



METROPOLITAN TRANSPORTATION PLAN OUTREACH: INTERACTIVE MAP SUMMARY REPORT- 10/03/14

INTRODUCTION

This document summarizes the results of the online interactive mapping exercise implemented by MIG for the Farmington Metropolitan Planning Organization (MPO)'s Metropolitan Transportation Plan. The interactive map provides an opportunity for all residents to share their on-the-ground knowledge about detailed ideas, connections, problems and positives across the transportation system.

This summary provides the general results of the online interactive mapping tool. Please refer to *Appendix A* for some of the detailed summary tables and the open-ended responses.

TOOL DESCRIPTION

The interactive map is a web-based application developed by Mapita, a spinoff of a research group at Aalto University in Helsinki, Finland, for use in social science research around the quality of environments and specific ideas for improvements. Following extensive testing of the technology and methodology, Mapita partnered with MIG to make this tool available to enrich community input processes in North America.

This tool represents a revolution in identifying specific locations referenced by respondents in their answers to a wide range of questions. Answers to questions are marked directly onto an online map (in an interface made familiar by ubiquitous services such as Google Maps, Bing Maps and Mapquest). This approach allows for questions to be asked about specific places within the city that respondents know or care about the most.

The interactive map tool is one part of an overall outreach strategy for Farmington MPO's Transportation Plan. This outreach period extended from August through September 2014 and participation was encouraged through broadcast email, attendance at community events and ongoing outreach to stakeholder groups and their networks. The tool is mobile device friendly and all advertising included QR codes and links to facilitate people responding.

USE OF RESULTS

The results of this interactive questionnaire are detailed and place-specific. The tool was designed to gather the community's collective knowledge about the state of the system, challenges and opportunities. However, not all locations received the same amount of attention. Additionally, while some questions in this interactive map tool take the form of traditional survey questions, this is not intended to be a representative sampling of opinions across the community. The primary use of these responses will be to identify opportunities and challenges across the region. Key ideas/themes and major opportunities uncovered in this effort will make their way into recommendations in the Metropolitan Transportation Plan. This report summarizes the key themes pertinent to the

transportation plan that emerged from the survey results. However, a considerable amount of additional detail is available in the data file. Further analysis, particularly as it relates to specific sites, can be performed as needed by the Farmington MPO by utilizing the geographic data resulting from this effort.

The total number of responses can be looked at in two ways. Filtering down the responses to those who completed both the survey and the demographic questions produces a count of 195 responses. However, a larger number of respondents placed pins in at least some of the questions. To get a sense of these “partial” responses, and closer to the overall participation rate, the count of responses to the first pin (Home) is 292. The average number of pins placed by individual respondents to note answers spatially was around 6. The maximum number of pins a respondent placed was 31, while the minimum was 1. All percentages in the tables below are calculated based on the total number of respondents who fully completed the questionnaire. It is important to note that where multiple responses were allowed, the percentage is not based on the sum of the answers indicated but rather the number of respondents (195).

Finally, heat maps were utilized to represent the density of pins placed by individual respondents to particular questions.¹ They were created with ArcGIS 10.2 by running Point Density calculations using the Spatial Analyst extension. Output cell size was set to 0.5E-4 (to achieve a fine raster resolution without being computationally overwhelming), and a circular neighborhood was run using a radius of 100 map units (which is roughly 1/4 mile).

KEY FINDINGS

When asked about commuting behavior, ‘driving alone’ accounted for the largest number of responses within the Farmington MPO boundary (83%), while far fewer respondents carpool (11%). Walking and biking accounted for 12% and 10% respectively, while only 4% ride the bus and 3% use other options such as scooters.

Table 1: How do you commute? (Please check all modes of transportation you use more than once a month to get to and from work)

Modes of transportation	Count	Percentage
Car (drive alone)	162	83%
Walk	24	12%
Carpool (two or more people per vehicle)	22	11%
Bicycle	19	10%
Bus	7	4%
Other:*	5	3%

* “Other” option details in appendix of open ended responses

On an average, commuters within the Farmington MPO boundary plan for a 20 minute commute.

¹ Larger format versions of each map are also available.

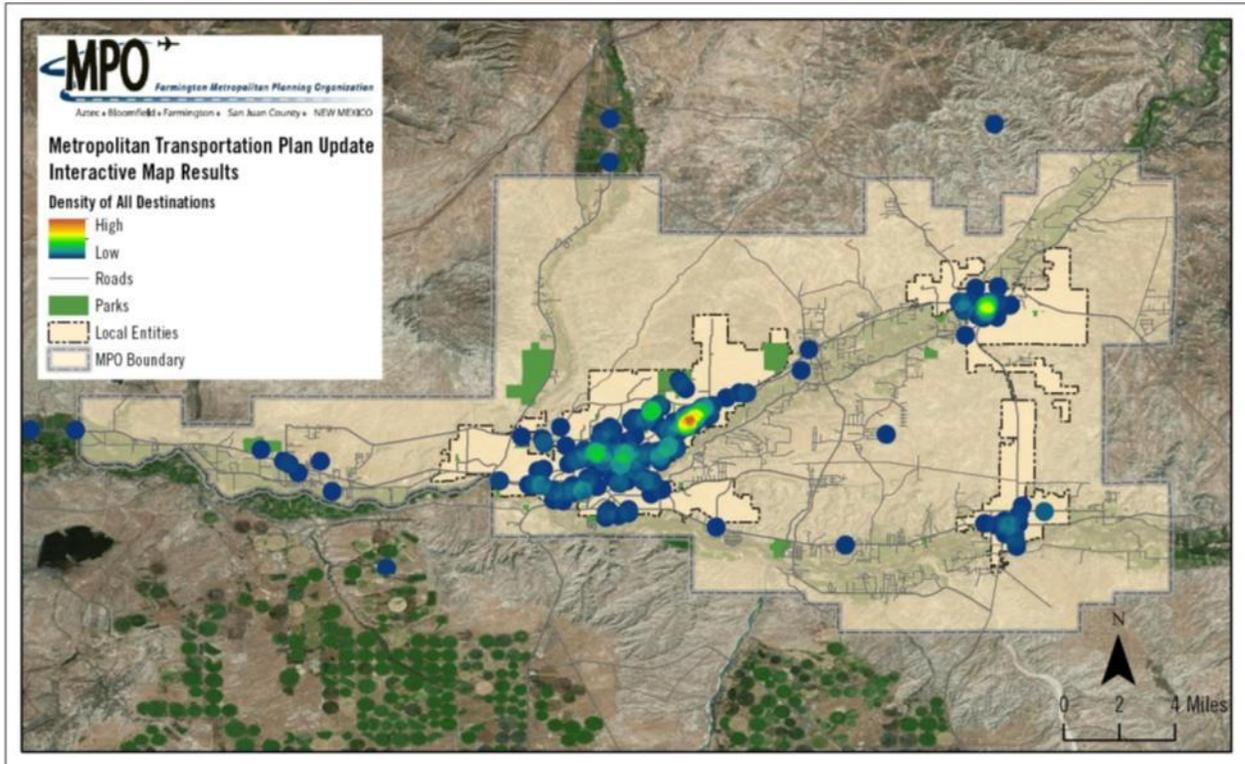
Table 2: How many minutes do you plan for your commute to take?

