



# Working Paper #2

## Synthesis Report

4/12/2016 DRAFT – SUBJECT TO CHANGE

Prepared for:



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## 1 INTRODUCTION

### 1.1 Study Overview

The Making Connections Plan focuses on formulating a sound and rational basis for guiding development, redevelopment, and supporting infrastructure in unincorporated Southwest Adams County. The 13,177 acre study area focuses on the unincorporated lands within Southwest Adams County bounded generally by Sheridan Boulevard on the west, 96th Avenue on the north, Brighton Boulevard on the east, and 52nd Avenue or the Adams County boundary on the south. Please refer to Working Paper 1 under separate cover for more information about the project, the process, and existing conditions.

### 1.2 Working Paper 2 Objectives

Working Paper 2 builds on the background information gathered and analysis of existing conditions completed and summarized in Working Paper 1. The purpose of Working Paper 2 is to explain the second major phase of the project which included outreach meetings, with a primary purpose of outlining a methodology to identify a list of 40 projects, and to provide that "Top 40 Projects" list. Note that the term "Top 40 Projects" may be utilized throughout this working paper, and that term includes anything from policy or program recommendations, to capital improvement projects, to highlighting key parcels for development opportunities.

### 1.3 Outreach

In the first phase of this project a public open house was held to vet the initial project list with the community. At this gathering, meeting participants provided additional ideas or recommendations for projects to add to the list. They also provided additional insights related to what they believe is the greatest need for the area. In this phase of the project two different outreach strategies were utilized, including gaining additional insights via a Community Workshop and a Technical Advisory Committee meeting. Each of these meetings is further described below.

#### 1.3.1 Community Workshop

A community workshop was held on February 17th at the Skyview Academy High School in Thornton from 6:00 pm to 8:30 pm. Approximately 60 persons attended the meeting. An update of the project was presented, followed by break-out sessions, and ending with an interactive polling exercise. Spanish interpretation was provided at the meeting. There were approximately 6 Spanish speaking individuals that utilized the interpretation services. The workshop activities conducted at this meeting were utilized as a primary component in identifying the Top 40 Projects.

The break-out sessions allowed participants to "zoom-in" to three sub-areas within the Making Connections Planning area. Participants were provided with one sticker dot per category listed



*Sticker Dot Exercise Participants*

below, for a total of nine stickers per person. The sticker dots allowed participants to mark where they would like to see future investment and activity happen within the Study Area. Within each of the three sub-areas, two maps were provided with categories identified within each. The maps and their respective categories voted on by participants included:

- **Public Infrastructure Map:** This map allowed participants to indicate their support for public investments in Parks or Open Space, Roadway or Traffic Signals, Walking, Biking or Transit Stop Facilities, Water or Sewer, and Stormwater or Drainage.
- **Jobs, Housing and Services Map:** This map allowed participants to indicate their support for locations of development investments for Shops or Restaurants, Educational or Medical, Housing, and Jobs.

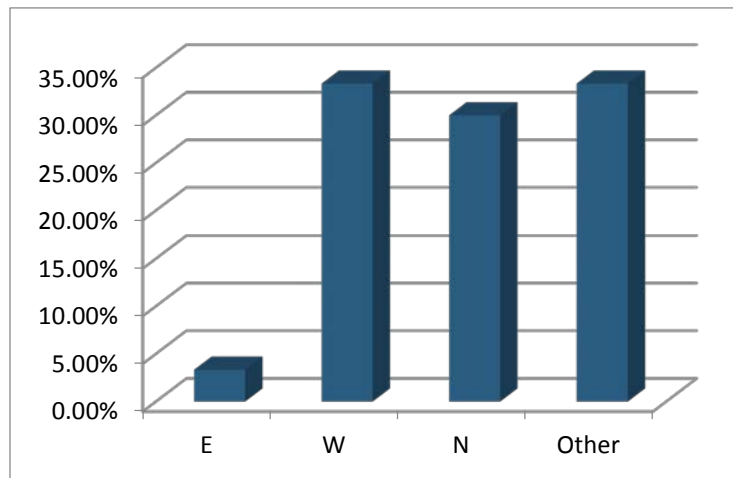
Figure 1, on page 7 is a map identifying the results of the sticker dot exercise.

In addition to the sticker dot exercise, meeting participants were asked a series of questions via an interactive remote polling tool. The questions asked included an “ice breaker question” followed by a series of questions that provide guidance as to how to appropriately prioritize and fund improvements in the study area. The interactive polling questions, followed by the summarized results area provided below:

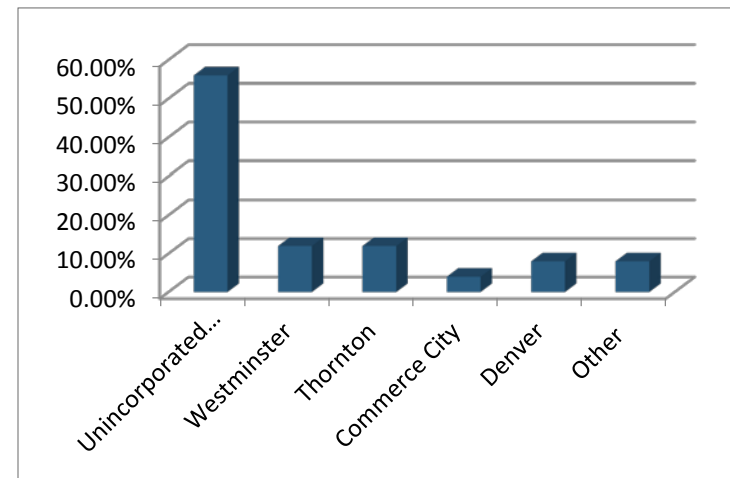


*Spanish Translation and Interactive Polling Participants*

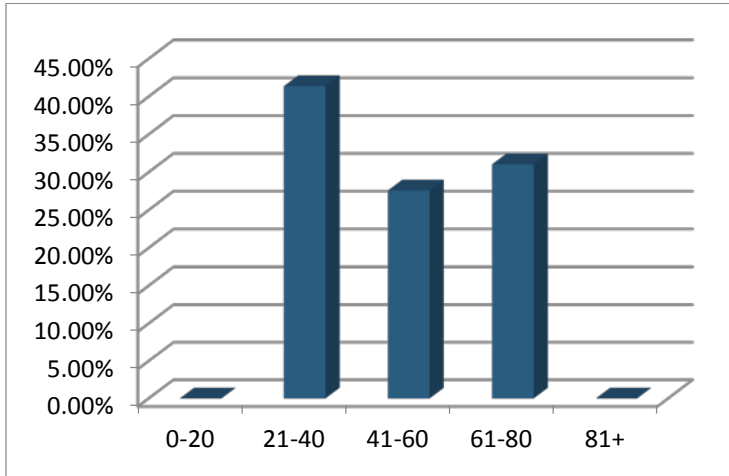
**2. Do you live in one of the sub-group areas?**



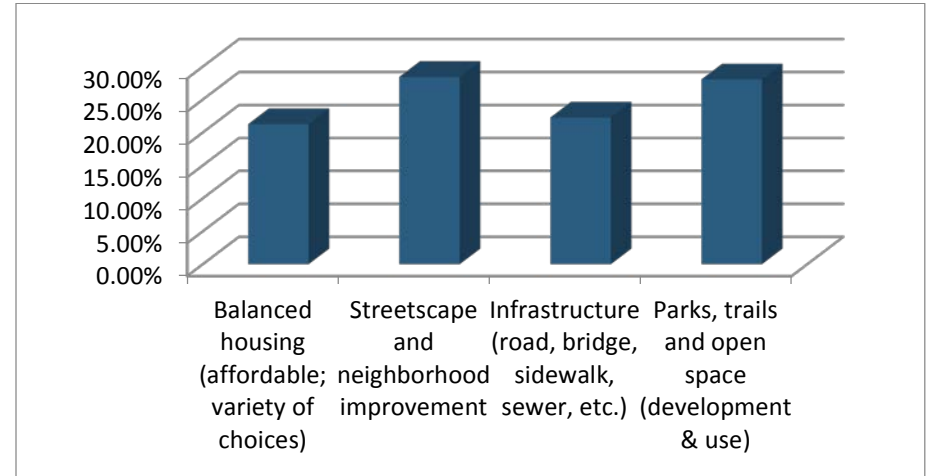
**3. Do you live in unincorporated Adams County or a City?**



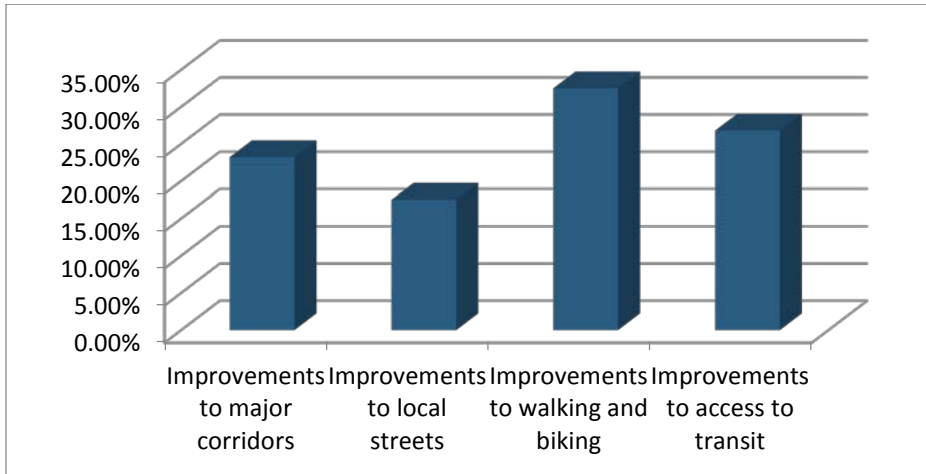
**4. How old are you?**



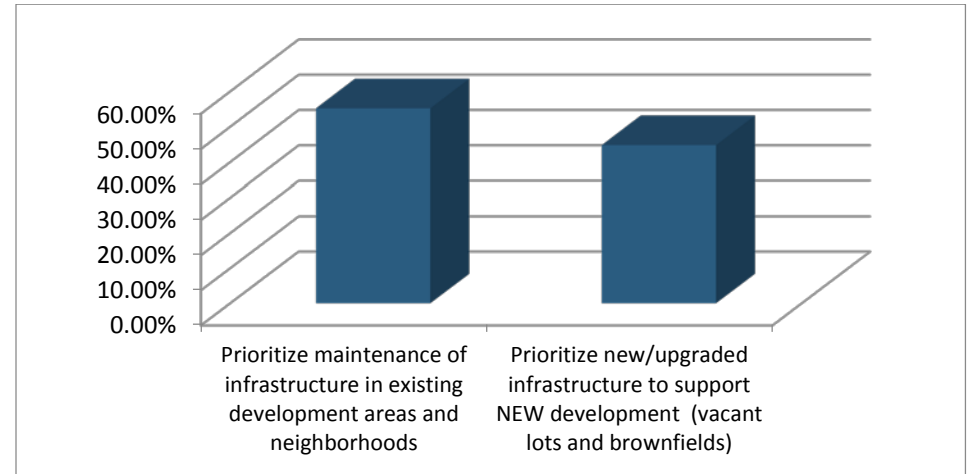
**5. What types of programs needs more investment?**



