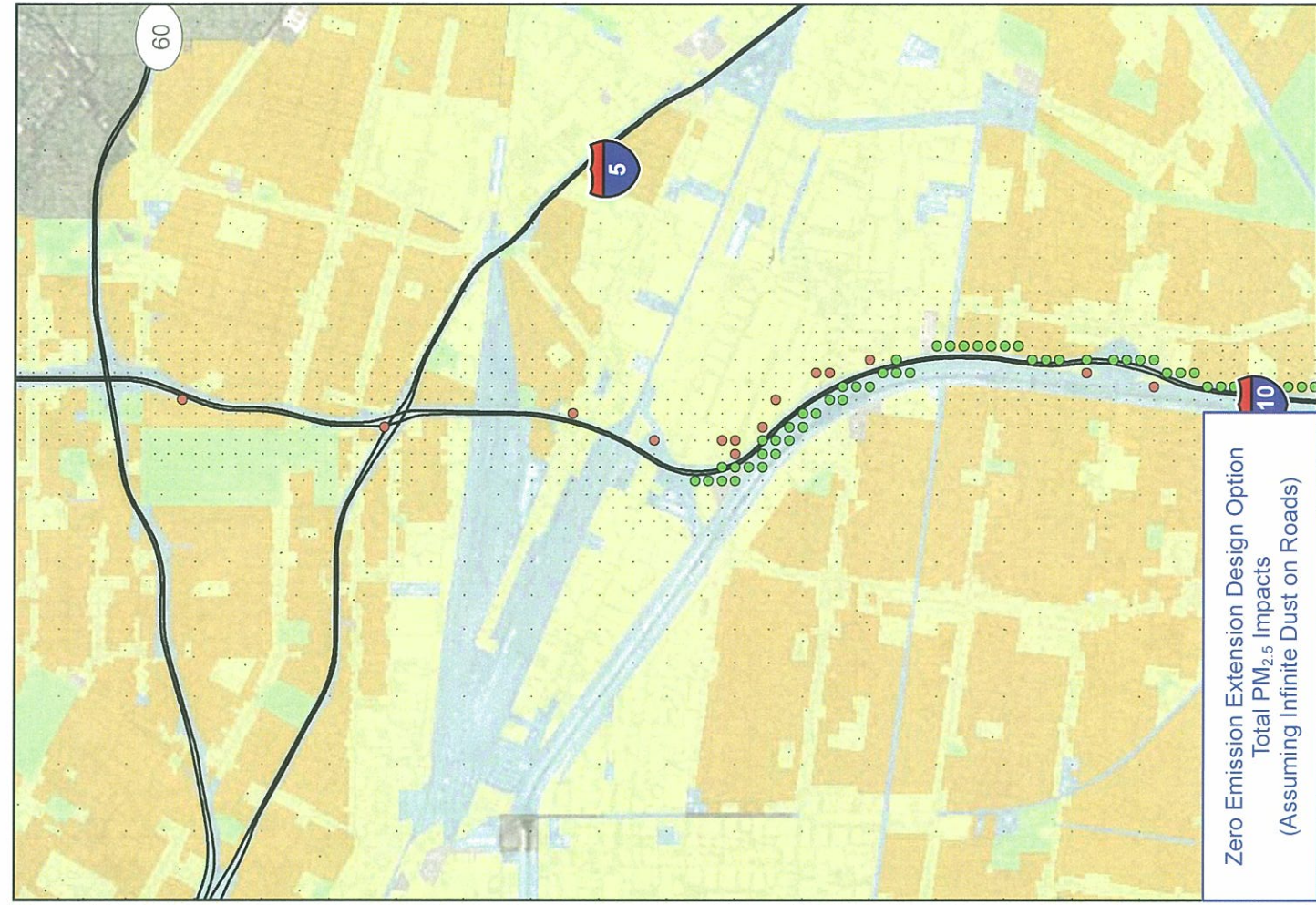
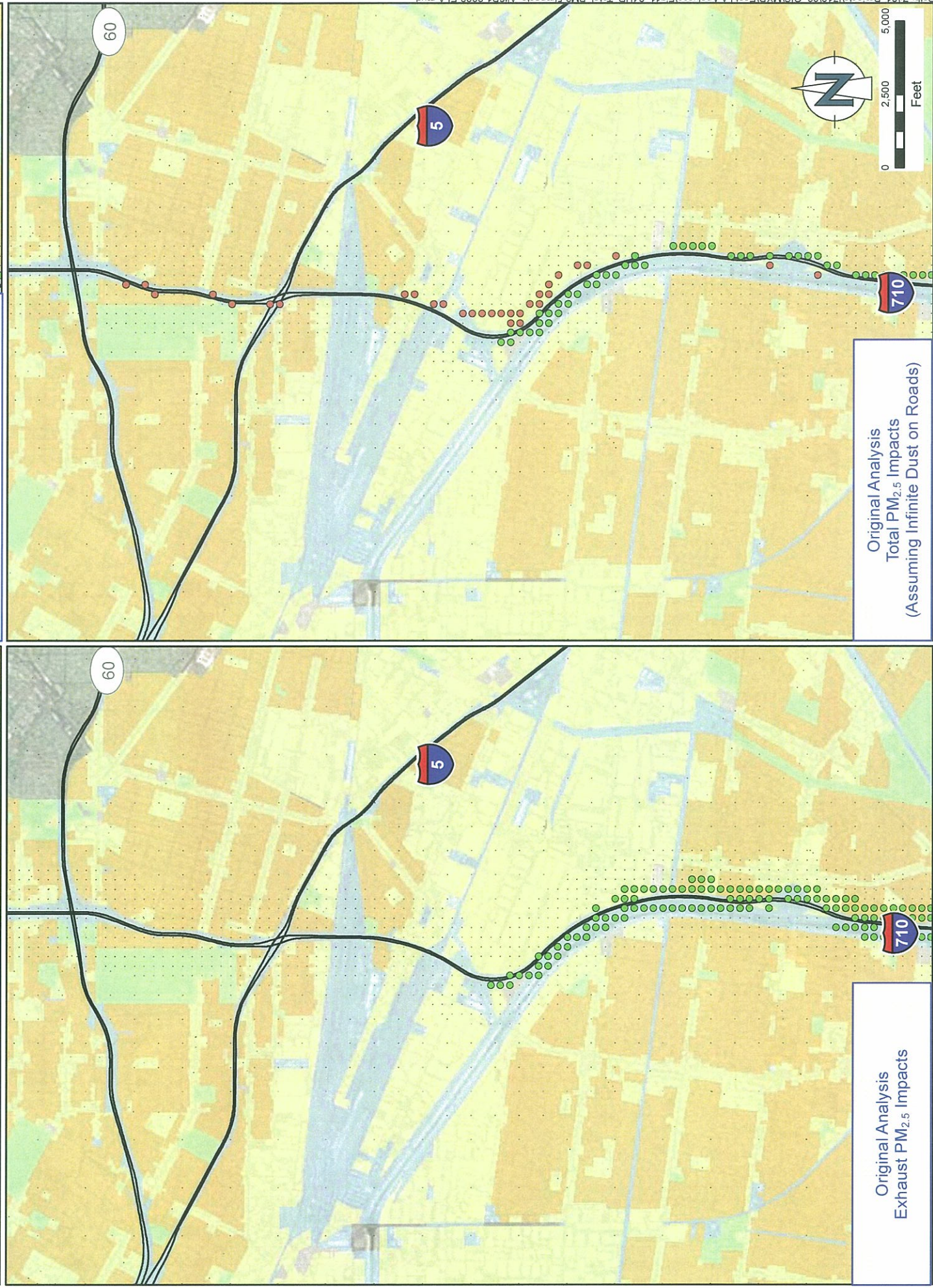
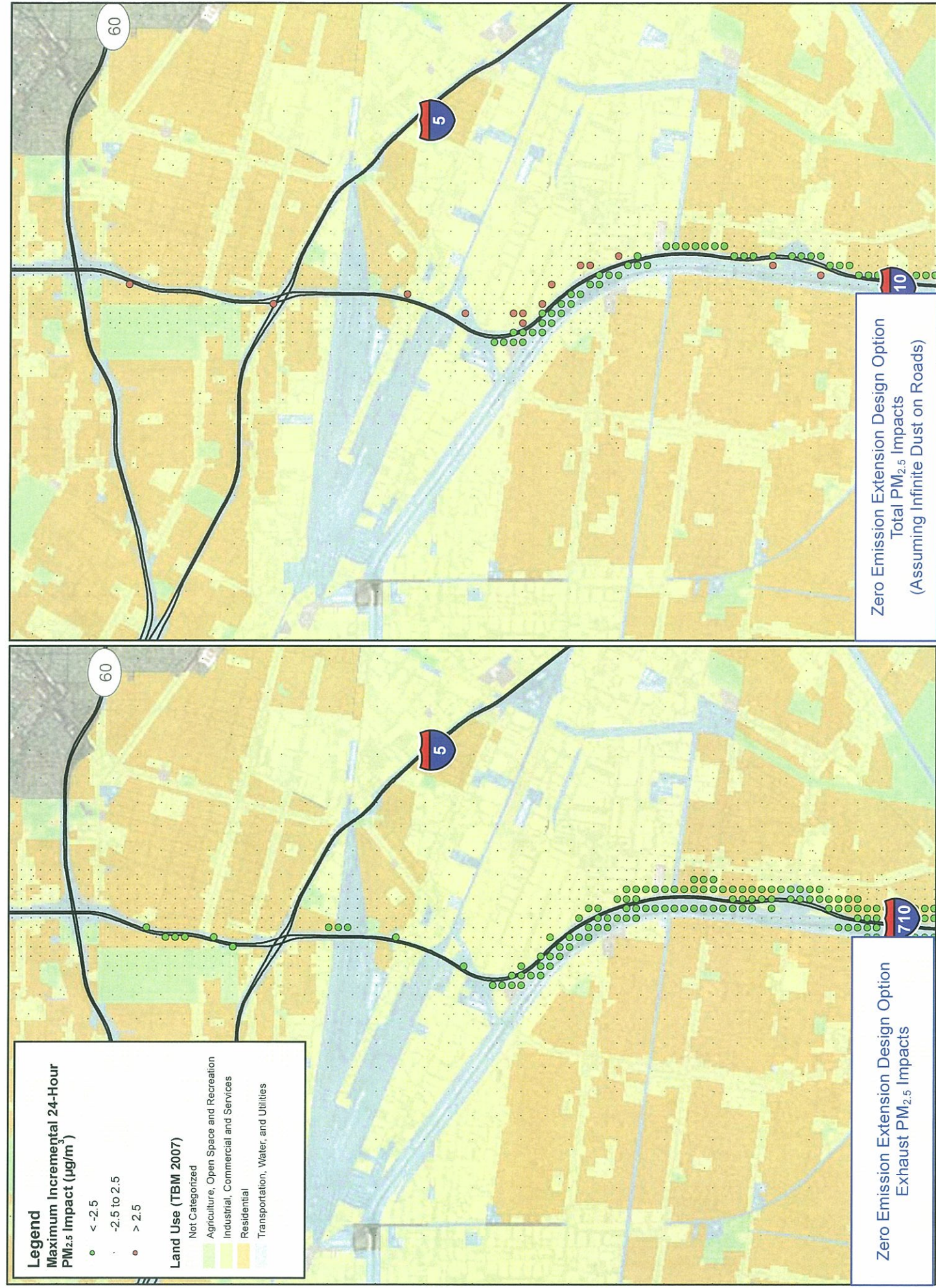
Figure
 8