	Minutes
High	180
Low	2
Mean	19.7

DESTINATIONS

This section provides a summary of the responses recorded on how people travel to and from work, school, home and other destinations.

Figure 1: Locations identified as 'Destinations'



HOME

The largest percentage of respondents reported living in the City of Farmington (66%), followed by the City of Aztec (13%).

Table 3: Please indicate where you live.

Location	Count	Percentage
Farmington	128	66%
Aztec	26	13%
Bloomfield	19	10%
Kirtland	7	4%
Other (please enter your zip code)*	31	16%

* "Other" option details in appendix of open ended responses

The majority of respondents who identified Farmington as their home placed a pin in the neighborhood around Puesta Del Sol Park as their home location (Figure 2).

Figure 2: Locations identified as 'Home'

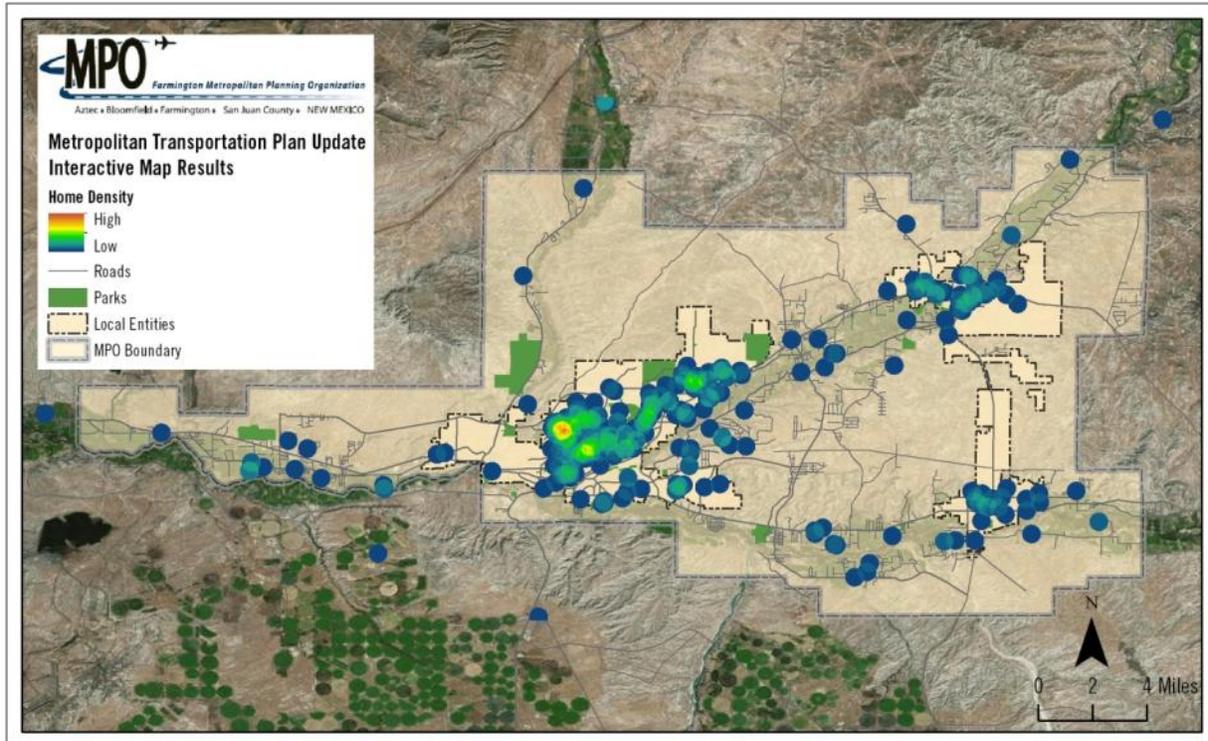
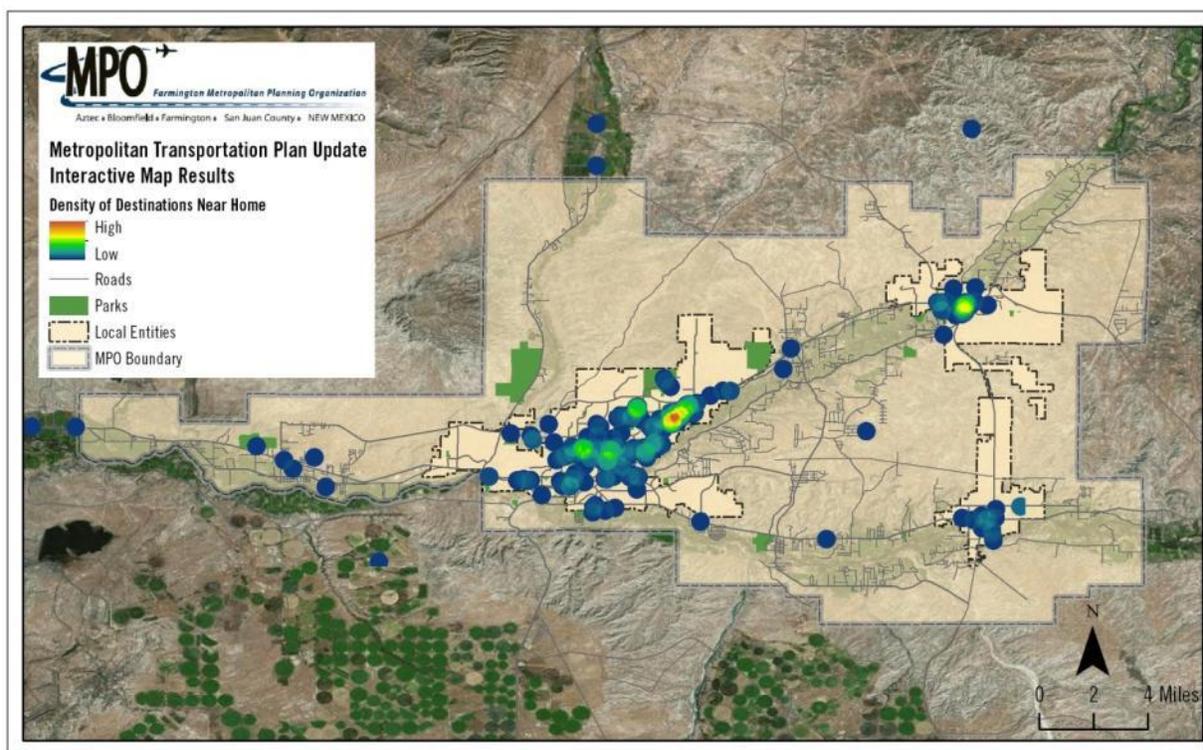


Figure 3: Locations identified ‘Destinations near home’



Comparing the ‘Home’ map (Figure 2) with the ‘Destinations near home’ map (Figure 3), it can be inferred that respondents travel east to access destinations around home (fun, food and services). Popular destinations identified by respondents include Animas Valley Mall (20), San Juan College (11), Pinon Golf Course, Fairgrounds Park and Soccer Complex (10), and Smith’s near Civitan Golf Course (9).