**6. How should we prioritize transportation needs?**

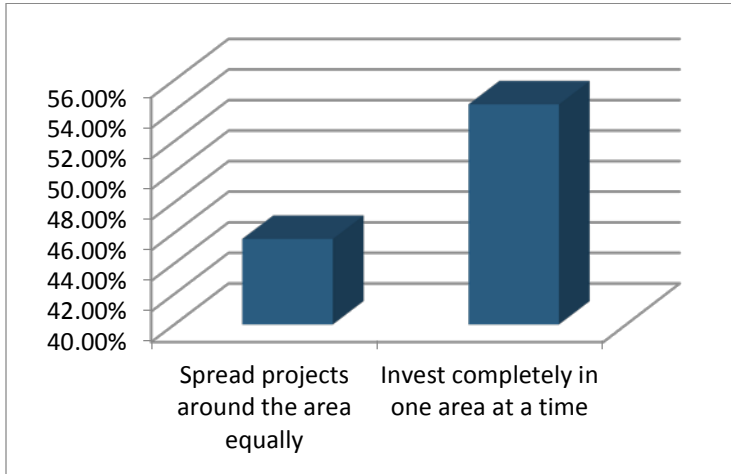


**7. Where should we prioritize water, sewer or stormwater infrastructure?**

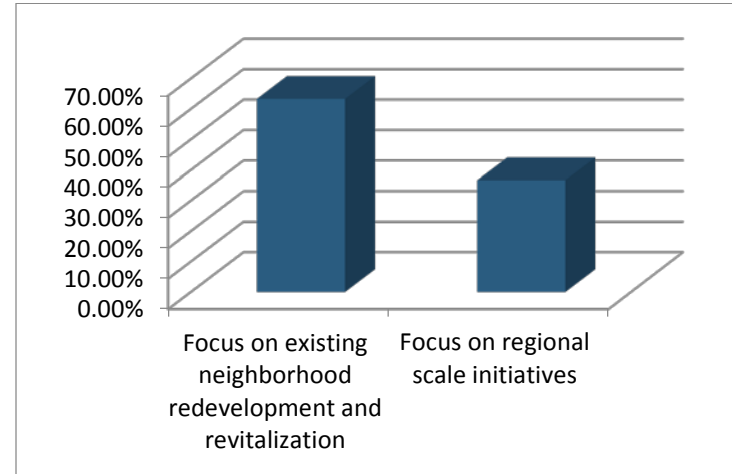




**8. How should we prioritize our investments?**



**9. What scale should we prioritize our investment upon?**



**10. How should we pay for projects?**

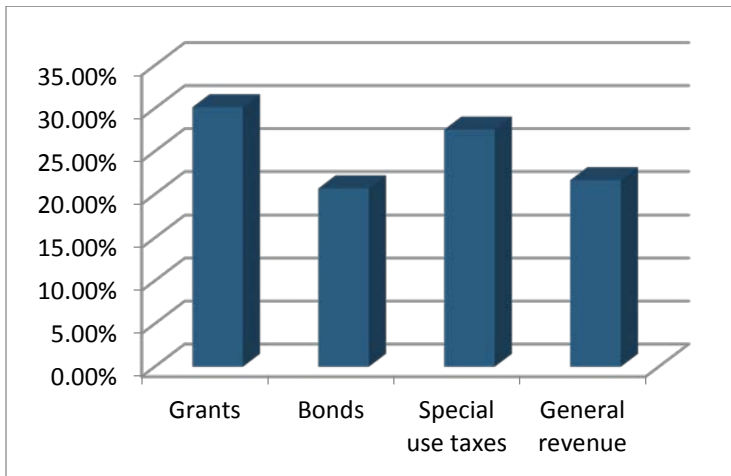
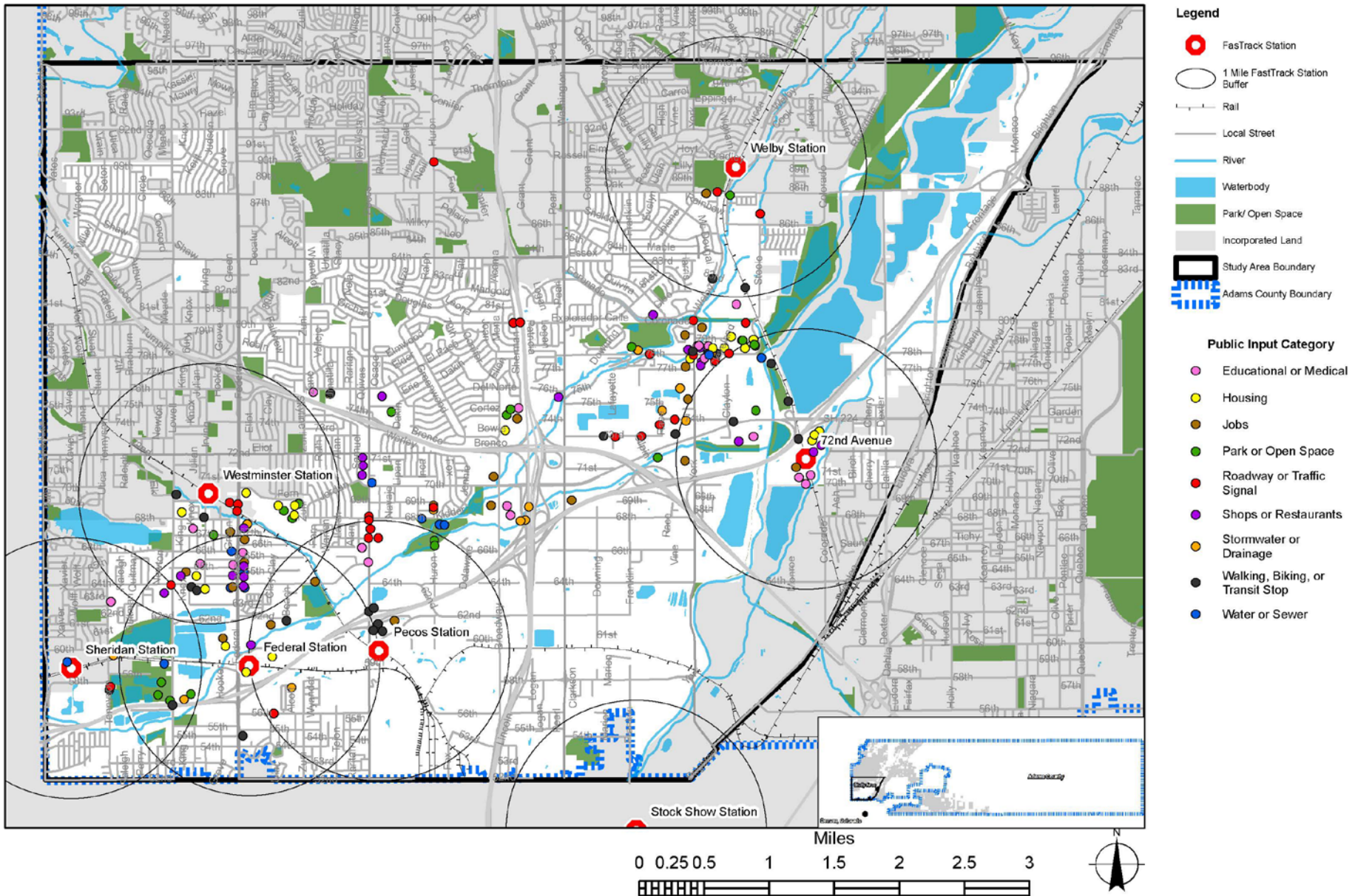


Figure 1: Public Input Results for Recommended Redevelopment



### 1.3.2 Technical Advisory Committee Meeting

A Technical Advisory Committee (TAC) meeting took place on February 18, 2016, the morning following the Community Workshop. The Consultant Team provided a summary of the input garnered at the Community Workshop and discussed alternative ways to compile all the information to-date in an effort to establish a methodology to create a Top 40 Projects list. This methodology was discussed with TAC members. They provided some insights related to how to affectively prioritize areas where new development interest is being discussed and how to prioritize those infrastructure needs.

### 1.3.3 Project Team Meetings

Between February and April 2016 numerous conference calls were held between the Consultant Team and the County's Project Managers during this phase of the process. The County Project Managers provided additional insights that helped to refine the project ranking methodology.

Feedback collected from the Community Workshop, TAC meeting, and Project Team meetings were ultimately used to produce the Project Identification Methodology, further described in Chapter 2 of this report.





## 2 PROJECT IDENTIFICATION

A significant amount of background data was utilized for this project. This background data included various GIS datasets provided by Adams County, as well as a list of 84 previous plans and studies that the Consultant Team worked to collect and analyze. The background information as well as public input collected during the first two public meetings were compiled to provide an exhaustive list of 167 projects. The primary contributions to producing the full project list include a literature review, TAC Input, Public Meeting Input. The following sub-sections provide more detail on each primary contributor to the full project list.

### 2.1 Full Project List

Throughout the first phase of this project, Adams County staff and the Consultant Team compiled an exhaustive list of 84 previous plans, studies and reports that were conducted within the Making Connections study area. These plans, studies and reports include relevant publications from incorporated cities that fall within the study area as well as adopted publications produced by Adams County. The process of this initial literature review is further described in Working Paper 1.

In addition to the Literature Review several ongoing efforts were considered in the identification of projects within the study area. The City of Westminster provided some recommendations related to neighborhoods that fall within unincorporated Adams County but are close in proximity to the Westminster commuter rail station. Meetings and conversations were held with the various Water and Sanitation Districts to determine what large projects they could potentially use Adams County's support on; these projects were added to the project list. Additionally, two data files were provided by TAC members; these files included a database of known stormwater improvement projects as well as a database of planned bicycle infrastructure.

Ultimately what came of this process was identification of projects out of each of these plans, studies and reports. Each of these projects were mapped to determine their locations as well as proximity to other projects. The project list database that was created includes fields for the following:

- **Project ID:** Each project was provided with a unique Project ID number. The Project ID number is not an indication of ranking of the project.
- **Plan ID:** Each plan, study or report that was referenced was provided with a unique Plan ID number.
- **Plan/Study/Report Name:** This entry is an abbreviated writing of the full report name.
- **Date:** This entry provides the date upon which the plan, study or report was published or adopted.
- **Recommendation or Project Name/Description:** This entry provides an abbreviated writing of the project name, recommendation or project description.
- **Plan IDs:** This entry provides a cross-reference of all other plans, studies or reports upon which the recommendation or project was referenced.
- **Project Type:** This entry classifies the project in six project types including Drainage, Non-Motorized, Parks/Open Space, Roadway/Traffic, Water/Sanitation, and Development/Private Development.
- **Project Status:** This entry classifies projects in four status categories including Completed/To Be Completed in 2016, Non-Relevant, In Progress, and Not in Progress. This effort is further described in Section 2.1.2 that follows.



## 2.2 Project Vetting

After the full project list was compiled members of the TAC were asked for “vet” these projects. This exercise included asking the following questions:

- Has the project been implemented?
  - Yes or No
- Is the project still relevant?
  - Yes or No
- Do you have a status update to provide on this project?
  - Updates that were provided included if they were raising funds for the project, if it’s programmed in the Capital Improvements Program (CIP), as well as if the initial project components or facility type has changed, among other comments.