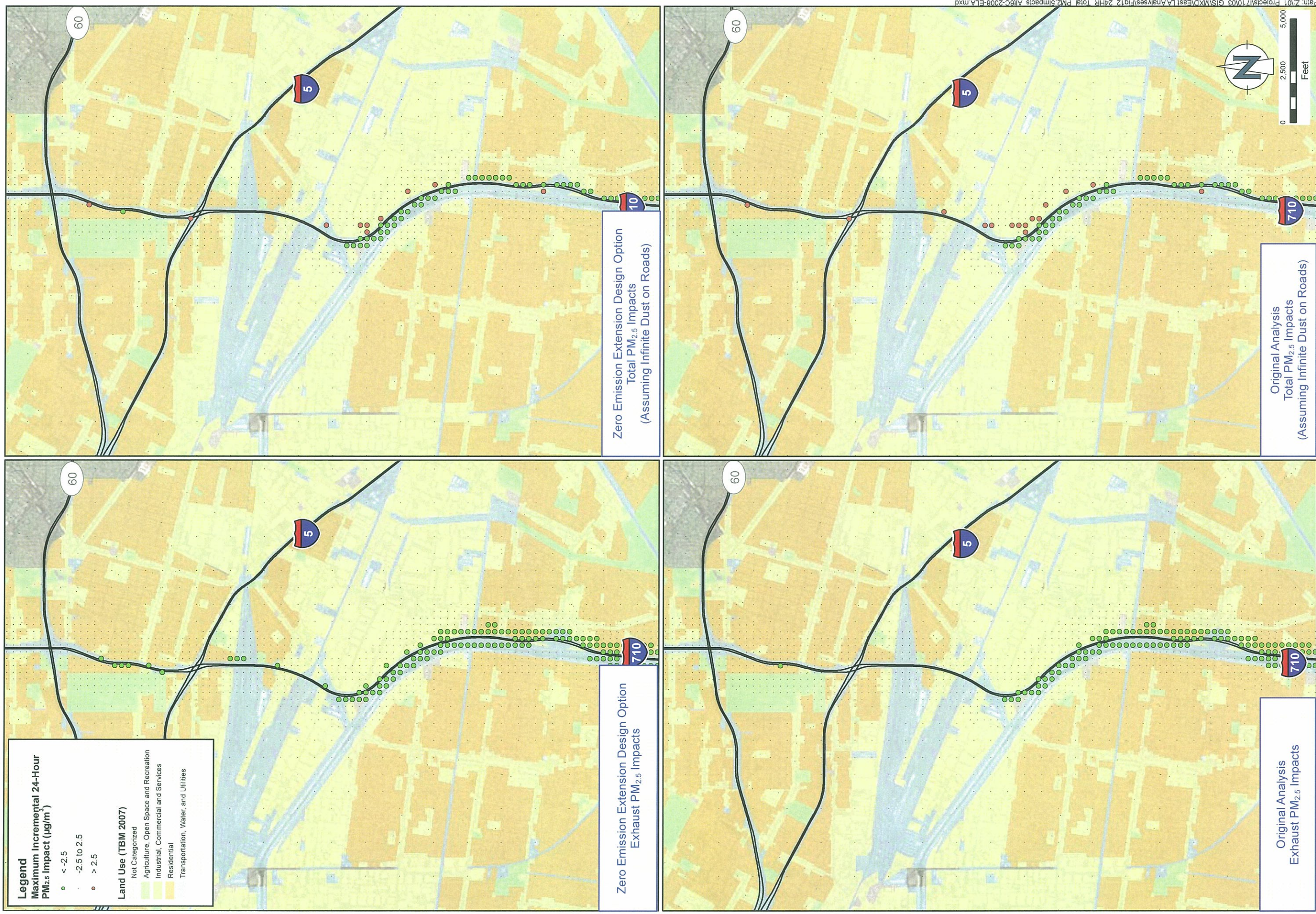




Comparison of
 2035 Alternative 6C to 2035 Alternative 1
 Maximum Incremental 24-Hour PM₁₀ Impacts

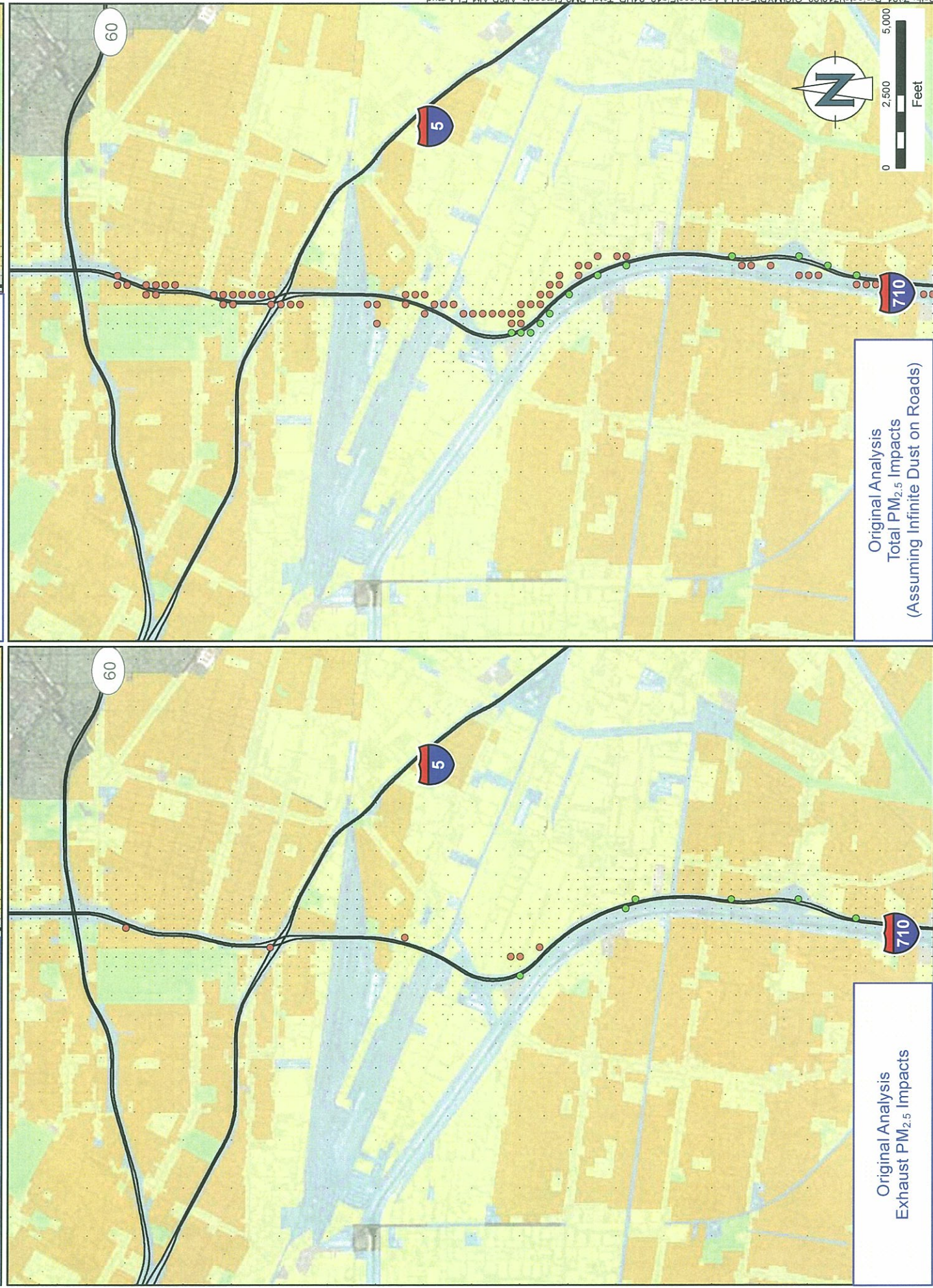
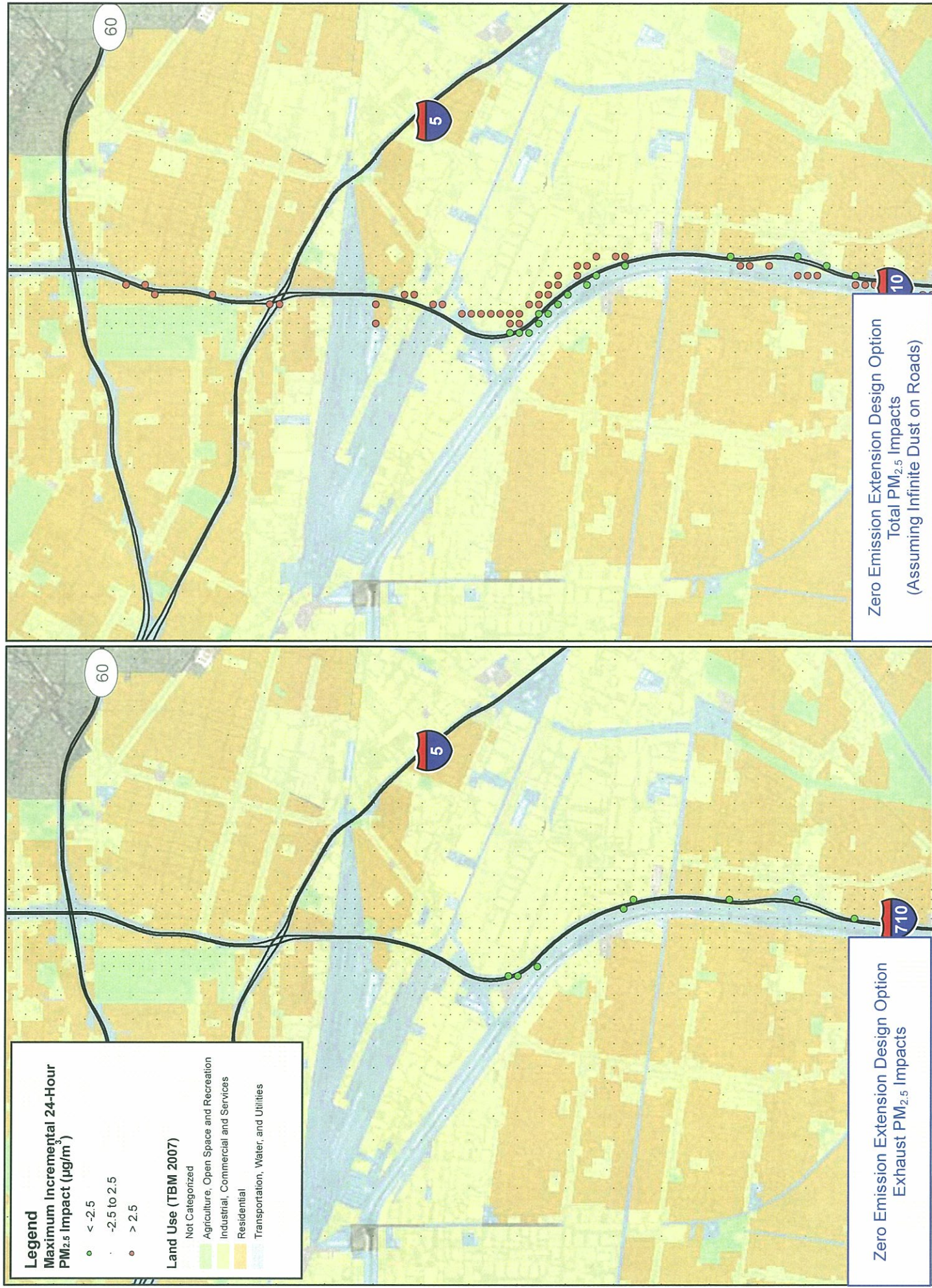
Figure
 10