Many of the respondents in Farmington (80%) drive to access destinations around their homes. Around 21% walk to these destinations, followed by 8% who bike and 2% who ride the bus.

WORK

When asked where they worked, most respondents reported being employed within Farmington (72%). Another 7% work in Aztec, while the rest work in Kirtland, Bloomfield or from home.

Table 4: Where do you work?

	Count	Percentage
Farmington	140	72%
Aztec	13	7%
Kirtland	6	3%
I work in my home	6	3%
Bloomfield	5	3%
I work outside of the area*, please describe:	3	2%

* Includes responses such as Shiprock, do not work, etc.

Within Farmington, clusters of respondents placed pins around City Hall and Downtown (18 pins), San Juan College (30 pins) and Farmington Electric Utility (13 pins) as their work location (Figure 4).

Figure 4: Locations identified as 'Work'

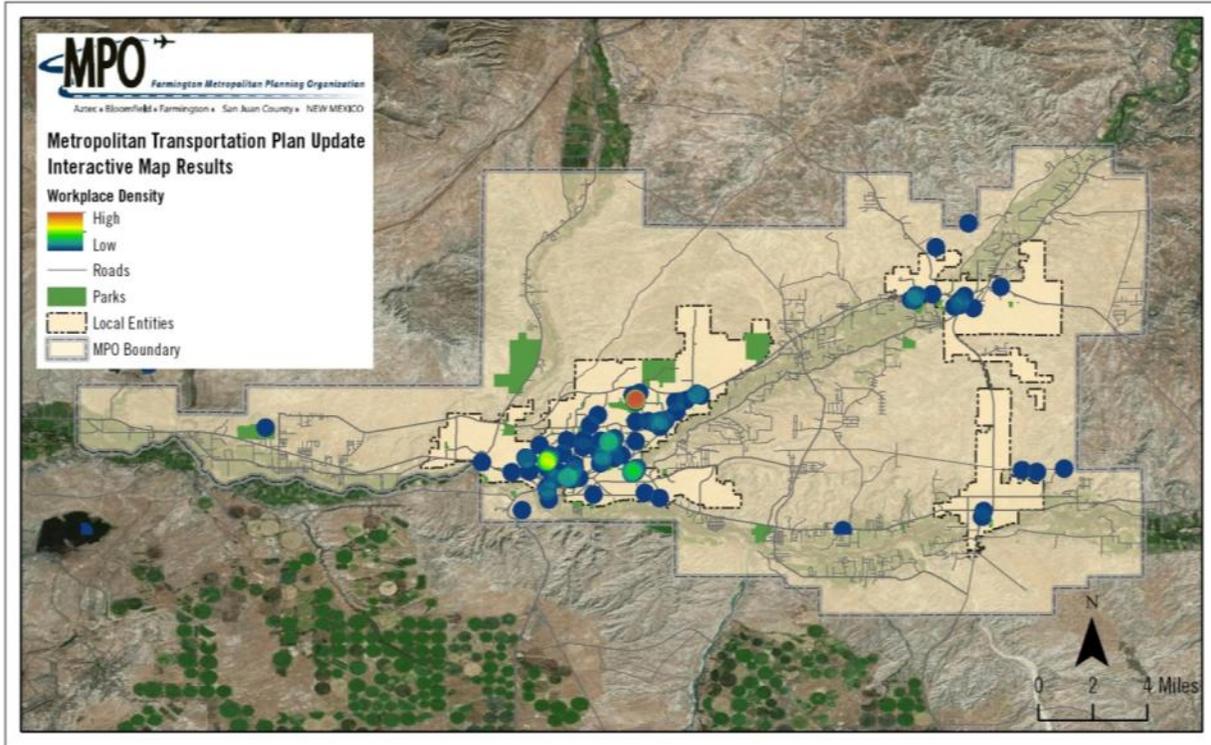
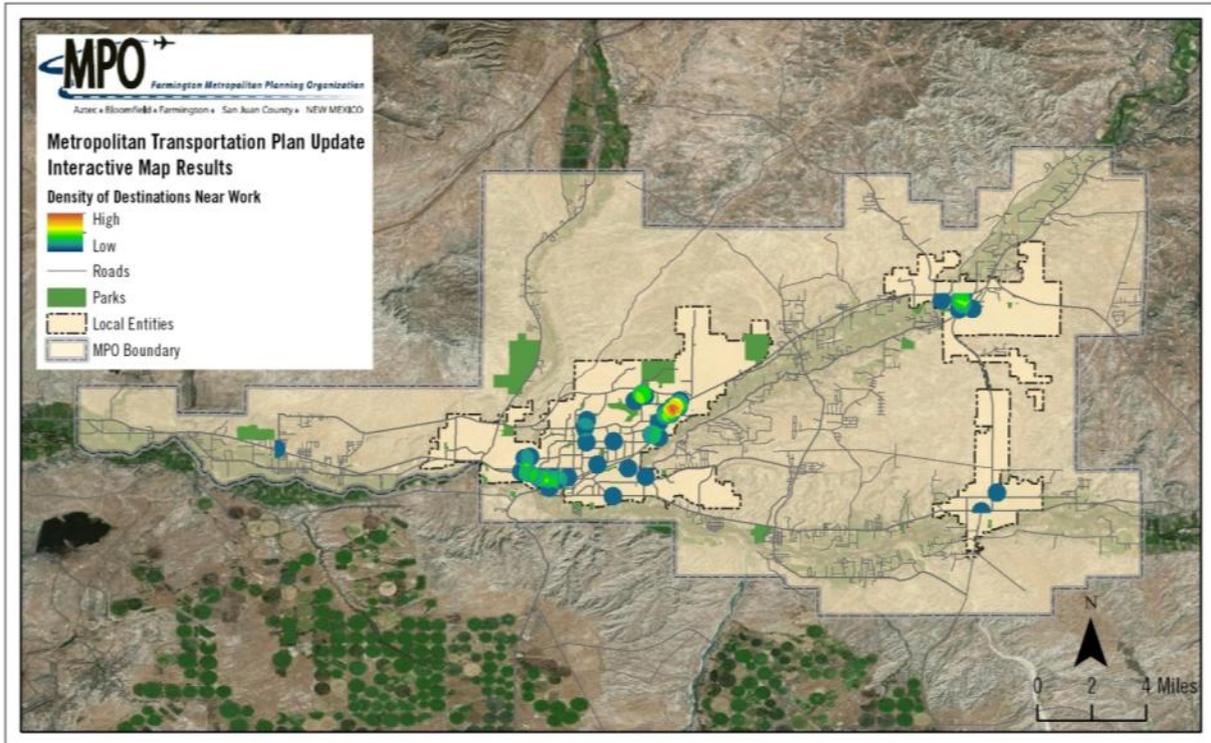