From this process the consultant team was able to classify if a project was not completed, if it is no longer relevant, and provided a better understanding of where the project is in the various project processes. Of the 167 projects initially identified, 19 projects were deemed as completed and 15 were determined to be no longer relevant. This information was then used to narrow the project list further before conducting the project ranking process.

The resulting project map is illustrated at the end of Chapter 3, after the priority area methodology is described.

## 2.3 Policy/Program Observations

The Consultant Team created a list of several policies or program items that should be considered to support investment within the study area. The most critical policy and program observations became part of the Top 40 Project list. The policy and program observations include the following:

- Update Comprehensive Plan as needed to support recommendations from this Study, particularly discussing future station areas.
- Update zoning ordinance(s) to provide base zoning appropriate for mixed use and transit-oriented development.
- Update parking regulations to work with mixed use and transit-oriented development.
- Update landscape regulations to make sure adequate screening and minimal site design standards are employed for every new development as well as improvements over 50% value of the property plus improvements.
- Improve code enforcement to reduce visual blight and general “run down” appearance of areas within the Study Area.
- Create an Affordable Housing Program with a focus initially on southwest Adams County within a one mile radius of future transit stations.
- Create or execute the annual ADA Transition Plan implementation funding, focusing first on areas with high active travel propensity (further described in Chapter 3).
- Create missing sidewalk implementation program with annual funding.
- Undertake a comprehensive review and update of the County's street standards to assure that appropriate urban street design standards are in place, available, and are targeted particularly for Activity Centers (as identified in the Comprehensive Plan) and around transit stations. Current street standards are very rural focused and do not accommodate urban development patterns.
- Create a streamlined development review process for high priority development areas.



### 3 IDENTIFYING PRIORITY AREAS

Discussed during TAC meetings and Project Team meetings the Consultant Team proposed conducting two versions of propensity models in order to determine areas to prioritize investments in the study area. These propensity models include a model to identify the propensity for people to walk, bike and use transit, as well as a model to determine where development is more likely to occur within the study area.

Understanding areas within the Adams County study area with the highest opportunity for active travel and development is critical for developing a multimodal transportation network and in determining high priority areas. The following section provides the methodology behind the propensity models describing the data sets used for model inputs, the input point based scoring system, and a discussion of the model output results. The raster-based Active Travel Propensity Model (ATPM) and Development Propensity Model (DPM) were built using Geographical Information Systems software (GIS) by combining two submodels.

The ATPM and DPM were developed based off steps used in the methodology behind ‘spatial suitability analysis’ which is commonly used in the geography field. Spatial suitability analysis is a systemic and multi-factor tool used to aid decision-making by determining the qualification of a given area for a particular use by layering input information on a map. Layering the multiple factors helps pinpoint the spatial correlation between the different inputs; ultimately, to determine an areas suitability or unsuitability for planned actions based on the spatial distance between certain land uses or population types.

Each of the ATPM and DPM models are further described in the following sections of this chapter. The results of these models are used to identify target areas in order to appropriately prioritize projects where the County is likely to get the best return on investment. That return on investment may be with more people using walking, biking and transit facilities, or in development activities in target areas.

#### 3.1 Development Propensity Model

Suitability analysis tools have been widely used by cities and developers to aid decision making by forecasting where development will likely occur. Southwest Adams County is anticipated to undergo a significant growth in development patterns with the emergence of the FasTrack transit system. As part of the Adams County TOD Plan, a Development Propensity Model (DPM) was developed using geographic data sets to identify locations within the study area that have prime conditions suitable for development. The DPM is composed of an attractor submodel and a detractor submodel. The attractor submodel identifies locations within the study area that have favorable conditions for redevelopment; whereas, the detractor submodel identifies locations within the study area with obstacles that may prevent or make development more challenging. The public input collected during the Community Workshop (described in Chapter 1.3) was a factor in the DPM. In the Community Workshop meeting participants placed a sticker dot in areas where they would encourage specific development types to occur. Each dot placed by a participant in the meeting was mapped and became a layer of information that was subsequently weighted and utilized in the DPM. Table 9 and 10 show the data sets used to build the attractor and detractor submodels for the development propensity model, as well as the primary data source for each input. The categories for each input receive a score on a point ranking system based on research and discussion between the project team and the Technical Advisory Committee (TAC).

Table 9: Attractor Submodel Inputs & Sources

| Model Input  | Source           |
|--|------------------|
| Age of Structure (Joined to Parcel)  | Adams County GIS |
| Improvement to Land Value Ratio  | Adams County GIS |
| Future Land Use  | Adams County GIS |
| Proximity to Transit Stations (Future Rail Stations and Existing High Ridership Bus Stops) | Adams County GIS |
| Public Input (Proximity to Public Recommended Locations for Redevelopment)                 | Public Meeting   |
| Proximity to Limited Access Freeways   | Adams County GIS |
| Proximity to Primary Travel Corridors (Principal Arterials with Transit Service)           | Adams County GIS |

Table 10: Detractor Submodel Inputs & Sources

| Model Input         | Source           |
|---------------------|------------------|
| Floodplain/Floodway | Adams County GIS |
| Landfills           | Adams County GIS |

Table 11 lists the development generator inputs with the assigned point value for each category which is related to the effect on possible development or redevelopment. For instance, land with structures built in 1945 or earlier are more likely to be redeveloped compared to land with recently constructed infrastructure. In addition, a weighted percentage is shown for each input, which is multiplied by the point value to produce the final score. The weighted multipliers are used to determine how sensitive of a factor each of the inputs area in ultimately determine the propensity for development activity.

Table 11: Attractor Submodel Scoring

| Attractor   | Points | Weight |
|---|--------|--------|
| <b>Age of Structure (Joined to Parcel for Non-Residential Uses)</b>                               |        |        |
| 1945 and earlier  | 3      | 10%    |
| 1946 to 1975  | 2      |        |
| 1976 to 1990  | 1      |        |
| 1991 and later  | 0      |        |
| <b>Improvement to Land Value Ratio</b>  |        |        |
| Less than 1.0   | 2      | 15%    |
| 1.0 to 2.0  | 1      |        |
| Greater than 2.0  | 0      |        |
| <b>Future Land Use</b>  |        |        |
| Mixed Use Neighborhood, Activity Center, Commercial, Mixed Use Employment                         | 2      | 5%     |
| Industrial  | 1      |        |
| Urban/Estate Residential, Agriculture, Parks and Open Space, Public, DIA Reserve                  | 0      |        |
| <b>Proximity to Transit Stations (Future Rail Stations and Existing High Ridership Bus Stops)</b> |        |        |
| Within ½ mile   | 2      | 25%    |
| Within 1 mile   | 1      |        |
| Not within 1 mile   | 0      |        |
| <b>Public Input (Proximity to Public Recommended Locations for Redevelopment)</b>                 |        |        |
| Within ¼ mile   | 2      | 25%    |
| Within ½ mile   | 1      |        |
| Not within ½ mile   | 0      |        |
| <b>Proximity to Limited Access Freeways</b>   |        |        |
| Within ½ mile of traffic interchange  | 1      | 5%     |
| Not within ½ mile of traffic interchange  | 0      |        |
| <b>Proximity to Primary Travel Corridors (Principal Arterials with Transit Service)</b>           |        |        |
| Within ¼ mile of route  | 1      | 5%     |
| Not within ¼ mile of route  | 0      |        |

Table 12 provides the two inputs in the detractor submodel used to identify physical barriers for development within the study area. The negative point values are correlated with the level of constraint on future development opportunity.

Table 12: Detractor Submodel Scoring

| Detractor  | Points | Weight |
|--|--------|--------|
| Floodplain/Floodway  |        |        |
| Within floodway  | - 2    | 5%     |
| Within floodplain  | - 1    |        |
| Landfill   |        |        |
| Moderate Risk (Solid Waste Landfill, Solid Waste and Construction Debris Landfill) | - 3    | 5%     |
| Low to Moderate Risk (Construction Debris Landfill)                                | - 2    |        |
| Low Risk (Inert Fill Land Fill, Other Disposal Facilities)                         | - 1    |        |

### 3.1.1 Development Propensity Model Results

Figure 2 displays the development attractor submodel results where the dark areas on the map are likely attract development. Land neighboring the future FasTrack stations and areas along the highways and major arterial streets are showing the highest level of potential opportunity for development.

Figure 3 visually shows the results from the development detractor submodel. The map illustrates land in directly adjacent to Clear Creek and South Platte River as the areas with unfavorable conditions for development.

The Development attractor and detractor submodels are combined together to produce a composite map illustrating the areas within the entire study area with highest propensity for development opportunity within the study area. As shown in Figure 4, the land illustrated in the darker green near the FasTrack stations and the Pecos Commercial district just south of the US 36 are showing the greatest opportunity for development. The centrally located land where the I-25 intersect with the I-76 and the I-276 are also forecasted for development opportunity.

Figure 5 displays refined results from the development propensity composite map highlighting the top quartile for development within the unincorporated land within the study area. The model shows identifies the land near Federal and Pecos FasTrack stations has scoring the highest for development opportunity.