Comparison of
 2035 Alternative 6C to 2008 Baseline
 Maximum Incremental 24-Hour PM_{2.5} Impacts

Figure
 12



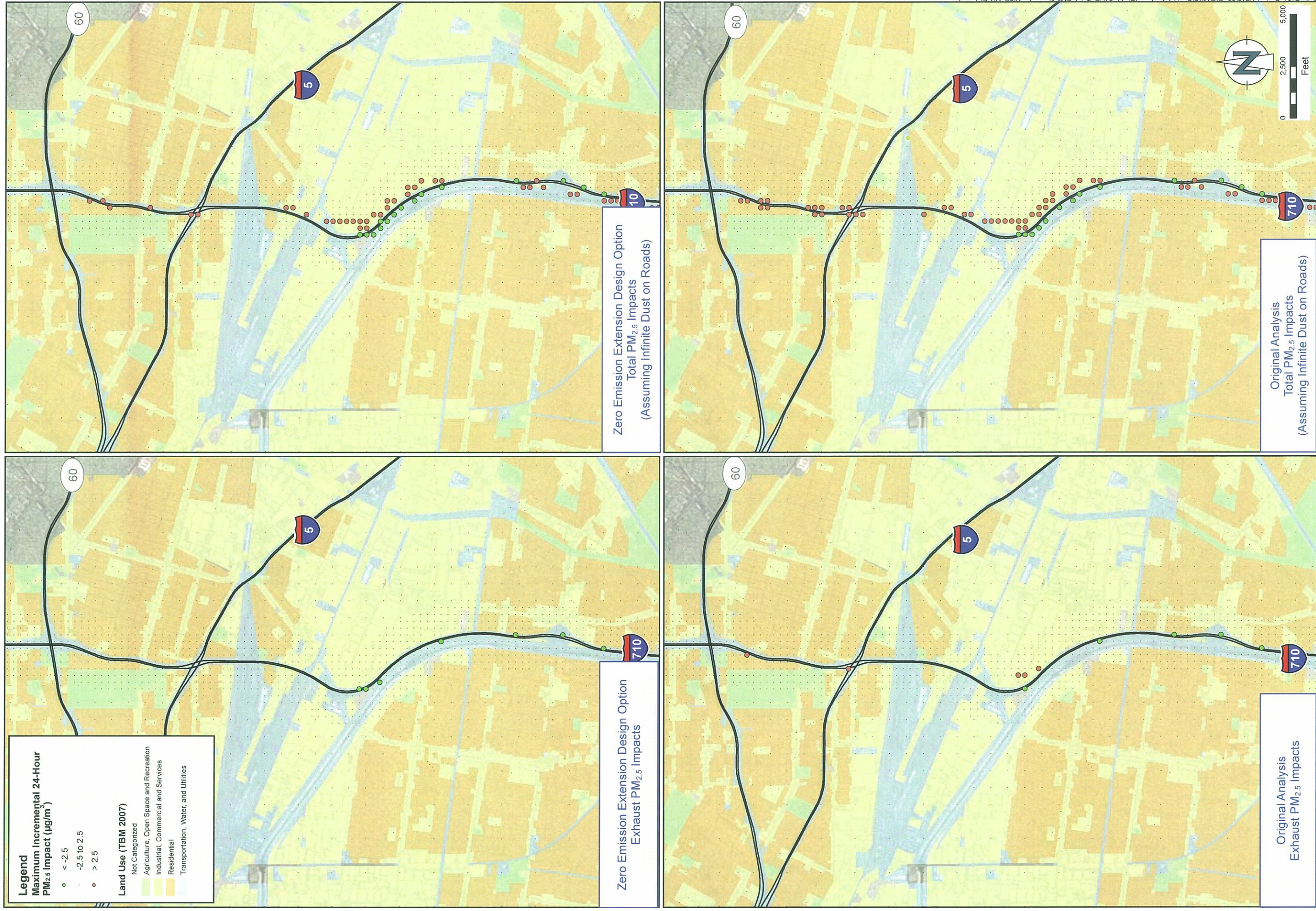
ENVIRON

DRAFTED BY: SD Date: 6/1/2012

Figure 13

Comparison of 2035 Alternative 6B to 2035 Alternative 1 Maximum Incremental 24-Hour PM_{2.5} Impacts

PROJECT: 05-18574F4



Comparison of
 2035 Alternative 6C to 2035 Alternative 1
 Maximum Incremental 24-Hour PM_{2.5} Impacts

Figure
 14

Path: Z:\01_Projects\10103_GISMX\East LA Analysis\Fig14_24HR_Total_PM2.5Impacts_Alt6C-Alt1-ELA.mxd