Figure 5: Locations identified as 'Destinations near work'

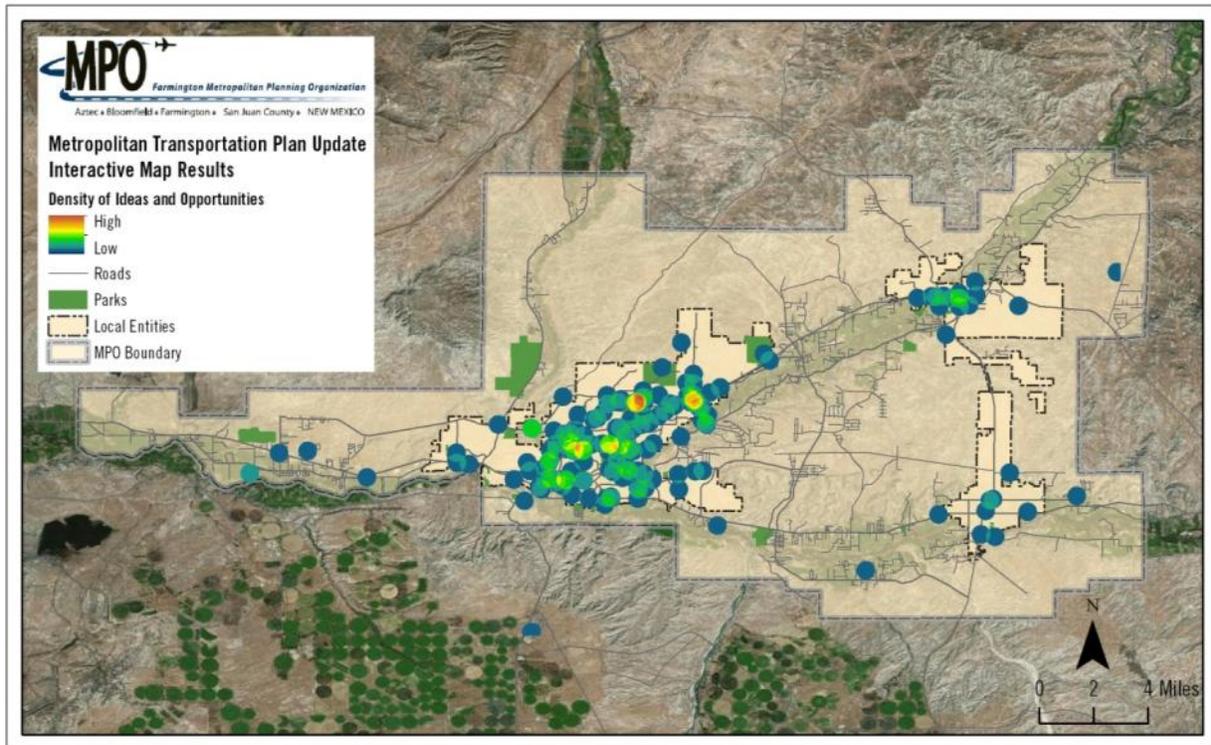


Comparing the 'Work' map (Figure 4) with the 'Destinations near work' map (Figure 5), it can be inferred that respondents travel northeast and southwest to access destinations around work (fun, food and services). Some of the popular destinations identified by respondents are Animas Valley Mall and the retail services along E Main Street near English Road (12) and restaurants near Wal-Mart on W Main Street (5).

IDEAS OR OPPORTUNITIES

When asked to identify locations that needed improvement, the most common response was "around homes" (158 responses). This may indicate that people are most familiar and concerned about problems closest to their homes and neighborhoods.

Figure 6: Locations identified as 'Ideas and opportunities'



The following table shows the cumulative response for ideas and opportunities for improvements in all locations (home, work, commute, schools and others).

Table 5: Ideas and opportunities for all locations

Ideas/Opportunities (for all locations)	Count	Percentage
Make this place more enjoyable to walk	51	23.3%
Bicycle facility (bike lane, parking, etc.)	47	21.5%
Improve/add a crossing	31	14.2%
Improve/add a traffic signal	21	9.6%
Other	69	31.5%
Total Responses to this Question	219	100%