Figure 2: Development Propensity - Model: Attractor Submodel Results

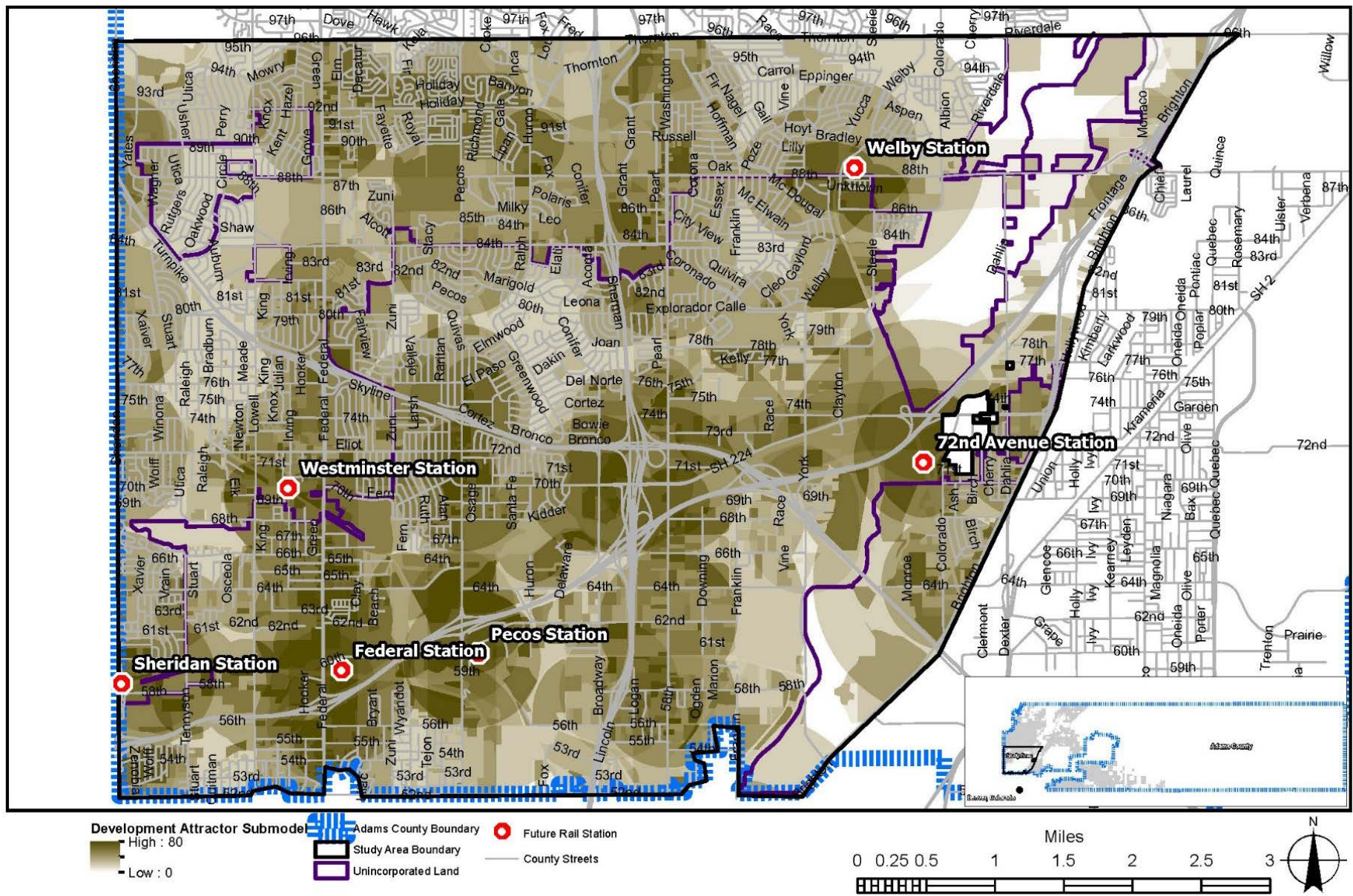
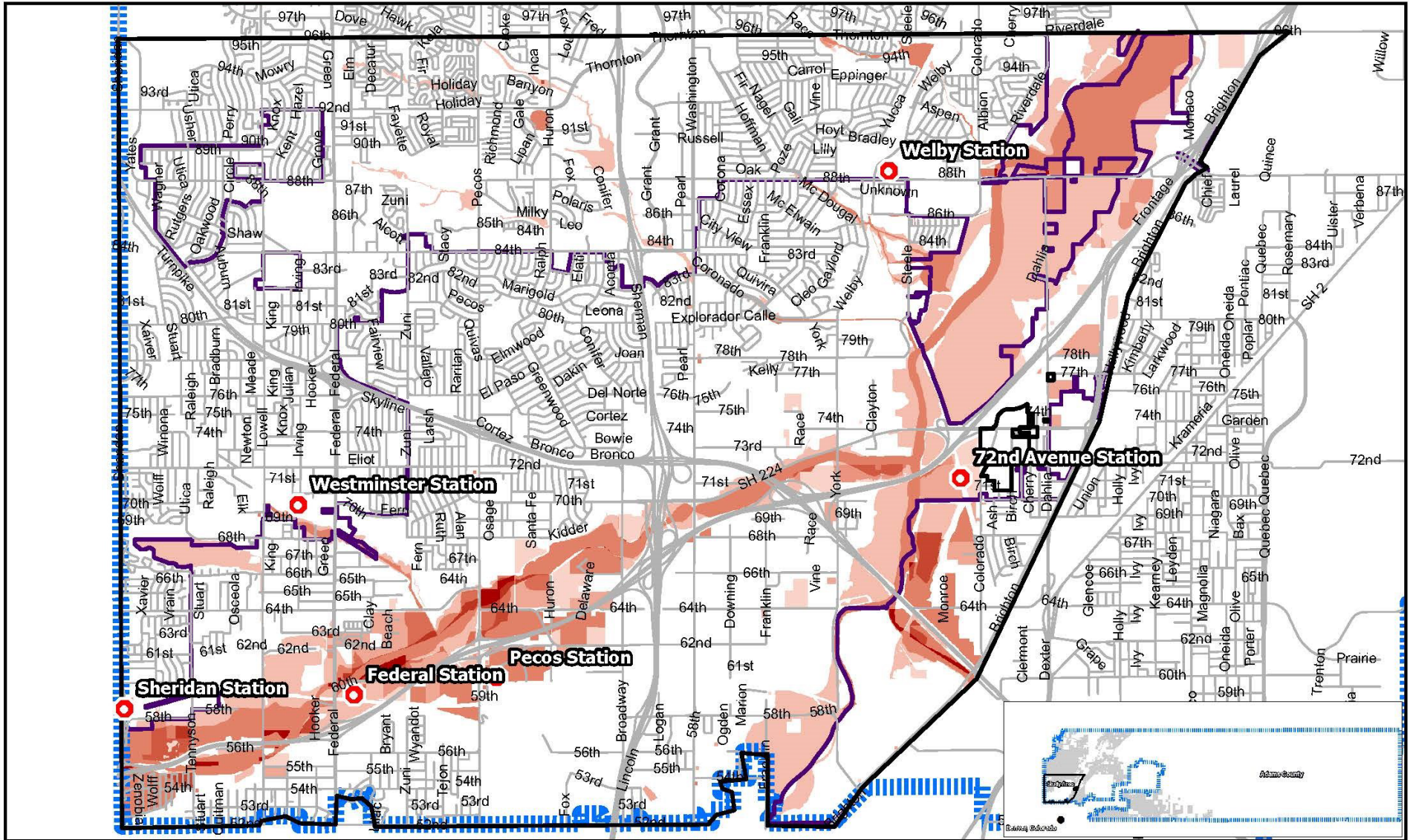


Figure 3: Development Propensity Model - Detractor Submodel Results



Development Detractor Submodel  
 High : 0  
 Low : -10

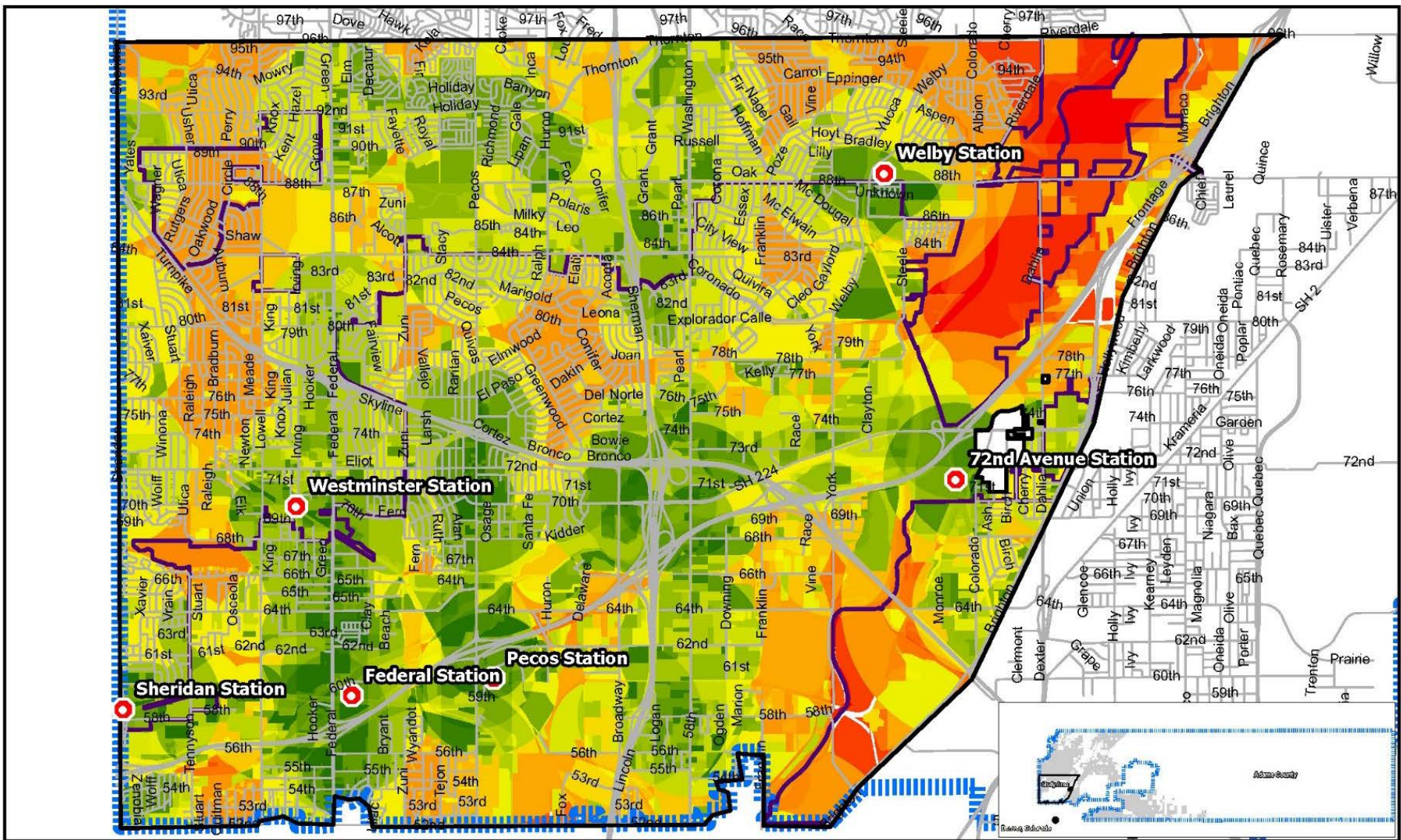
Adams County Boundary  
 Study Area Boundary  
 Unincorporated Land