Comparison of
2035 Alternative 6B to 2008 Baseline
Annual PM₁₀ Impacts

Figure
15

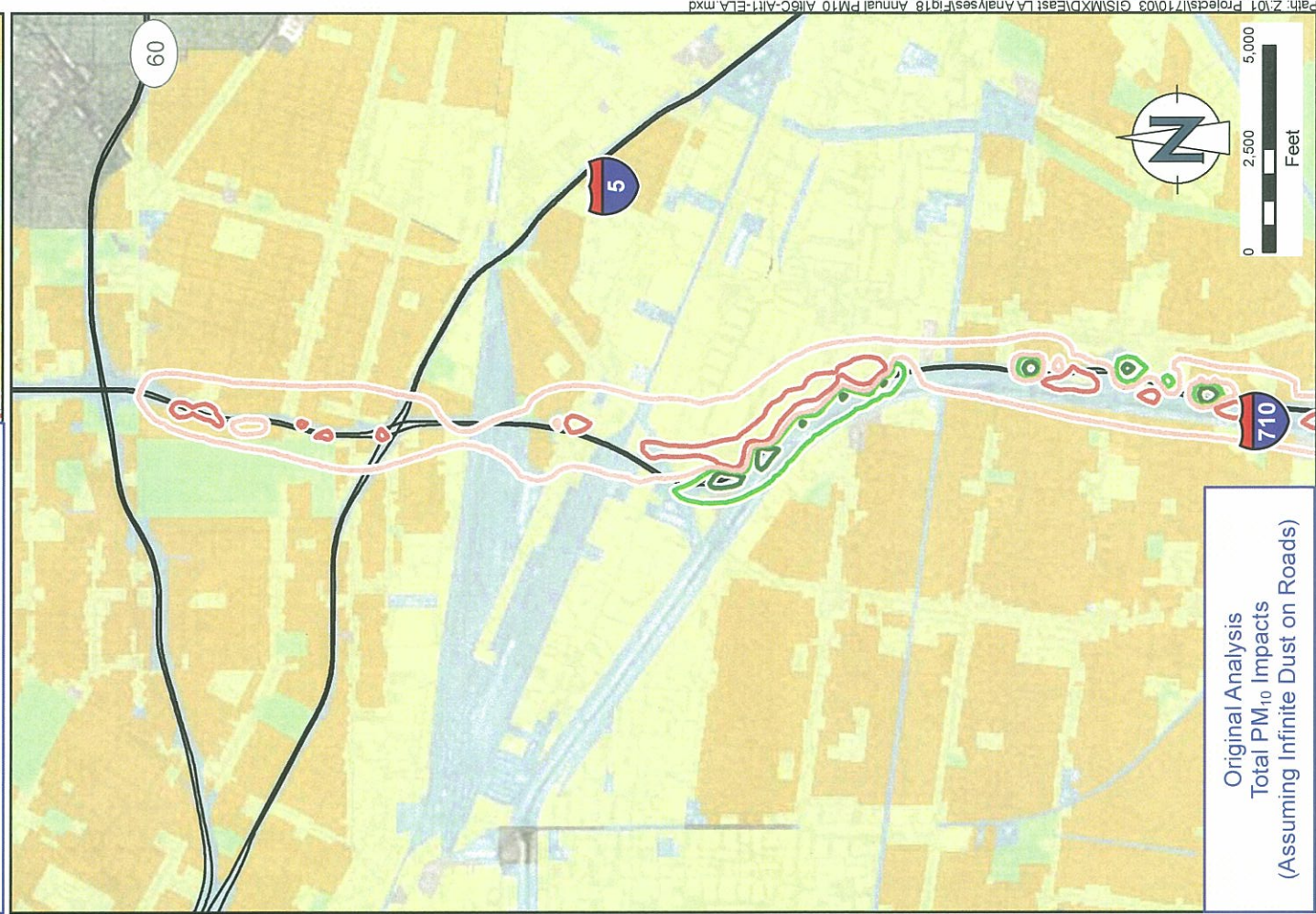
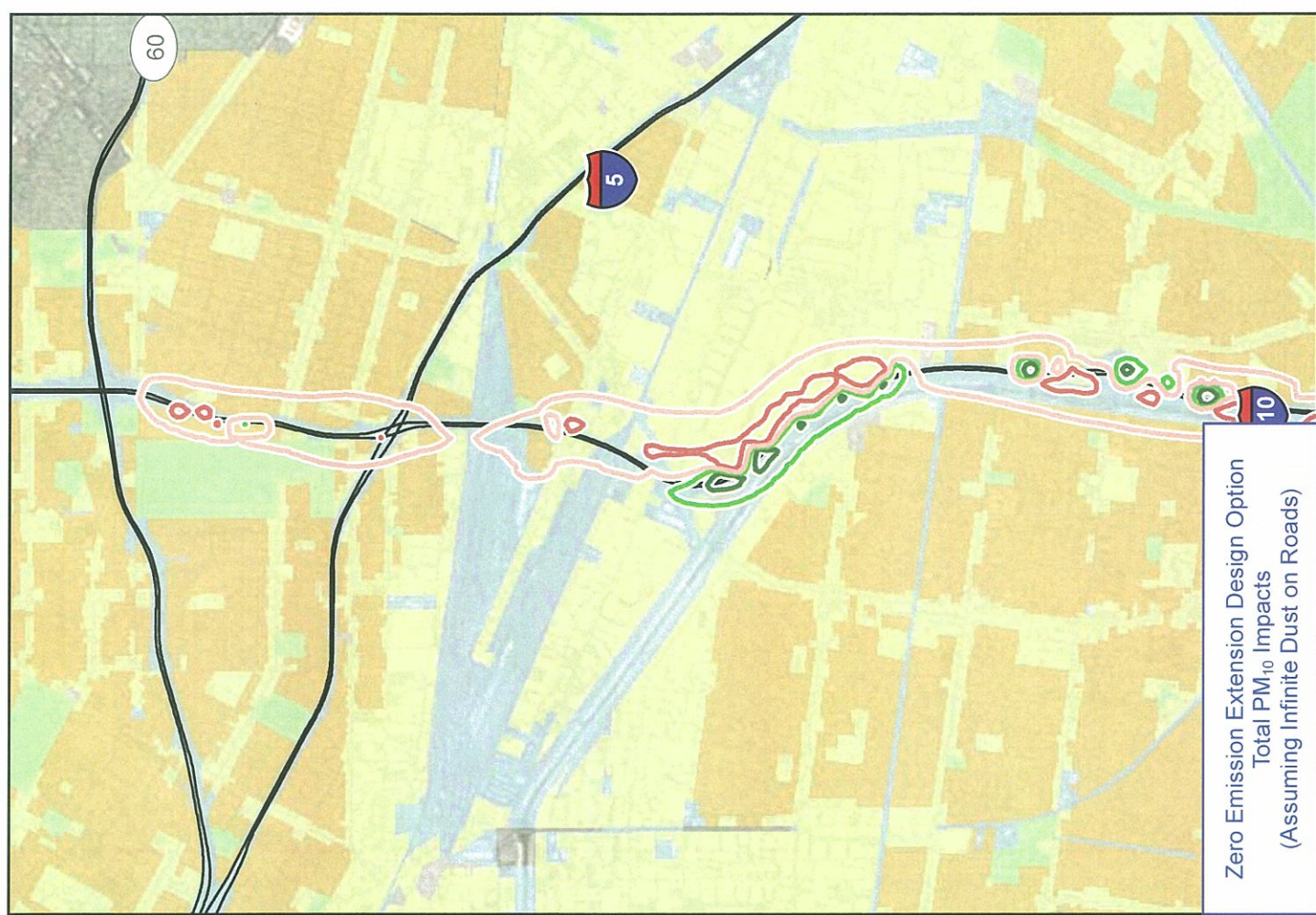
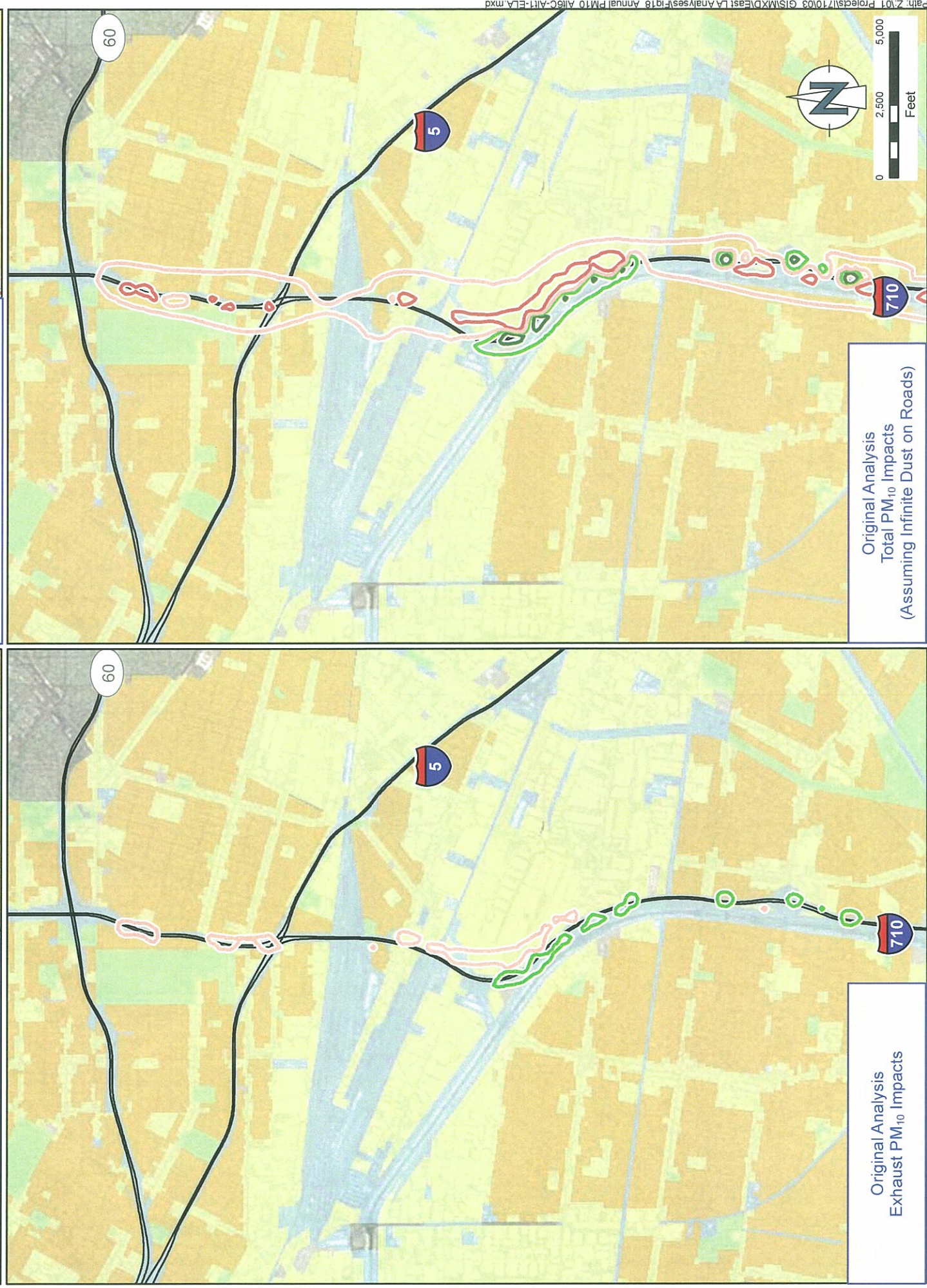
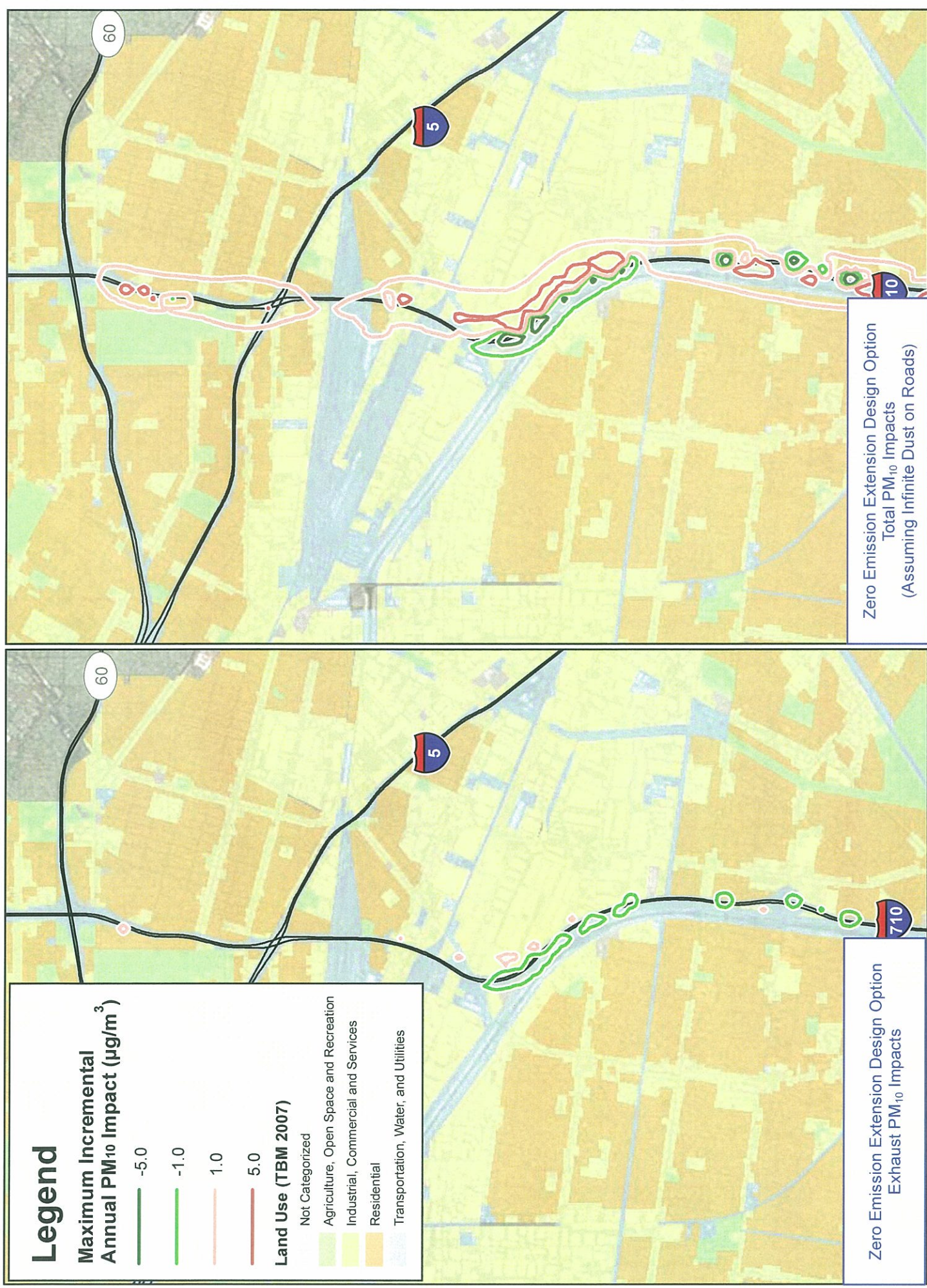
Path: Z:\01_Projects\10103_GIS\MXD\East LA_Analysis\fig15_Annual PM10_Alt6B-2008-ELA.mxd