HOME

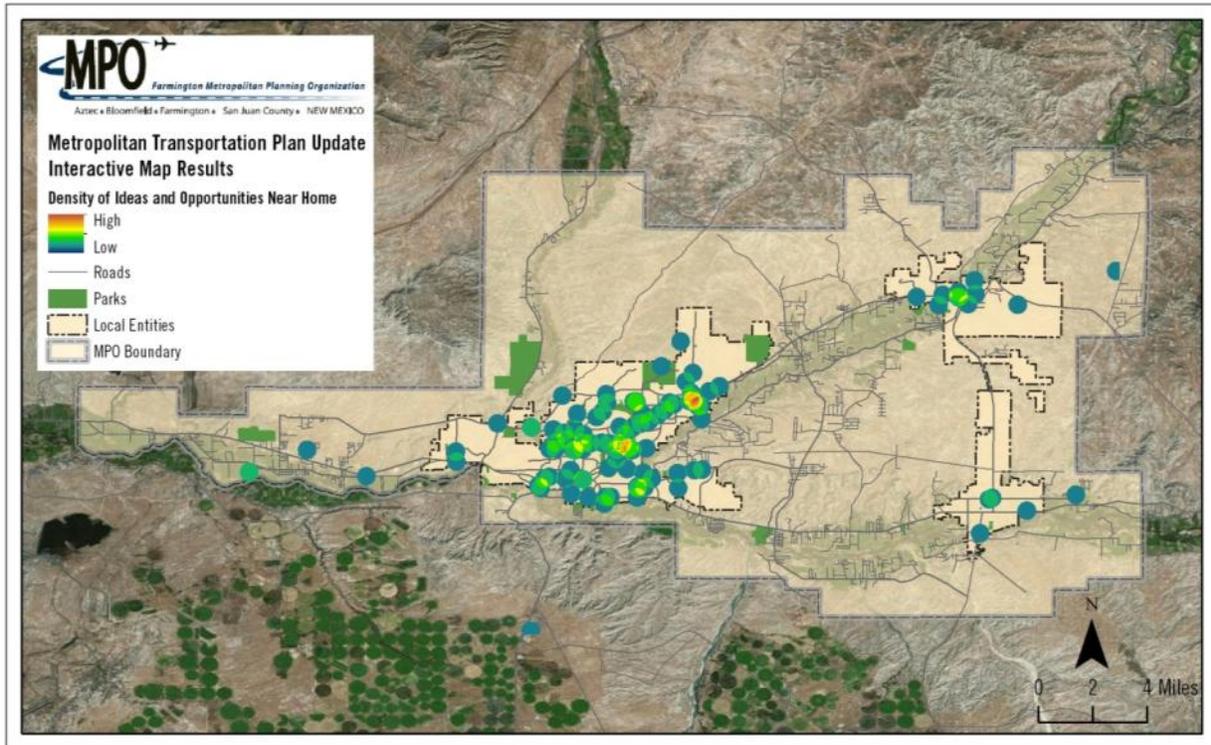
Ideas for improvements centered on respondents’ homes, including suggestions that did not fall within the choices listed on the questionnaire. Some of the common themes around these “other” suggestions included expansion of the Pinon Hills Bridge, traffic calming along some commute routes and adding transit stops and sidewalks at various locations. More details on geographical location of these ideas and opportunities can be found in the GIS database. Many respondents wanted to make places around their homes more enjoyable to walk (27%), while 23% of respondents wanted bike facility improvements in their neighborhoods.

Table 6: Table summarizing ideas and opportunities identified by respondents around home.

Ideas/Opportunities around home	Count	Percentage
Make this place more enjoyable to walk	42	26.6%
Bicycle facility (bike lane, parking, etc.)	36	22.8%
Improve/add a crossing	20	12.7%
Improve/add a traffic signal	14	8.9%
Other*	46	29.1%
Total Responses to this Question	158	100.0%

* “Other” option details in appendix of open ended responses

Figure 7: Locations identified as ‘Ideas and opportunities near home’



COMMUTE AND WORK

Far fewer respondents had input about ideas/opportunities along their commute or near work. In regards to commuting, nearly 26% of the respondents wanted improvements in bicycle facilities (lanes, parking, etc.). Most of the ideas were suggestions apart from the options listed in the questionnaire. Some of the common ideas suggested by the respondents include expansion of the Pinon Hills Bridge, trail improvements and adding transit stops at various locations. More details on the geographical location of these ideas and opportunities can be found in the GIS database.

Table 7: Table summarizing ideas and opportunities identified by respondents around commute.

Ideas/Opportunities around commute	Count	Percentage
Bicycle facility (bike lane, parking, etc.)	8	25.8%
Improve/add a crossing	5	16.1%
Make this place more enjoyable to walk	5	16.1%
Improve/add a traffic signal	2	6.5%
Other*	11	35.5%
Total Responses to this Question	31	100.0%

* “Other” option details in appendix of open ended responses

There were 23 responses for ideas or opportunities for improvement around work. Some of the common themes around these “other” suggestions included restaurants at various locations and improvements to streetscapes. Many of the respondents (17%) also wanted to add/ improve traffic

signals and crossings. More details on the geographical location of these ideas and opportunities can be found in the GIS database.

Table 8: Table summarizing ideas and opportunities identified by respondents around work.

Ideas/ Opportunities around work	Count	Percentage
Improve/add a traffic signal	4	17.4%
Improve/add a crossing	4	17.4%
Make this place more enjoyable to walk	3	13.0%
Bicycle facility (bike lane, parking, etc.)	1	4.3%
Other*	11	47.8%
Total Responses to this question	23	100.0%

* “Other” option details in appendix of open ended responses

ROUNDABOUTS

Around 42% of respondents were in favor of roundabouts in new road construction or replacing existing intersections with roundabouts. The popular reason in favor of roundabouts was that respondents felt they keep traffic moving (38%) and also help in slowing traffic down (26%).

Around 30% of the respondents were not in favor of roundabouts. For some, they seemed less safe (19%), while for others they caused congestion (15%). Other reasons and comments from respondents can be found in the questionnaire summary tables section. Respondents’ suggestions for roundabout locations can be found in Figure 8 below.

Table 9: Would you be in favor of including roundabouts in new road construction or replacing existing intersections with roundabouts?

Response	Count	Percentage
Yes	82	42%
No	58	30%
I do not know	20	10%

Table 10: Why or why not? (Choose all that apply)

Reasons for wanting/not wanting roundabouts	Count	Percentage
Keeps traffic moving	74	38%
Slows traffic down	51	26%
They seem safer	41	21%
They seem less safe	38	19%
Causes congestion	30	15%
They look good	26	13%
I do not know much about them	12	6%
Other*	41	21%

* “Other” option details in appendix of open ended responses

SIDEWALKS

Many suggestions, ideas and opportunities for improving sidewalks came out of this outreach process. Around 32% of respondents said that there is no sidewalk in the places that they walk or would like to walk. Another 24% of respondents wanted to see a completion of missing links in the sidewalk along routes that they walk. Respondents’ suggestions for sidewalk opportunities can be found in Figure 8 and new sidewalk routes in Figure 10 below.

Table 11: Where you walk, what sidewalk improvements are needed? Select all that apply.

Ideas/ Opportunities for improving sidewalk	Count	Percentage
There is no sidewalk	62	32%
Complete missing links in the sidewalk	47	24%
Separate the sidewalk from the street	29	15%
Make the sidewalks wider	25	13%
Remove obstructions (such as power poles)	25	13%
Other*	13	7%

* “Other” option details in appendix of open ended responses

BICYCLE ROUTES

Among the kinds of bike improvements suggested by the respondents, adding striped bike lanes was the most popular (35%), closely followed by adding signage indicating designated bike routes (31%) and traffic calming along bike routes (22%). More details on geographic locations of these suggestions can be found on GIS database. Respondents’ ideas for bicycle improvements are located in Figure 8 and suggestions for bicycle routes can be found in Figure 10 below.

Table 12: What bicycle route improvements would encourage you to ride more? Select all that apply.