Future Rail Station  
 County Streets





Figure 4: Development Propensity Model Results



**Composite Development Model**  
 High : 77.5  
 Low : -5

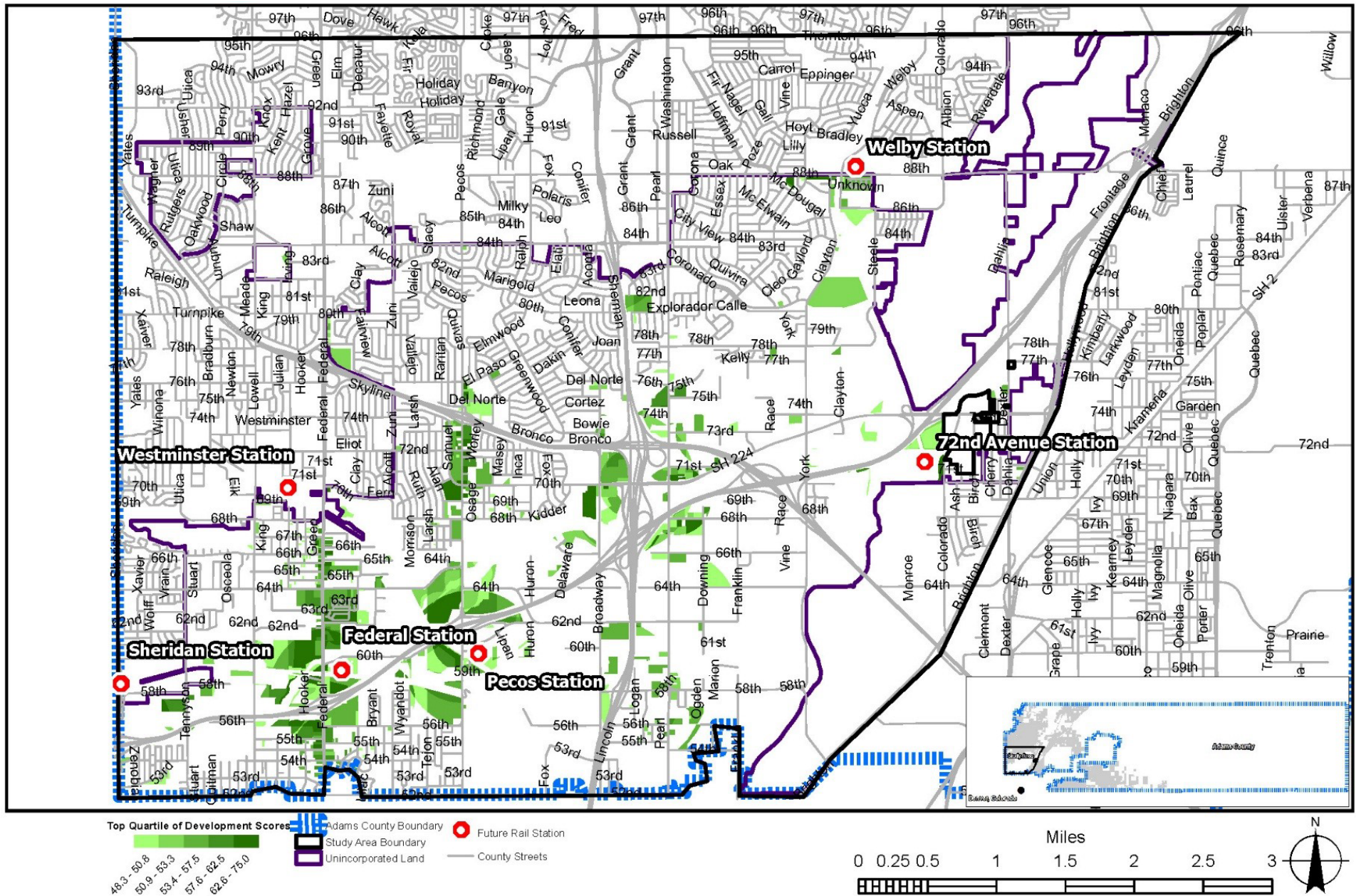
Adams County Boundary  
 Study Area Boundary  
 Unincorporated Land

Future Rail Station  
 County Streets

Miles  
 0 0.25 0.5 1 1.5 2 2.5 3

North arrow pointing up.

Figure 5: Development Propensity Model - Top Quartile results





### 3.2 Active Travel Propensity Model

A separate Active Travel Model was developed due to the overwhelming support by the public for additional walking, biking and transit infrastructure. The study area covers a large geography, therefore appropriately prioritizing where people are most likely to walk, bike or use transit is an effect way to prioritize implementation and funding. Over the last decade, many cities have adopted computer-based analytical procedures to determine locations with low and high active travel capabilities. This model is designed to identify locations with a high propensity for walking, biking and transit use by analyzing the overlap between infrastructure, land use types and population information. Due to the changing characteristics in the area two separate ATPMs were developed, one under existing conditions and one under future conditions. Each of these models is further described in the sections that follow.

#### 3.2.1 Existing Conditions - Active Travel Propensity Model

The ATPM uses a trip attractor submodel with a trip generator submodel. The generator submodel identifies areas where socioeconomic characteristics indicate the population is more likely to walk, bike or use transit. The attractor submodel identifies destinations within the study area that are primary destinations for walking, biking and transit activity. The attractor and generator submodels visually display the information about active travel origins and destinations to allow the project team to identify potential linkages for pedestrian, bike and transit facilities within the study area.

Tables 1 and 2 present the trip attractor and trip generator inputs used to generate the active travel propensity model, as well as the primary data source for each input. The categories for each input receive a score on a point ranking system based on previous research and discussion between the Project Team including County staff. Listed in Table 1, trip attractors are defined as a given area or feature that are inclined to attract walk or bike trips. Listed in Table 2, Trip generators are defined in terms of population groups and employment types anticipated to generate a walk or bike trip.

*Table 1: Attractor Submodel Inputs & Sources*

| Model Input  | Source           |
|--|------------------|
| Schools  | Adams County GIS |
| Transit Stops (Future Rail Stations and Existing High Ridership Bus Stops) | Adams County GIS |
| Civic Facilities (Post Office, Libraries, Government Buildings)            | Adams County GIS |
| Commercial Land Use  | Adams County GIS |
| Active Open Space  | Adams County GIS |

Table 2: Generator Submodel Input Sources

| Model Input  | Source   |
|--|--|
| Walk Mode Share by Block Group                             | 2014 ACS 5-Year Estimates Table B08301 (American Fact Finder) joined to Block Group shapefile (TIGER/Line) |
| Bike Mode Share by Block Group                             | 2014 ACS 5-Year Estimates Table B08301 (American Fact Finder) joined to Block Group shapefile (TIGER/Line) |
| Population Density per Acre by Block Group                 | 2014 ACS 5-Year Estimates Table B01003 (American Fact Finder) joined to Block Group shapefile (TIGER/Line) |
| Employment Density per Acre by Block Group                 | 2013 OnTheMap data joined to Block Group shapefile (TIGER/Line)  |
| Density of Children (16 and Under) per Acre by Block Group | 2014 ACS 5-Year Estimates Table B01001 (American Fact Finder) joined to Block Group shapefile (TIGER/Line) |
| Density of Seniors (65 and older) per Acre by Block Group  | 2014 ACS 5-Year Estimates Table B01001 (American Fact Finder) joined to Block Group shapefile (TIGER/Line) |
| Household Income by Block Group                            | 2014 ACS 5-Year Estimates Table B19013 (American Fact Finder) joined to Block Group shapefile (TIGER/Line) |
| Density of People with Disability per Acre by Block Group  | 2014 ACS 5-Year Estimates Table C21007 (American Fact Finder) joined to Block Group shapefile (TIGER/Line) |
| Percentage of Zero-Vehicle Households by Block Group       | 2014 ACS 5-Year Estimates Table B25044 (American Fact Finder) joined to Block Group shapefile (TIGER/Line) |

Each of the data sets listed in Tables 1 and 2 were geospatially mapped. A score was assigned based upon distance from attractors. Table 3 displays the trip attractor inputs with the associated distance-based point values for each of the inputs. Locations within a closer proximity to the trip attractor are assigned a higher point value because more people are likely to walk or bike 1/8 of a mile compared to 1/2 of a mile. Table 4 shows the trip generator inputs which are broken up into three different categories and ranked on a zero to two point system based on the level of effect on active travel.

Table 3: Attractor Submodel Scoring

| Attractor   | Points   |          |          |          |
|---|----------|----------|----------|----------|
|   | 1/8 Mile | 1/4 Mile | 1/3 Mile | 1/2 Mile |
| Distance to Attractor   |          |          |          |          |
| Schools   | 3        | 2        | 1.5      | 1        |
| Transit Stops   | 3        | 2        | 1.5      | 1        |
| Civic Facilities (Post Office, Libraries, Government Buildings) | 3        | 2        | 1.5      | 1        |
| Commercial Land Use   | 3        | 2        | 1.5      | 1        |
| Active Open Space   | 3        | 2        | 1.5      | 1        |

Table 4: Generator Submodel Scoring

| Generator   | Points |
|---|--------|
| <b>Walk Mode Share by Block Group</b>                             |        |
| 2% and greater  | 2      |
| 0.01% to 1.99%  | 1      |
| 0.00%   | 0      |
| <b>Bike Mode Share by Block Group</b>                             |        |
| 1.5% and greater  | 2      |
| 0.01% to 1.49%  | 1      |
| 0%  | 0      |
| <b>Population Density per Acre by Block Group</b>                 |        |
| 12 and greater  | 2      |
| 6 to 11.99  | 1      |
| Less than 6   | 0      |
| <b>Employment Density per Acre by Block Group</b>                 |        |
| 2 and greater   | 2      |
| 0.25 to 1.99  | 1      |
| Less than 0.25  | 0      |
| <b>Density of Children (16 and Under) per Acre by Block Group</b> |        |
| 1.5 and greater   | 2      |
| 0.5 to 1.49   | 1      |
| Less than 0.5   | 0      |
| <b>Density of Seniors (65 and older) per Acre by Block Group</b>  |        |
| 1 and greater   | 2      |
| 0.5 to 0.99   | 1      |
| Less than 0.5   | 0      |
| <b>Household Income by Block Group</b>                            |        |
| Less than \$30,000  | 2      |
| \$30,000 to \$59,999  | 1      |
| \$60,000 and greater  | 0      |
| <b>Density of People with Disability per Acre by Block Group</b>  |        |
| 0.5 and greater   | 2      |
| 0.25 to 0.49  | 1      |
| Less than 0.25  | 0      |
| <b>Percentage of Zero-Vehicle Households by Block Group</b>       |        |
| 6 and greater   | 2      |
| 2 to 5.99   | 1      |
| Less than 2   | 0      |

*Existing Active Travel Propensity Model Results*

Figure 6 displays the Trip Attractor submodel results, illustrating the locations within the study area inclined to attract or act as destinations for active travel trips. Areas adjacent to the upcoming RTD FasTrack stations and the northwestern neighborhoods show the highest level of attractiveness for trips made by walking, biking or transit.

Figure 7 displays the Trip Generator submodel results, identifying locations prone to generate or act as active travel origins. Bike, walk or transit trips are most likely to be generated in the South Westminster neighborhood and other parts of the northwestern neighborhoods.

The Active Travel Propensity Model shown in Figure 8, is a composite map combining the trip attractors and generators submodel. A propensity score of 28 or greater was used as the threshold for highlighting locations within the study area with the high active travel propensity.