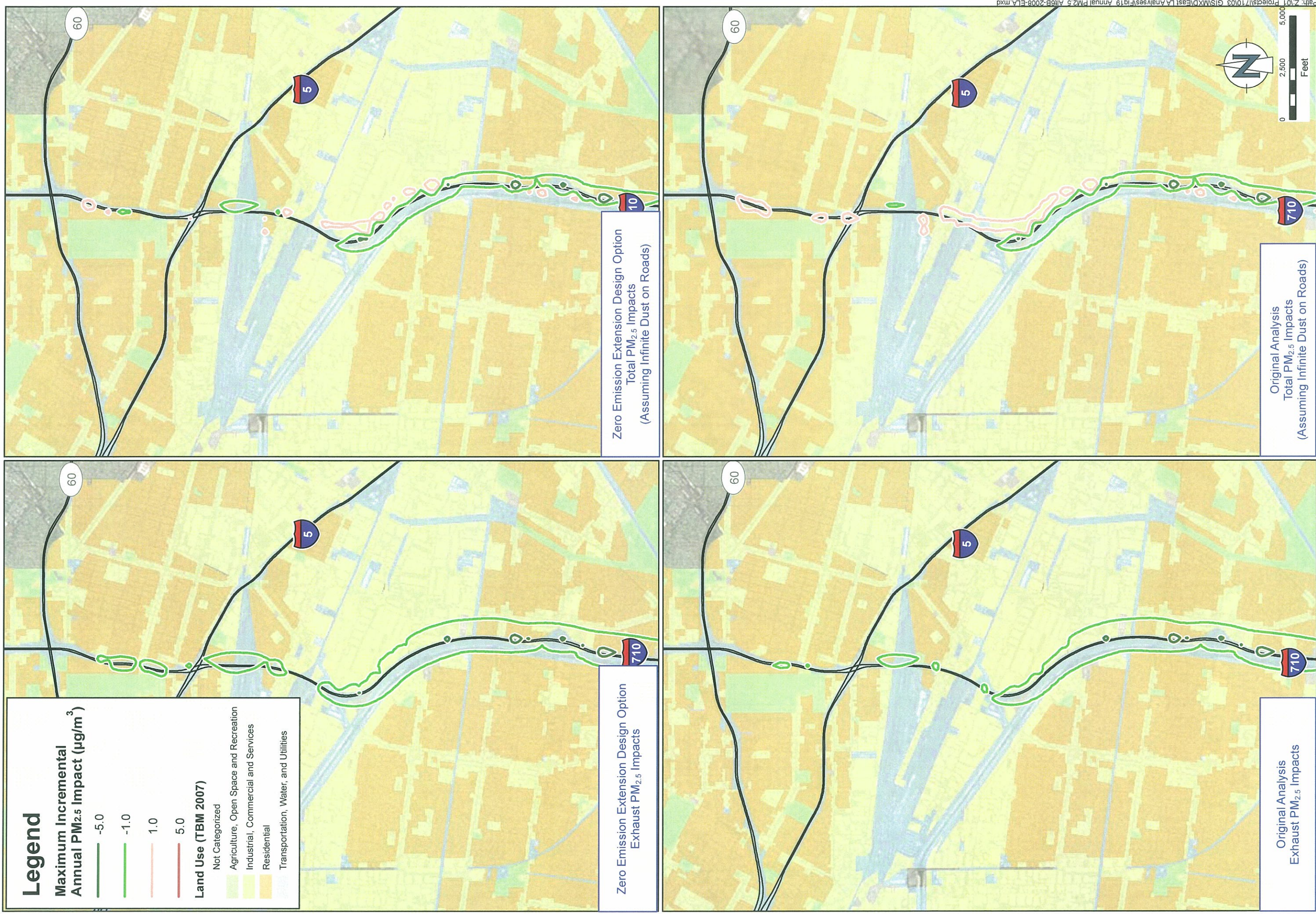


Comparison of
2035 Alternative 6C to 2008 Baseline
Annual PM₁₀ Impacts

Figure
16







Comparison of
2035 Alternative 6B to 2008 Baseline
Annual PM_{2.5} Impacts