Ideas/ Opportunities for improving bike facilities	Count	Percentage
Striped bike lanes	68	35%
Signage indicating designated bike routes	61	31%
Slowing car traffic on bicycle routes	42	22%
Separated trails or bicycle routes	37	19%
Other*	10	5%

* “Other” option details in appendix of open ended responses

TRANSIT

Approximately 70% of respondents have not used the Red Apple Transit service in the past year. Only 7% have used the transit service in the past year.

Table 13: Have you used Red Apple Transit in the past year?

Response	Count	Percentage
No	137	70%
Yes	14	7%

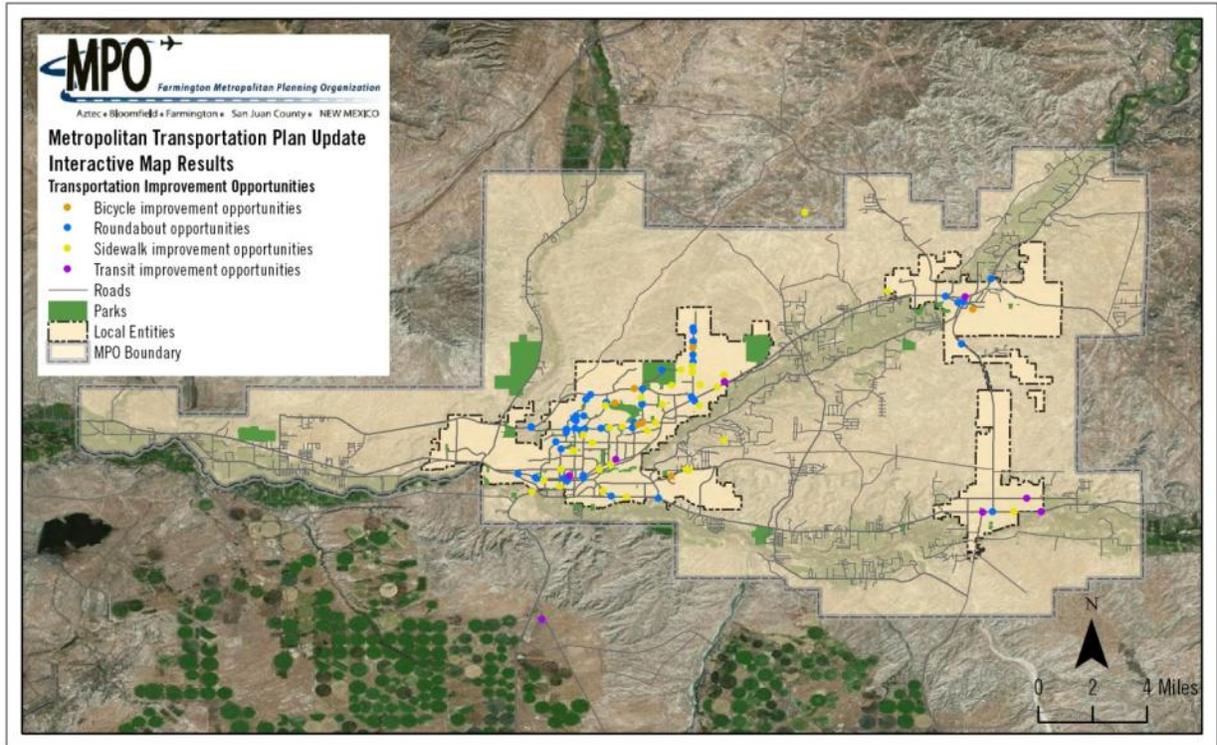
The relatively few transit users in this response may be reflective of either the respondent profile or the generally low level of ridership within the Farmington MPO boundary. Ideas or opportunities for improvement of transit services appear to be supporting of building ridership. The most popular idea was to locate bus stops closer to home or desired destinations (17%). Another popular idea for improving public transit was to provide more frequent service. Respondents’ transit suggestions can be found in Figure 8 and Figure 10 below.

Table 14: What improvements are needed to make transit service work for you? Select all that apply.

Improvements to transit service	Count	Percentage
Bus stops closer to my home/destination(s)	34	17%
More frequent service	28	14%
Schedule that better matches mine	26	13%
Service in my area	19	10%
Other*	21	11%

* “Other” option details in appendix of open ended responses

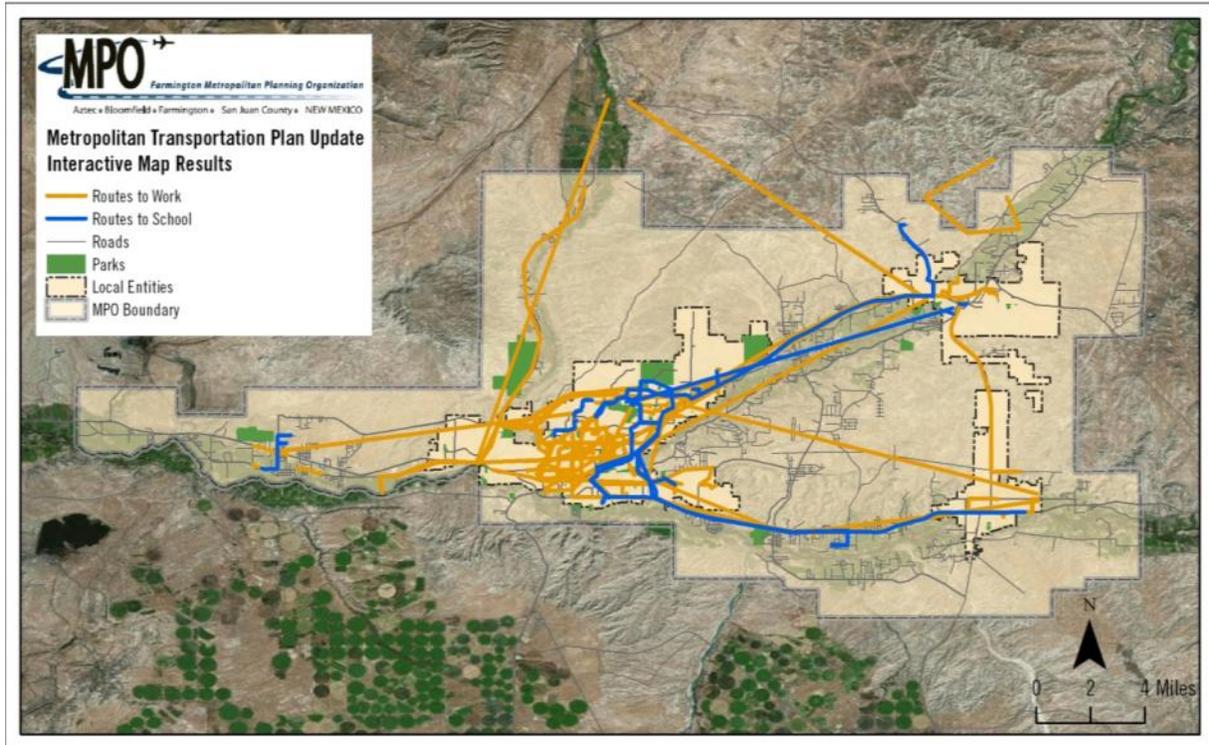
Figure 8: Locations of 'Transportation opportunities'



CONNECTIONS

Respondents were asked to draw lines on the online interactive map to represent routes they usually take to work, school and other places. Many of these routes were along Highways 170, 516, 544 and 64. As expected, local streets within Farmington were also heavily used for commuting.