Figure 6: Active Travel Propensity Model - Attractor Submodel Results

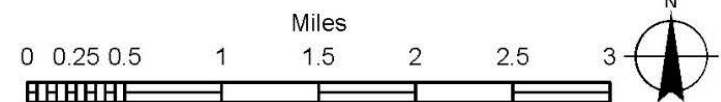
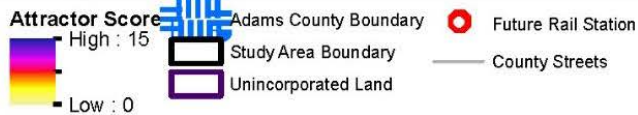
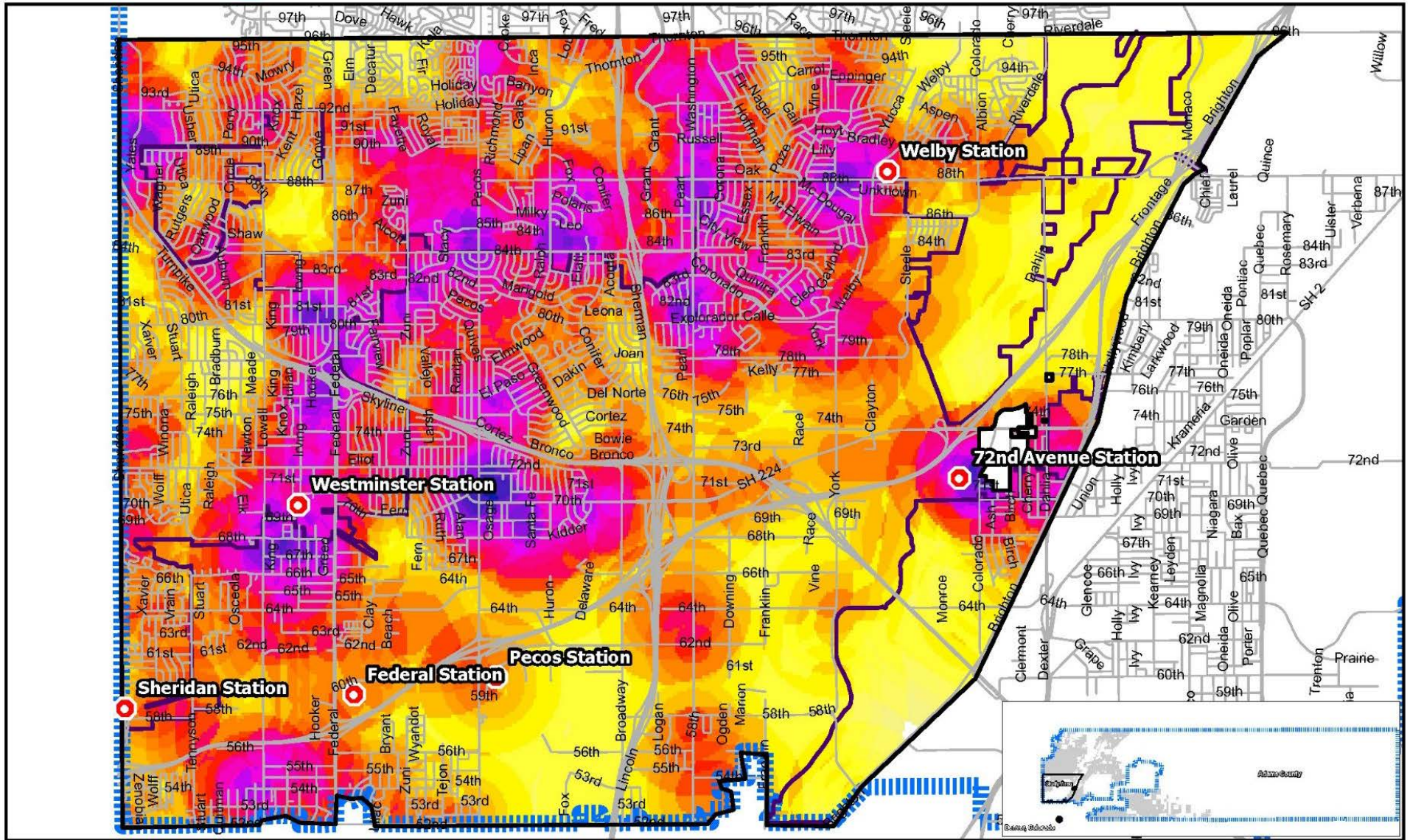
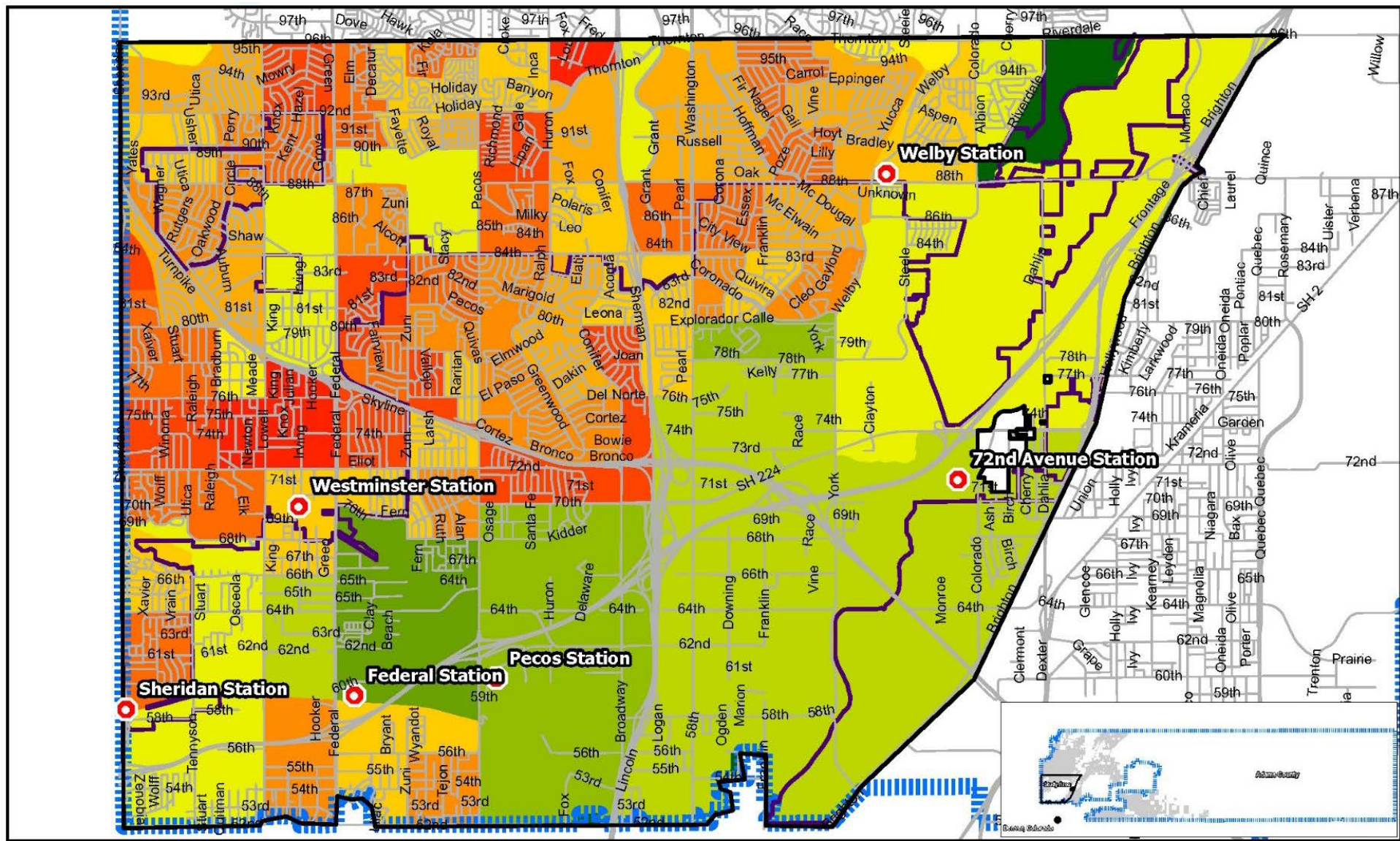


Figure 7: Active Travel Propensity Model - Generator Submodel Results



Value  
 High : 14  
 Low : 0

Adams County Boundary  
 Study Area Boundary  
 Unincorporated Land

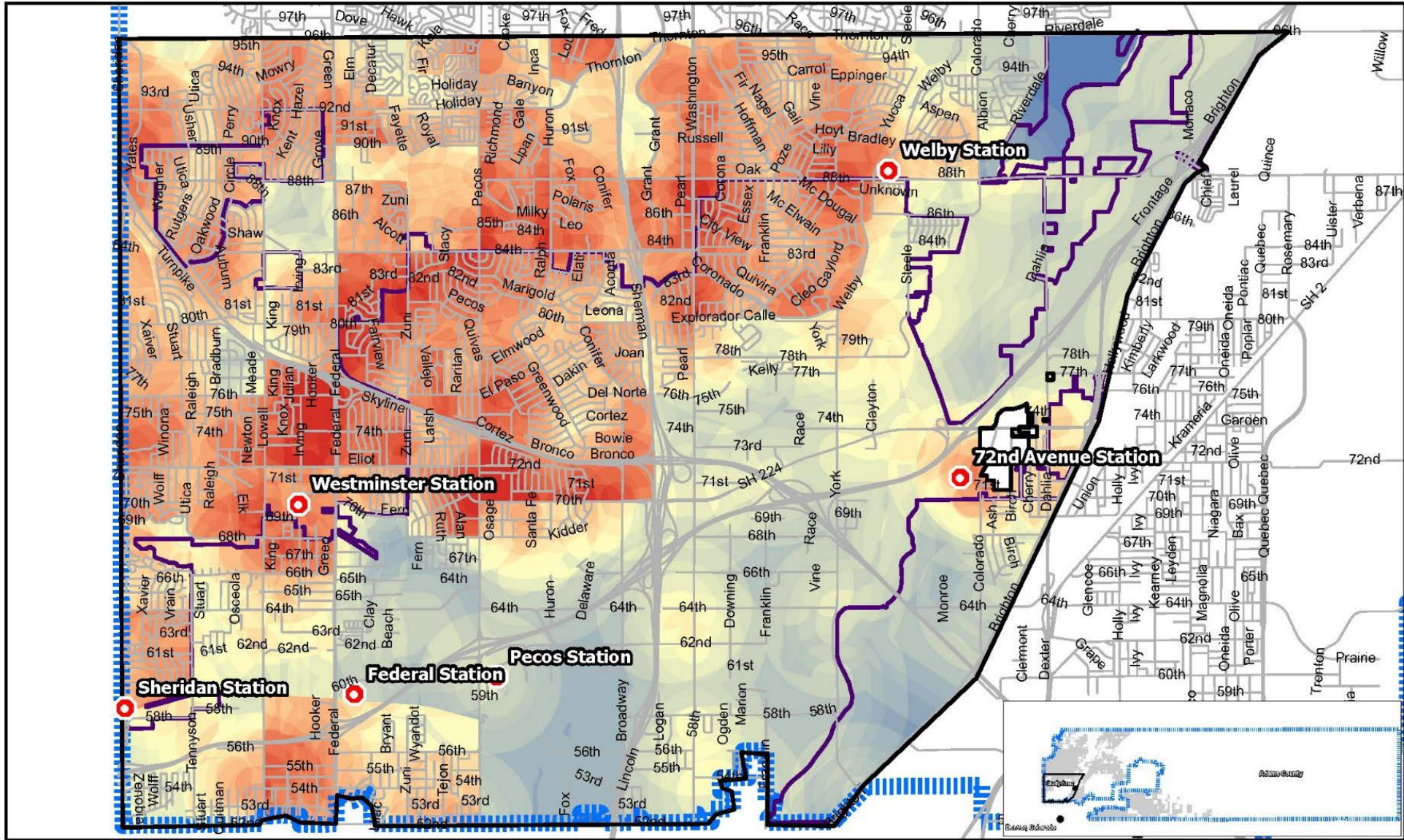
Future Rail Station  
 County Streets

Miles  
 0 0.25 0.5 1 1.5 2 2.5 3

N



Figure 8: Active Travel Propensity Model Results



Value  
 High : 28  
 Low : 2

Adams County Boundary  
 Study Area Boundary  
 Unincorporated Land

Future Rail Station  
 County Streets

Miles  
 0 0.25 0.5 1 1.5 2 2.5 3

North arrow pointing up.