Figure
19



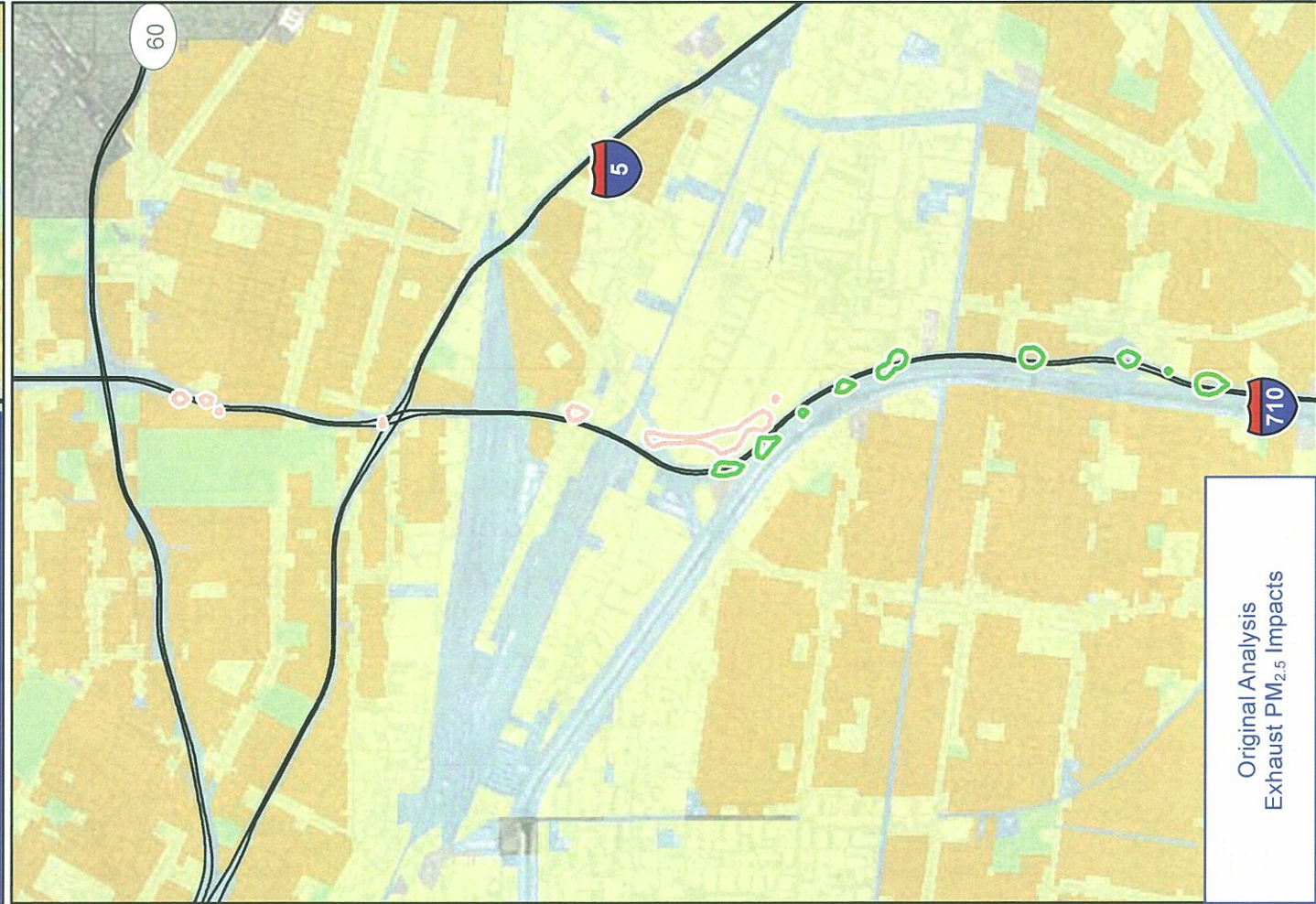
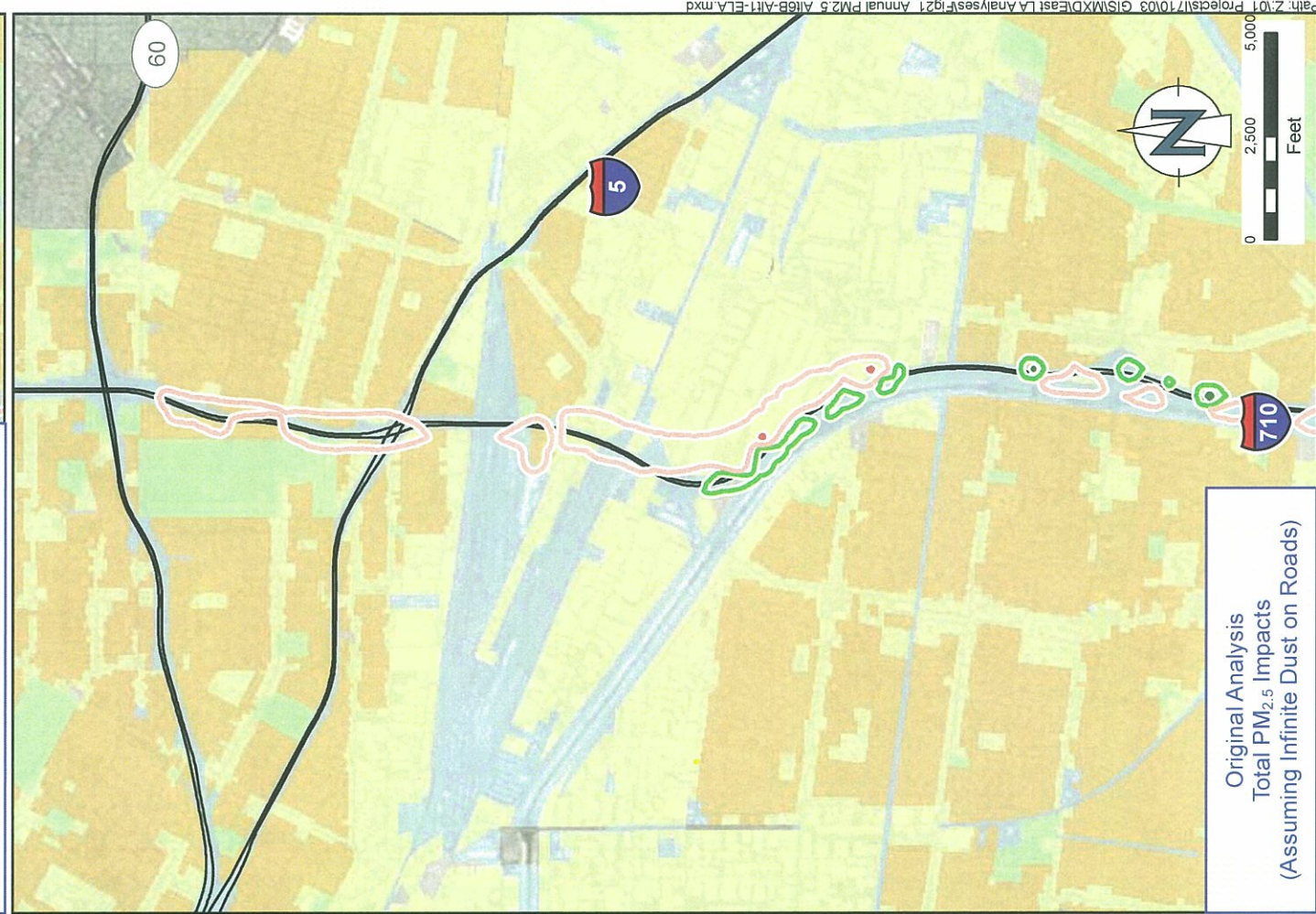
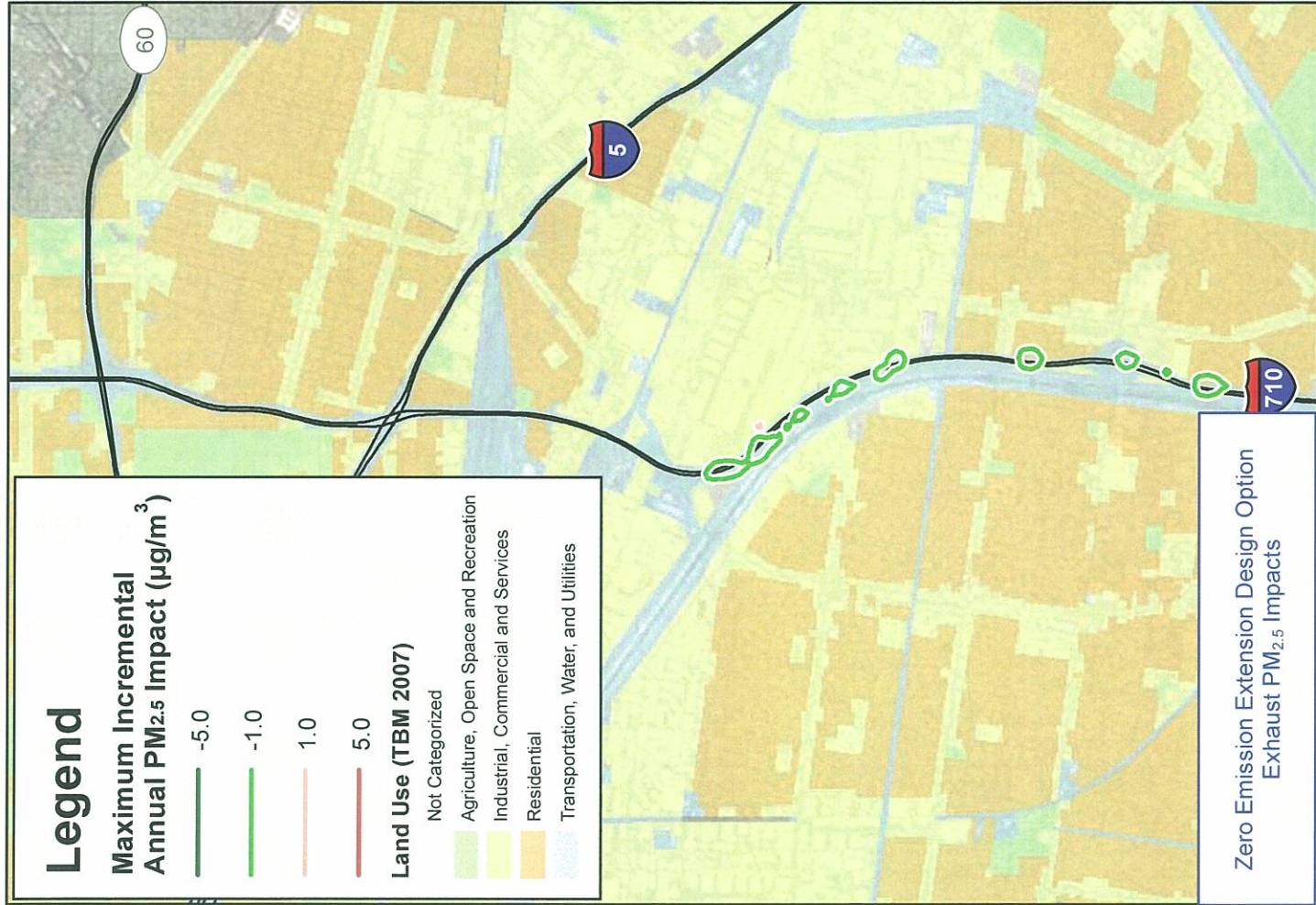
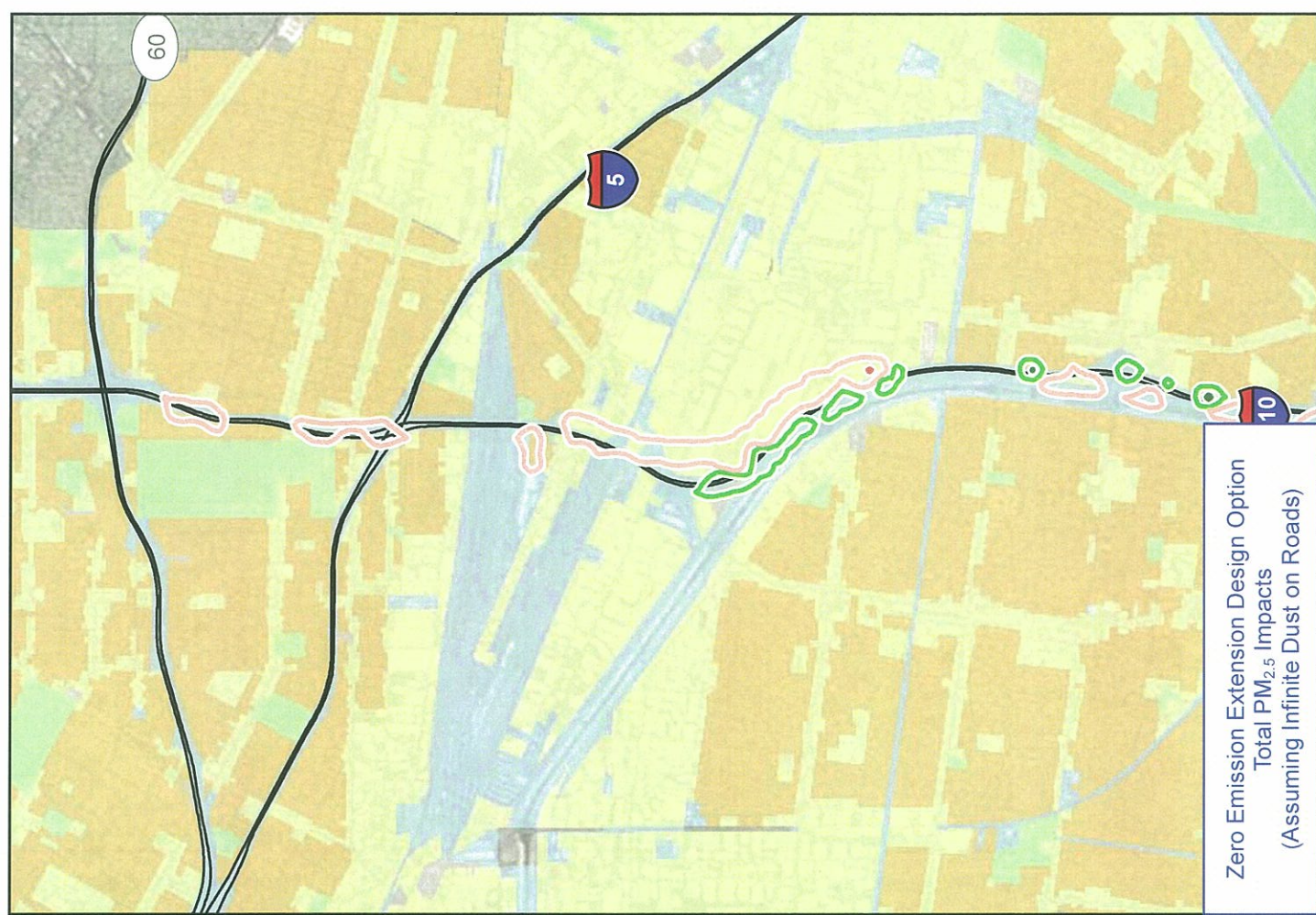
ENVIRON