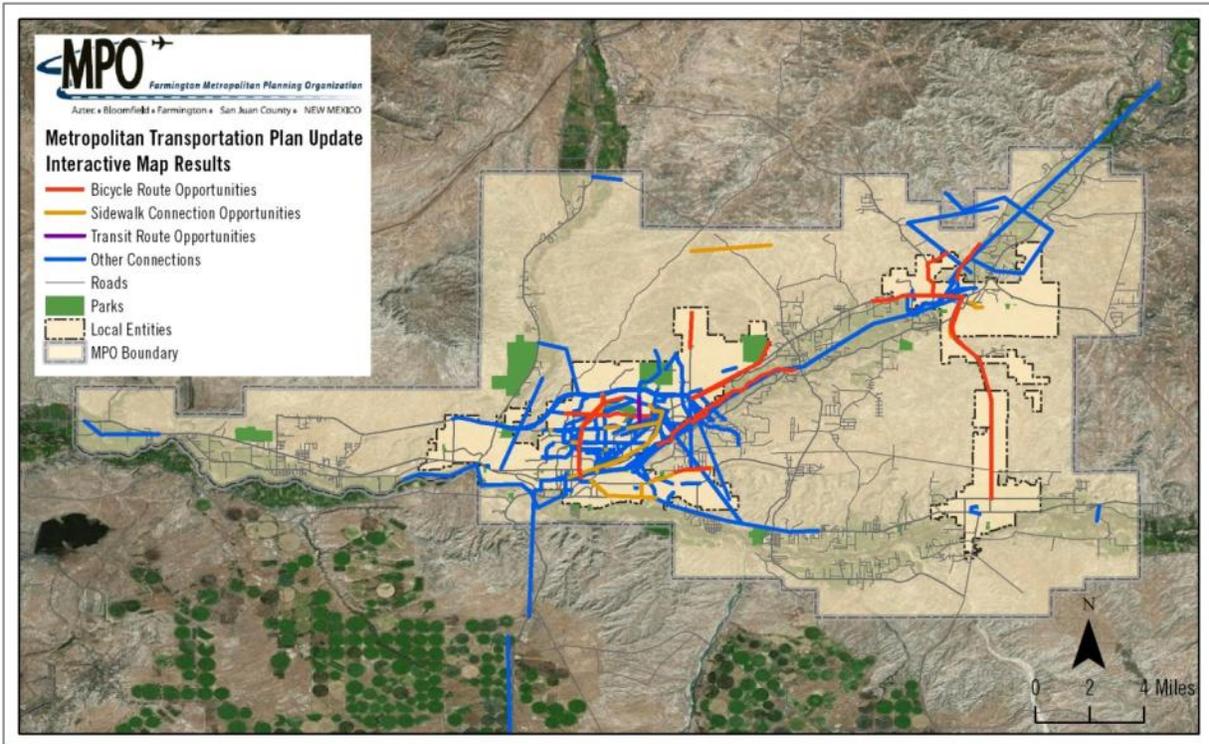
Figure 9: Locations of identified 'Routes to work and school'



METROPOLITAN TRANSPORTATION PLAN OUTREACH: INTERACTIVE MAP SUMMARY REPORT

Respondents were prompted to draw new connections around home, school and to other locations. They were also asked to propose new transit routes and new bicycle route opportunities. Most of the identified “other connections” were new road connections or improvements, followed by new bicycle route opportunities. One of the bike routes identified was along Highway 544 and the Animas River. A small number of new transit routes and sidewalk routes were identified. For more details, please refer to the GIS database.

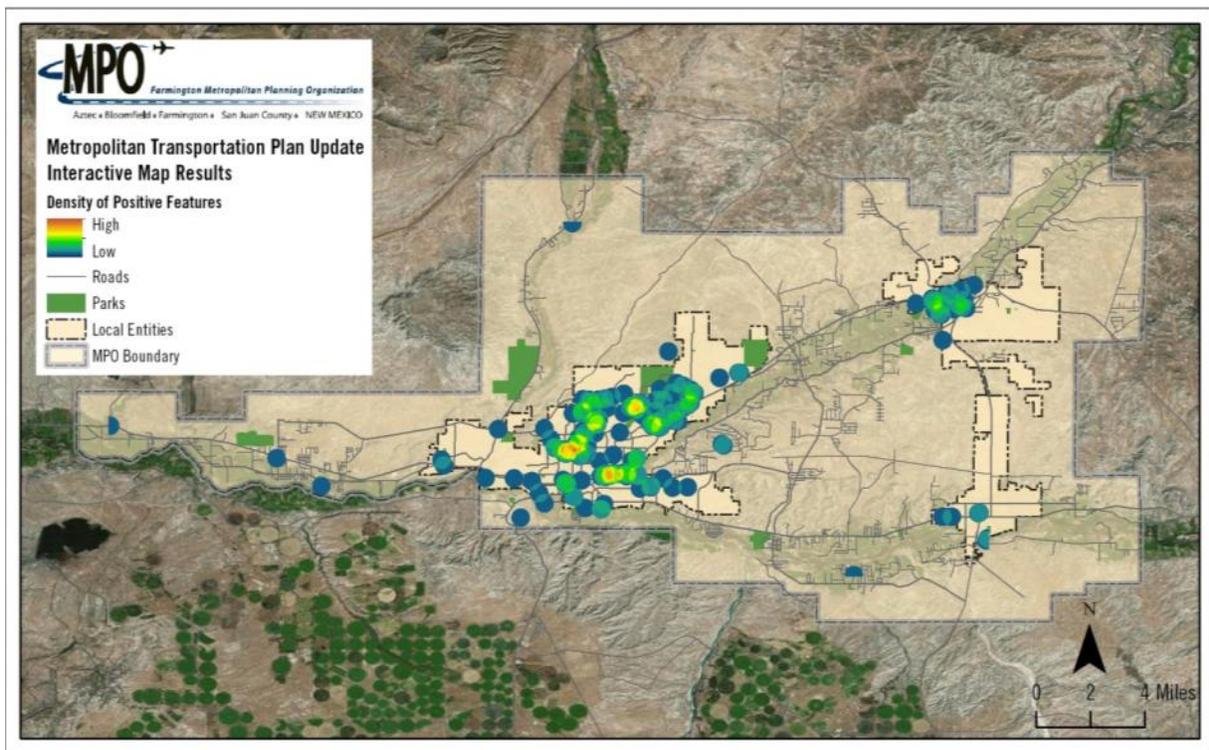
Figure 10: Locations of identified ‘Connections’