### 3.2.2 Future Conditions - Active Travel Propensity Model

Future active travel behavior in Adams County will change over time with the increase of population and employment trends associated with the opening of the RTD stations and the likelihood for development activities to occur in proximity to these areas. Thus, the County and the Consultant Team developed a future active travel propensity model by integrating the Denver Regional Council of Governments (DRCOG) 2040 population and employment growth projections into the methodology. Growth factors from DRCOG projections were then applied to the children, seniors and people with disability population groups. Additionally future land use was used to determine attractor locations rather than existing land use. This process allowed the project team to identify locations projected to experience elevated active travel in the future within the study area. Table 5 and 6 list the trip attractor and trip generator inputs used to generate the future active travel propensity model, as well as the primary data source for each input.

Table 5: Attractor Submodel Inputs & Sources

| Model Input   | Source           |
|---|------------------|
| Schools   | Adams County GIS |
| Transit Stations (Future Rail Stations and Existing High Ridership Bus Stops) | Adams County GIS |
| Civic Facilities (Post Office, Libraries, Government Buildings)               | Adams County GIS |
| Future Commercial Land Use  | Adams County GIS |
| Active Open Space   | Adams County GIS |

Table 6: Generator Submodel Inputs & Sources

| Model Input   | Source   |
|---|--|
| Walk Mode Share by Block Group  | 2014 ACS 5-Year Estimates Table B08301 (American Fact Finder) joined to Block Group shapefile (TIGER/Line)   |
| Bike Mode Share by Block Group  | 2014 ACS 5-Year Estimates Table B08301 (American Fact Finder) joined to Block Group shapefile (TIGER/Line)   |
| Population Density per Acre by Traffic Analysis Zone                  | DRCOG Projections  |
| Employment Density per Acre by Traffic Analysis Zone                  | DRCOG Projections  |
| Forecasted Density of Children (16 and Under) per Acre by Block Group | Growth Factor From DRCOG Projections applied to 2014 ACS 5-Year Estimates Table B01001 (American Fact Finder) joined to Block Group shapefile (TIGER/Line) |
| Forecasted Density of Seniors (65 and older) per Acre by Block Group  | Growth Factor From DRCOG Projections applied to 2014 ACS 5-Year Estimates Table B01001 (American Fact Finder) joined to Block Group shapefile (TIGER/Line) |
| Household Income by Block Group                                       | 2014 ACS 5-Year Estimates Table B19013 (American Fact Finder) joined to Block Group shapefile (TIGER/Line)   |
| Forecasted Density of People with Disability per Acre by Block Group  | Growth Factor From DRCOG Projections applied to 2014 ACS 5-Year Estimates Table C21007 (American Fact Finder) joined to Block Group shapefile (TIGER/Line) |
| Percentage of Zero-Vehicle Households by Block Group                  | 2014 ACS 5-Year Estimates Table B25044 (American Fact Finder) joined to Block Group shapefile (TIGER/Line)   |

Table 7 displays the trip attractor inputs with the associated distance-based point values for each of the inputs. The point values were increased in the future ATPM because the attractors will have an elevated effect on active travel with increased population, employment and development.

Table 7: Attractor Submodel Scoring

| Attractor             | Points   |          |          |          |
|-----------------------|----------|----------|----------|----------|
|                       | 1/8 Mile | 1/4 Mile | 1/3 Mile | 1/2 Mile |
| Distance to Attractor |          |          |          |          |
| Schools               | 6        | 4        | 3        | 2        |
| Transit Stations      | 6        | 4        | 3        | 2        |
| Civic Facilities      | 6        | 4        | 3        | 2        |
| Commercial Land Use   | 6        | 4        | 3        | 2        |
| Active Open Space     | 6        | 4        | 3        | 2        |

Table 8, on the following page, shows the trip generator inputs which are broken up into three different categories and ranked on a 0-2 point system based on the level of effect on the projected active travel. The thresholds for the three different population types were adjusted to maintain an even break within the ranking system.



Table 8: Generator Submodel Scoring

| Generator   | Points |
|---|--------|
| <b>Walk Mode Share by Block Group</b>                             |        |
| 2% and greater  | 2      |
| 0.01% to 1.99%  | 1      |
| 0.00%   | 0      |
| <b>Bike Mode Share by Block Group</b>                             |        |
| 1.5% and greater  | 2      |
| 0.01% to 1.49%  | 1      |
| 0%  | 0      |
| <b>Population Density per Acre by Block Group</b>                 |        |
| 12 and greater  | 2      |
| 6 to 11.99  | 1      |
| Less than 6   | 0      |
| <b>Employment Density per Acre by Block Group</b>                 |        |
| 2 and greater   | 2      |
| 0.5 to 1.99   | 1      |
| Less than 0.5   | 0      |
| <b>Density of Children (16 and Under) per Acre by Block Group</b> |        |
| 3 and greater   | 2      |
| 0.5 to 2.99   | 1      |
| Less than 0.5   | 0      |
| <b>Density of Seniors (65 and older) per Acre by Block Group</b>  |        |
| 1.5 and greater   | 2      |
| 0.5 to 1.49   | 1      |
| Less than 0.5   | 0      |
| <b>Household Income by Block Group</b>                            |        |
| Less than \$30,000  | 2      |
| \$30,000 to \$59,999  | 1      |
| \$60,000 and greater  | 0      |
| <b>Density of People with Disability per Acre by Block Group</b>  |        |
| 1 and greater   | 2      |
| 0.5 to 0.99   | 1      |
| Less than 0.5   | 0      |
| <b>Percentage of Zero-Vehicle Households by Block Group</b>       |        |
| 6 and greater   | 2      |
| 2 to 5.99   | 1      |
| Less than 2   | 0      |

*Future Active Travel Propensity Model Results*

Figure 9 displays the attractor submodel results, illustrating locations projected to act as destinations for active travel. The residential neighborhoods are forecasted to attract a higher level of active travel compared to the rest of the study area.

Figure 10 displays the generator submodel results, explaining the locations within the study area projected to act as destinations for active travel. Areas adjacent to the upcoming Westminster and 72<sup>nd</sup> Avenue RTD FasTrack stations and the commercial district along Pecos Street south of US 36 show the highest level of attractiveness for trips made by walking, biking or transit.

Future Active Travel Propensity Model shown is shown as composite map of the attractor and generator submodels in Figure 11, highlighting the areas in red with the highest suitability for walking, biking and transit use.

Figure 12 the top quartile of the active travel propensity model results. The locations with the highest level of projected active travel are within the neighborhoods and near the upcoming RTD FasTrack Stations.