Figure 20

Comparison of 2035 Alternative 6C to 2008 Baseline Annual PM_{2.5} Impacts

DRAFTED BY: SD Date: 6/1/2012 PROJECT: 05-18574F4

Path: Z:\01_Projects\1003_GIS\MXD\East LA Analysis\fig20_Annual PM2.5_Alt6C-2008-ELA.mxd



Comparison of
2035 Alternative 6B to 2035 Alternative 1
Annual PM_{2.5} Impacts

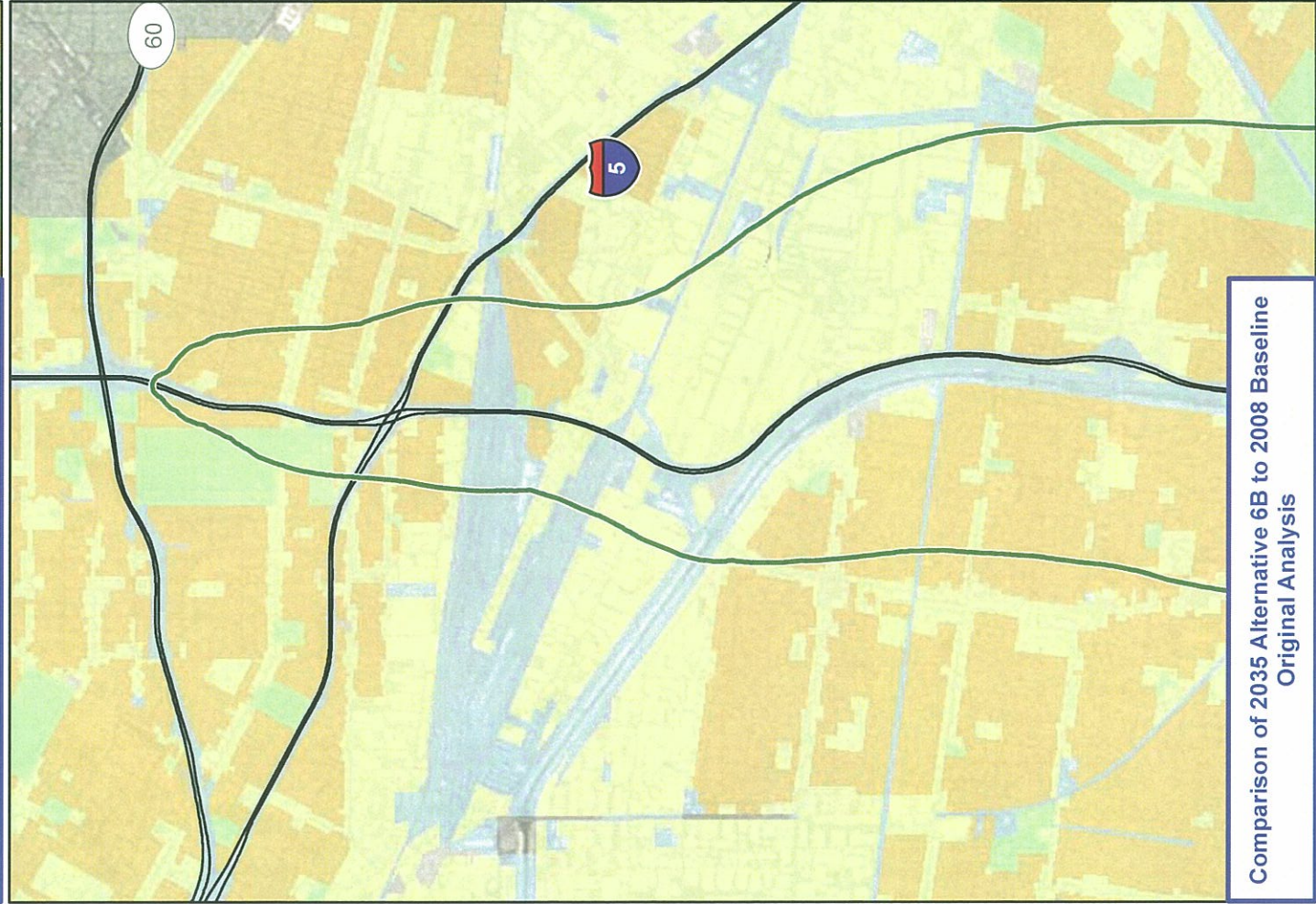
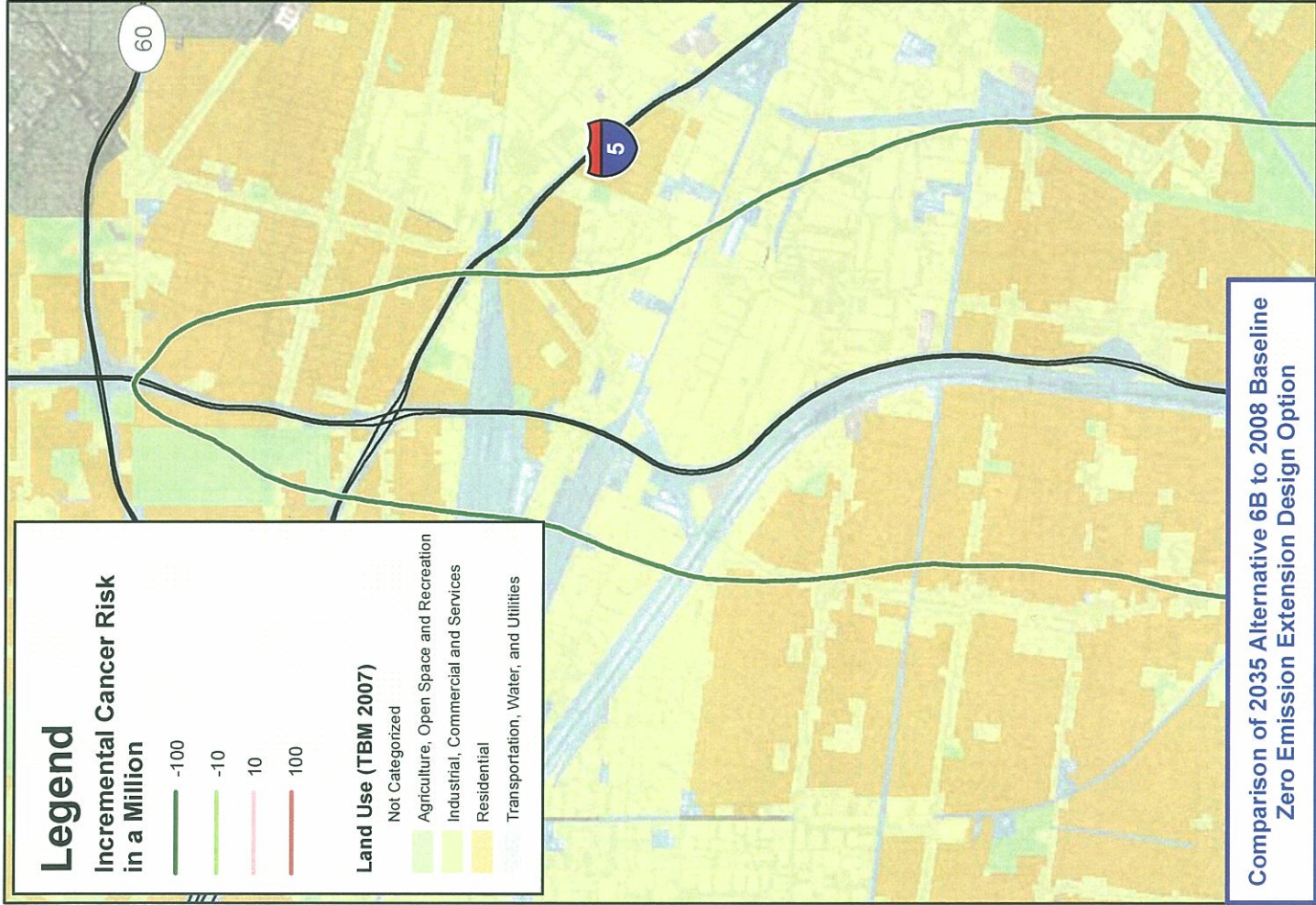
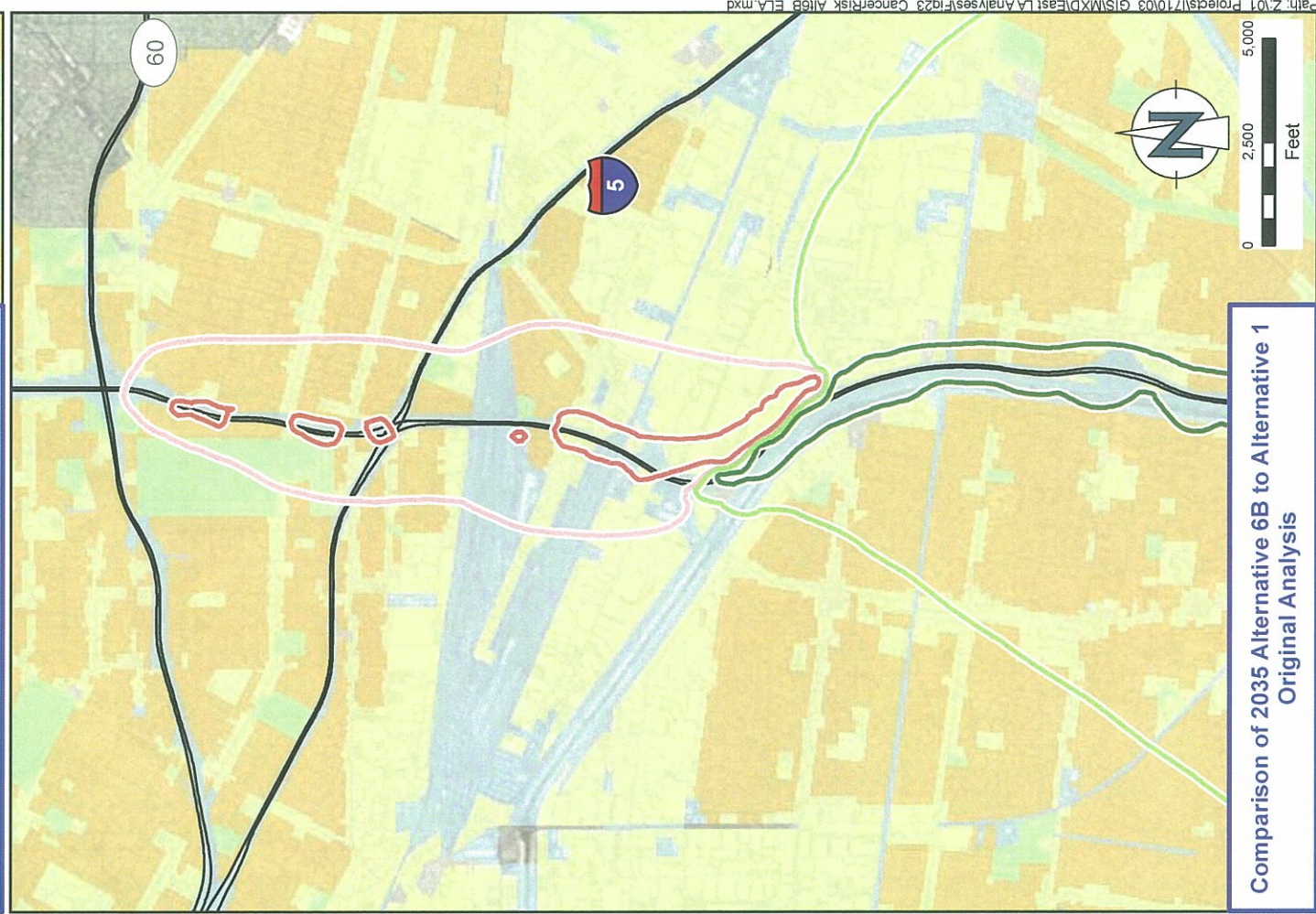
Figure
21