PROBLEMS AND POSITIVES

The presence of neighborhood parks, greenery and landscaping near home, work and along commute routes was highlighted as a popular positive feature by the majority of respondents. Efficient traffic flow, traffic controls (lights, signs), walking trails and sidewalks were other popular features. The majority of responses received were positive features (things that are working well, good examples, etc.) near home (108 responses) compared to features near work (18) and along commuting routes (24). Brookside Park, Berg Park and landscaping in San Juan College were among the most popular positive features among survey respondents.

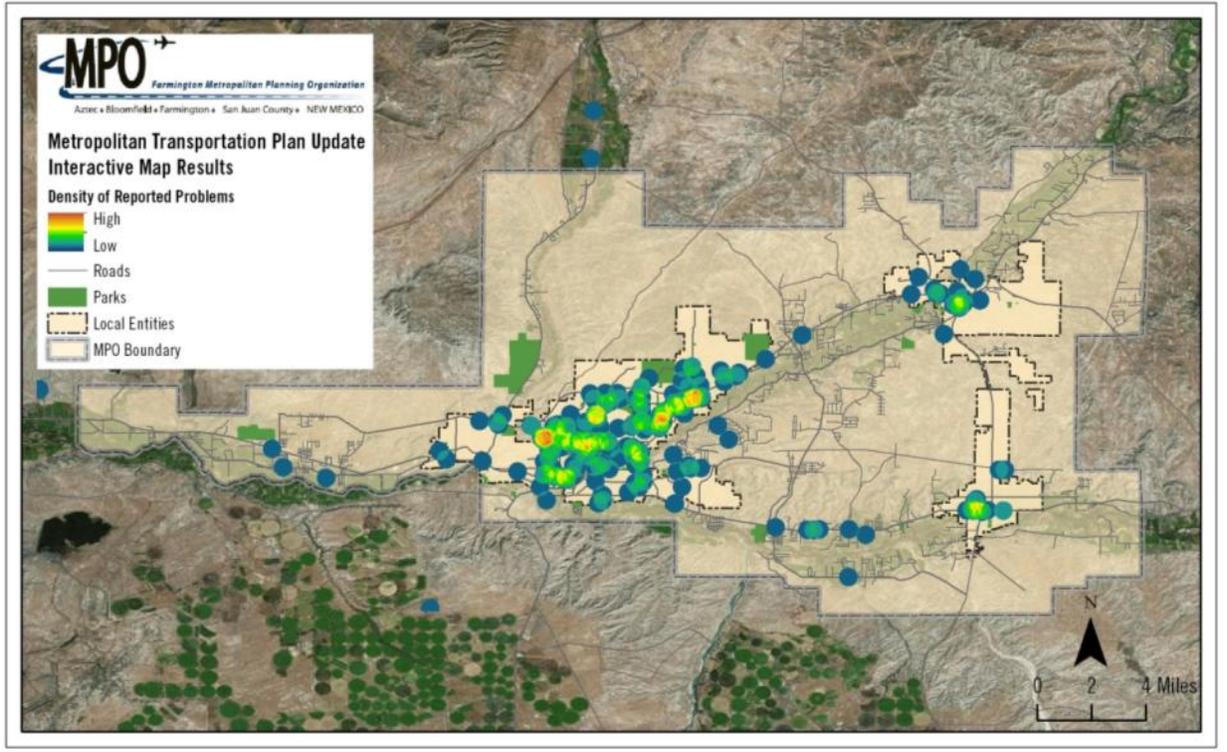
Figure 11: Locations of identified 'Positives'



Respondents also indicated certain aspects of the positive features they identified. For example, many respondents chose the option "positive feature works well at that location" (34%). Additionally, 23% of respondents wanted this aspect to be repeated in other places within the Farmington MPO boundary.

On the other hand, respondents highlighted the many intersections that were unsafe or unpleasant for pedestrians. Speeding, heavy traffic and lack of bicycle infrastructure were other common themes in problems identified around the Farmington MPO.

Figure 12: Locations identified as 'Problems'



PRIORITIES AND WILLINGNESS TO PAY

The following tables indicate the responses to questions regarding priorities and the willingness to pay by survey respondents within the Farmington MPO boundary.

Table 15: For each of the following topics, please indicate how high a priority it is for improvement.

	Mean	Median
Pedestrian safety	77.4	84.0
Major roads	66.3	73.0
Bicycle routes	65.8	73.0
Local trails	58.9	65.5
Bus service	55.5	68.0
Smaller connecting roads	55.0	61.0
Regional trails	51.6	59.0

[Note: on the 0-100 range, a higher score represents a higher priority]

Table 16: Which of the areas of investment would you be willing to pay more for?

Areas of investment	Count	Percentage
Pedestrian safety	65	33%
Bicycle routes	61	31%
Major roads	57	29%
Local trails	48	25%
Bus service	39	20%
Regional trails	36	18%
Smaller connecting roads	27	14%
Other *	6	3%

* "Other" option details in appendix of open ended responses

These questions aimed to help prioritize the actions in the Metropolitan Transportation Plan around these subjects. The top four responses appear to represent the highest priority types of projects as well as those with the highest willingness to pay. The percentage that supports investing in each option should not be over-emphasized, as these questions appeared at the end of the survey and participation may have dropped off.

DEMOGRAPHICS SUMMARY

The following tables summarize the basic demographics (age, gender, race/ethnicity) of respondents.

Table 17: What is your age?

Age categories	Count	Percentage
Under 18	1	1%
18-24	9	5%
25-34	39	20%
35-44	27	14%
45-54	27	14%
55-64	35	18%
65-74	11	6%
75 years or older	2	1%

Table 18: What is your gender?

Gender	Count	Percentage
Female	87	45%
Male	62	32%

Table 19: How do you describe yourself?

Race and Ethnicity	Count	Percentage
White/Caucasian	118	61%
American Indian or Alaskan Native	24	12%
Hispanic/Latino	13	7%
Black or African American	2	1%
Asian, Asian Indian or Pacific Islander	0	0%
Other *	2	1%

* Others include responses such as Native White American, American