Path: Z:\01_Projects\10103_GIS\MXD\East LA Analysis\fig21_Annual PM2.5_Alt6B-Alt1-ELA.mxd



Figure 22
Comparison of 2035 Alternative 6C to 2035 Alternative 1
Annual PM_{2.5} Impacts

Path: Z:\01_Projects\171003_GIS\MXD\East LA_Analysis\fig22_Annual PM2.5_Alt6C_Alt1-ELA.mxd



Legend

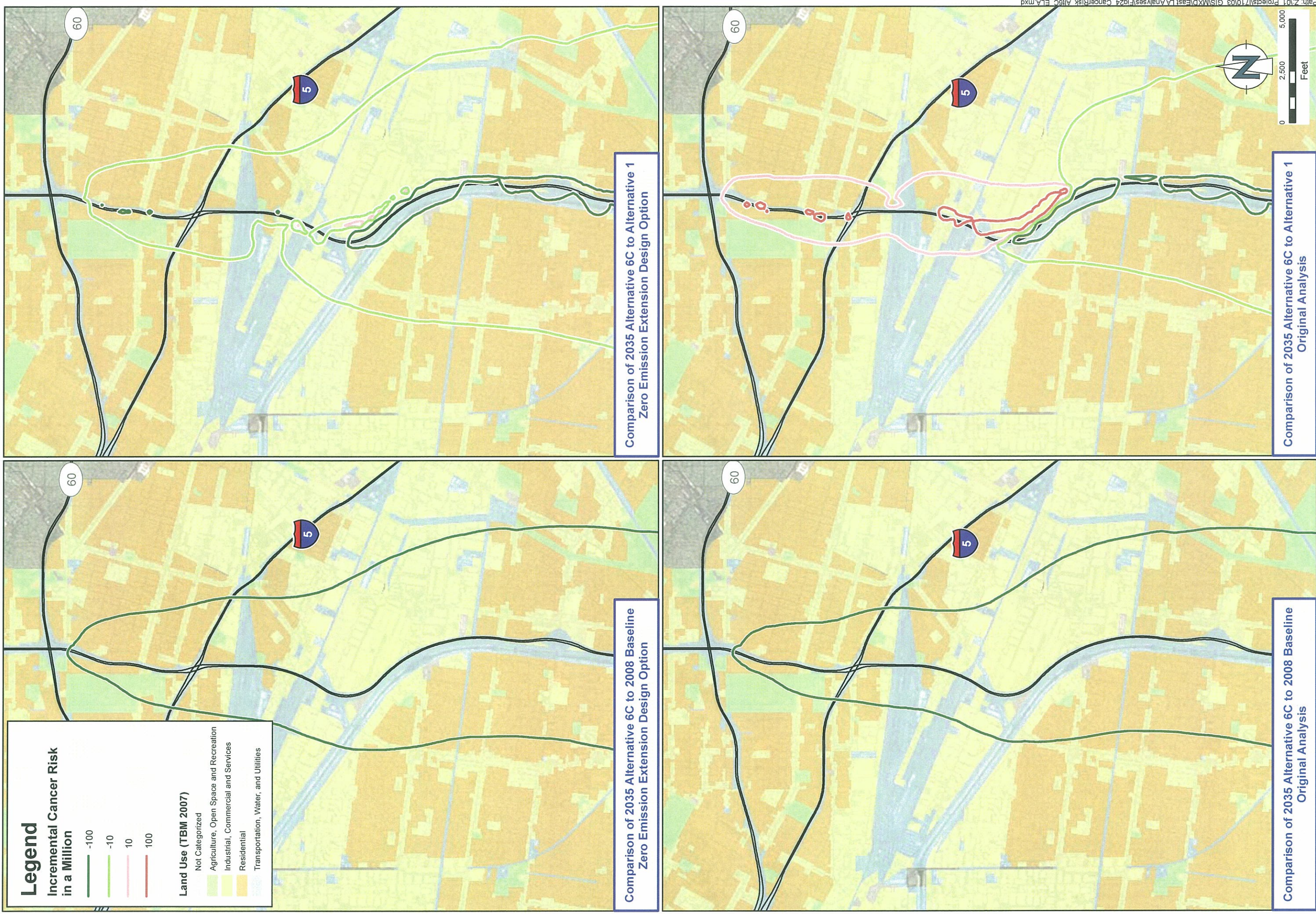
Incremental Cancer Risk in a Million

- 100
- 10
- 10
- 100

Land Use (TBM 2007)

Not Categorized

- Agriculture, Open Space and Recreation
- Industrial, Commercial and Services
- Residential
- Transportation, Water, and Utilities



Comparison of 2035 Alternative 6C
 Incremental Cancer Risk in a Million
 (Residential Scenarios)

Figure
 24