Figure 9: Future Active Travel Propensity Model - Attractor Submodel Results

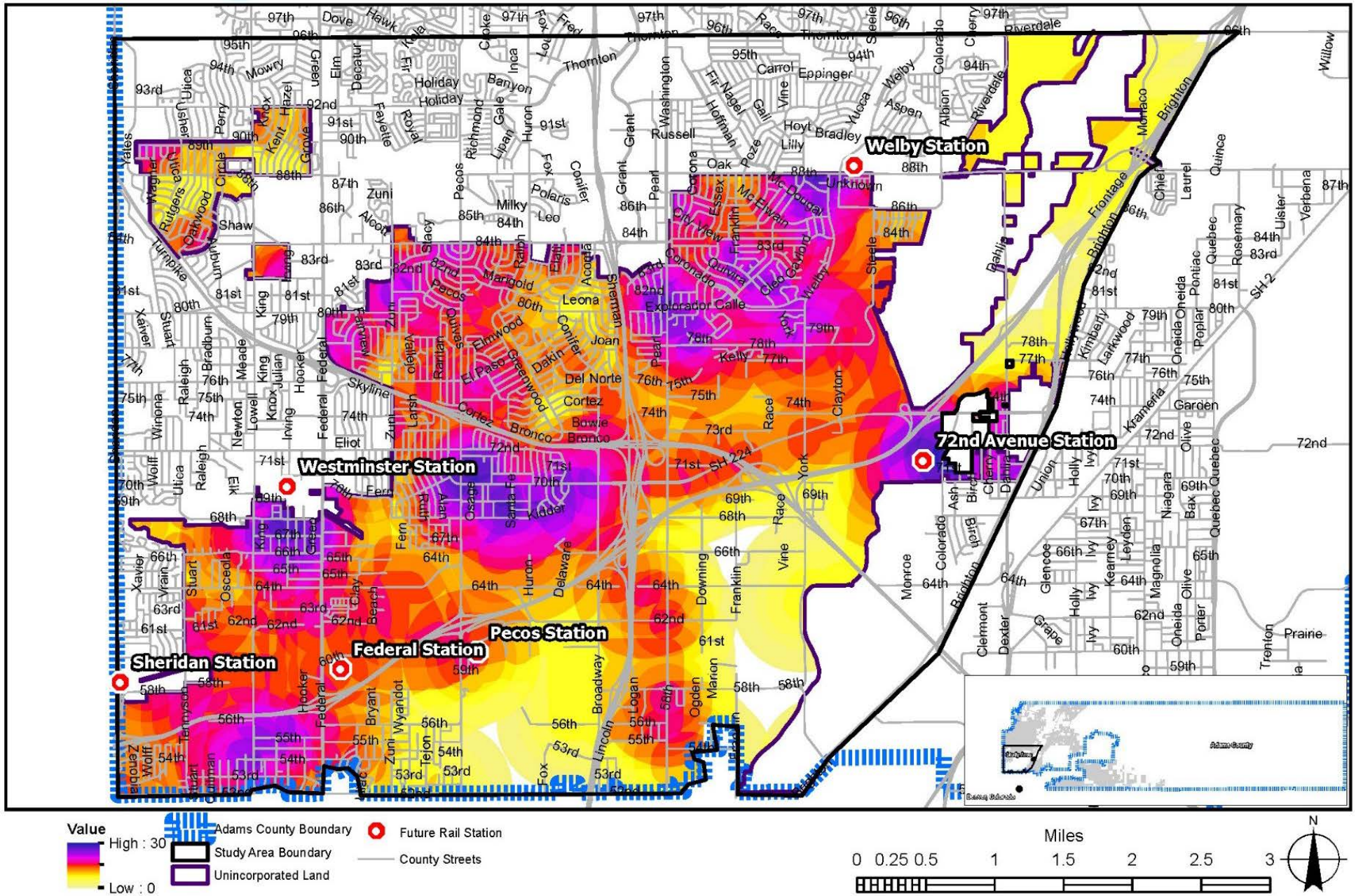


Figure 10: Future Active Travel Propensity Model - Generator Submodel Results

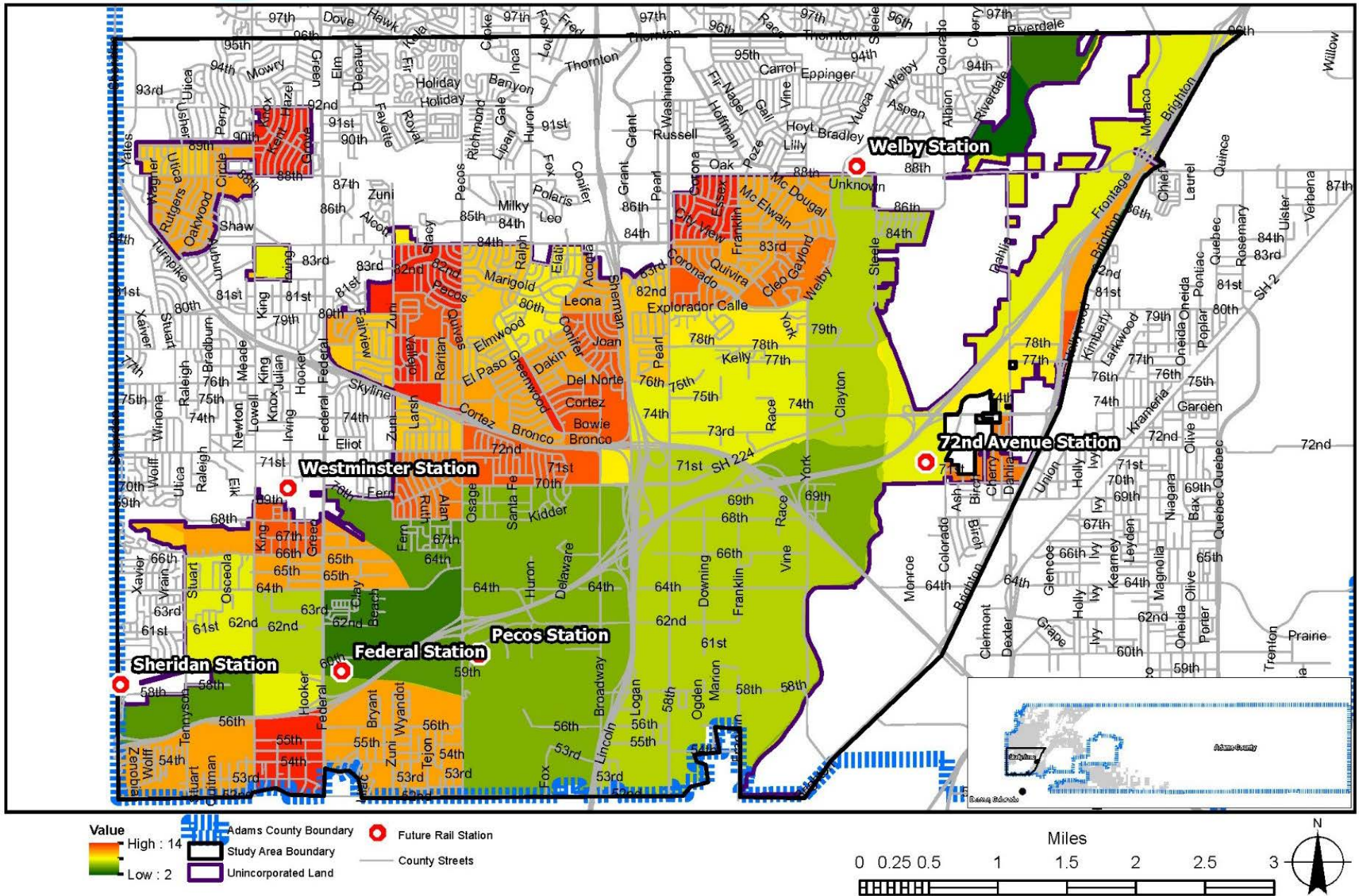
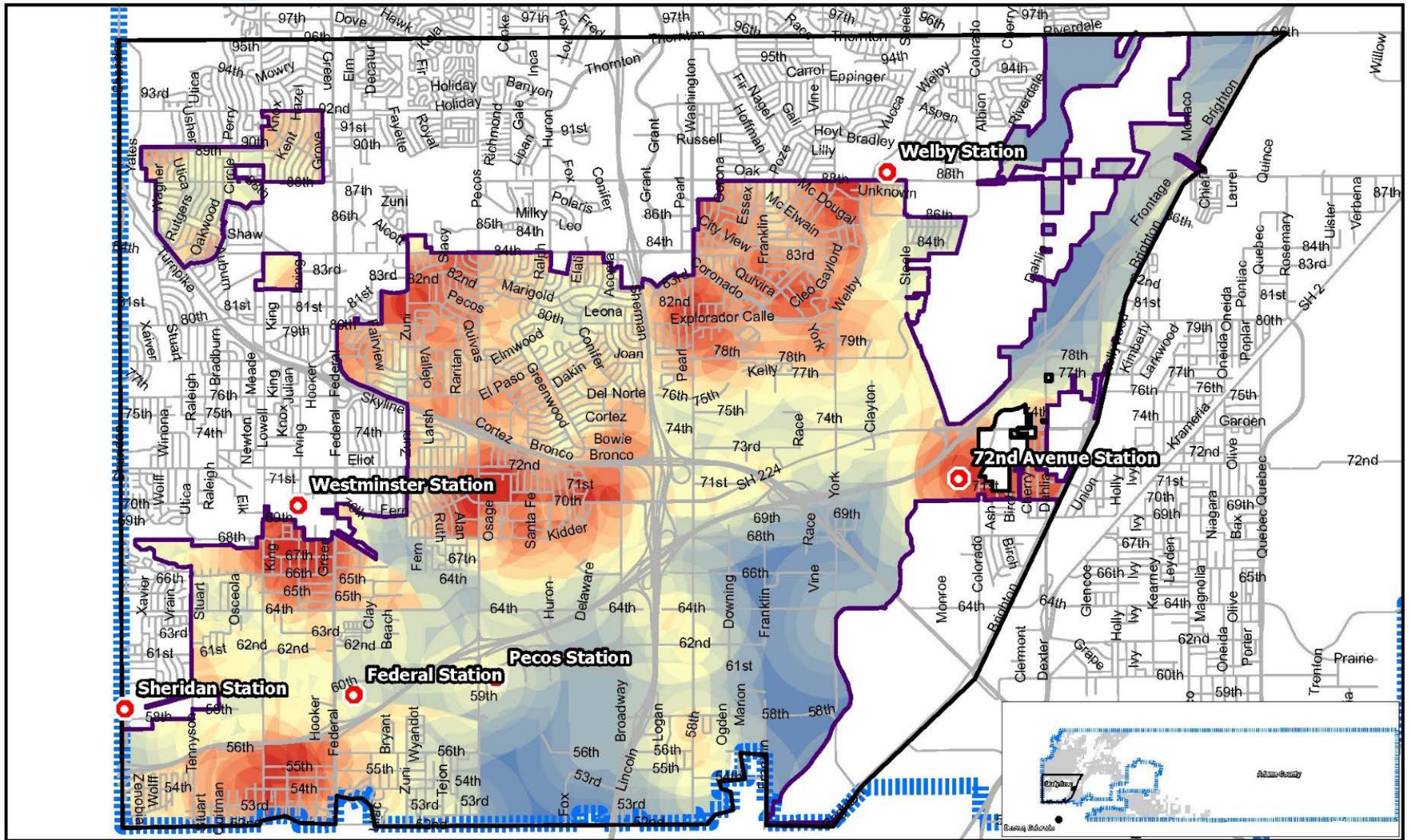


Figure 11: Future Active Travel Propensity Model Results



Value  
 High : 39  
 Low : 3

Adams County Boundary  
 Study Area Boundary  
 Unincorporated Land

Future Rail Station  
 County Streets

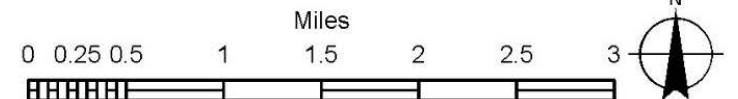
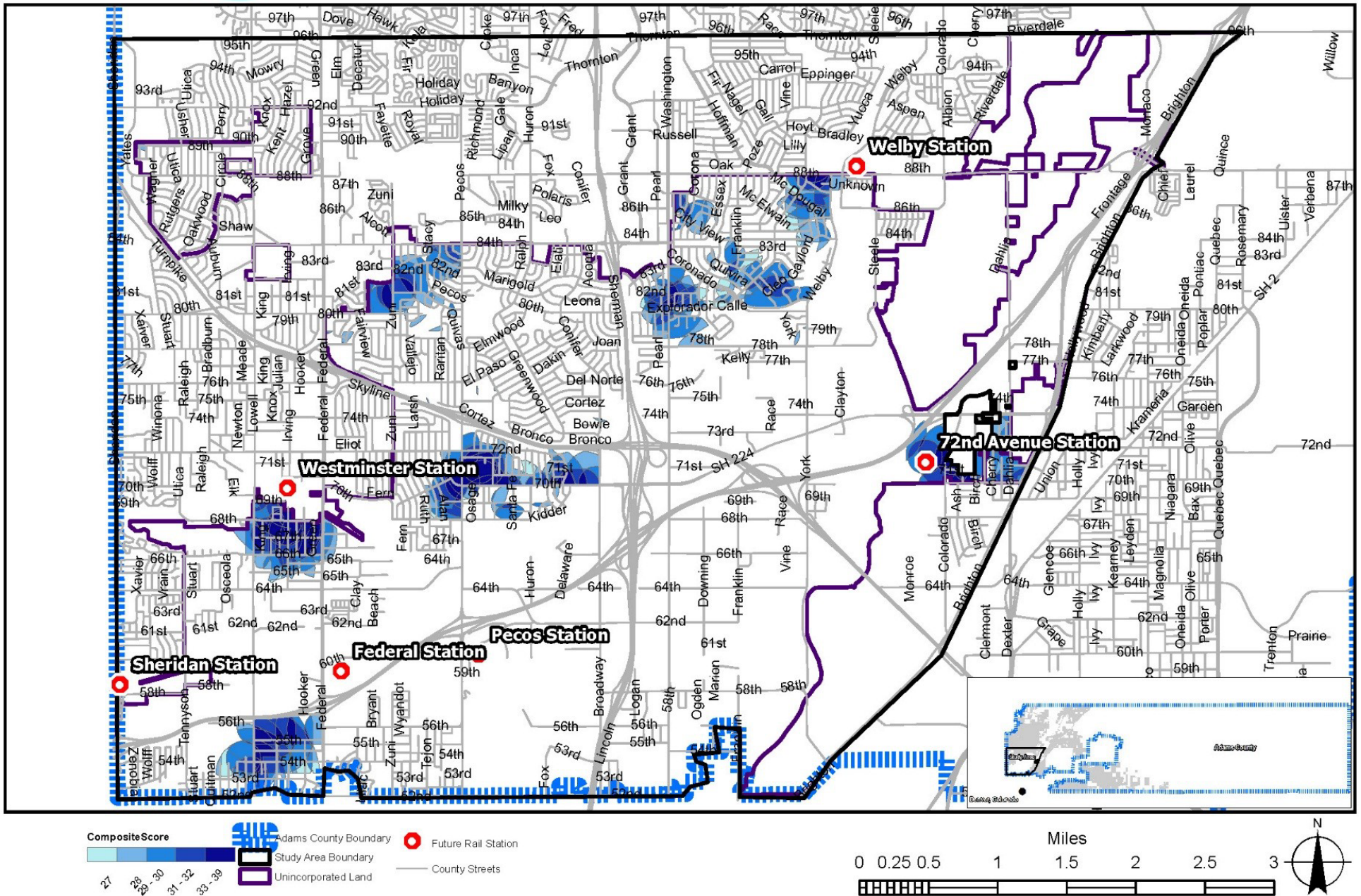




Figure 12: Future Active Travel Propensity Model Top Quartile



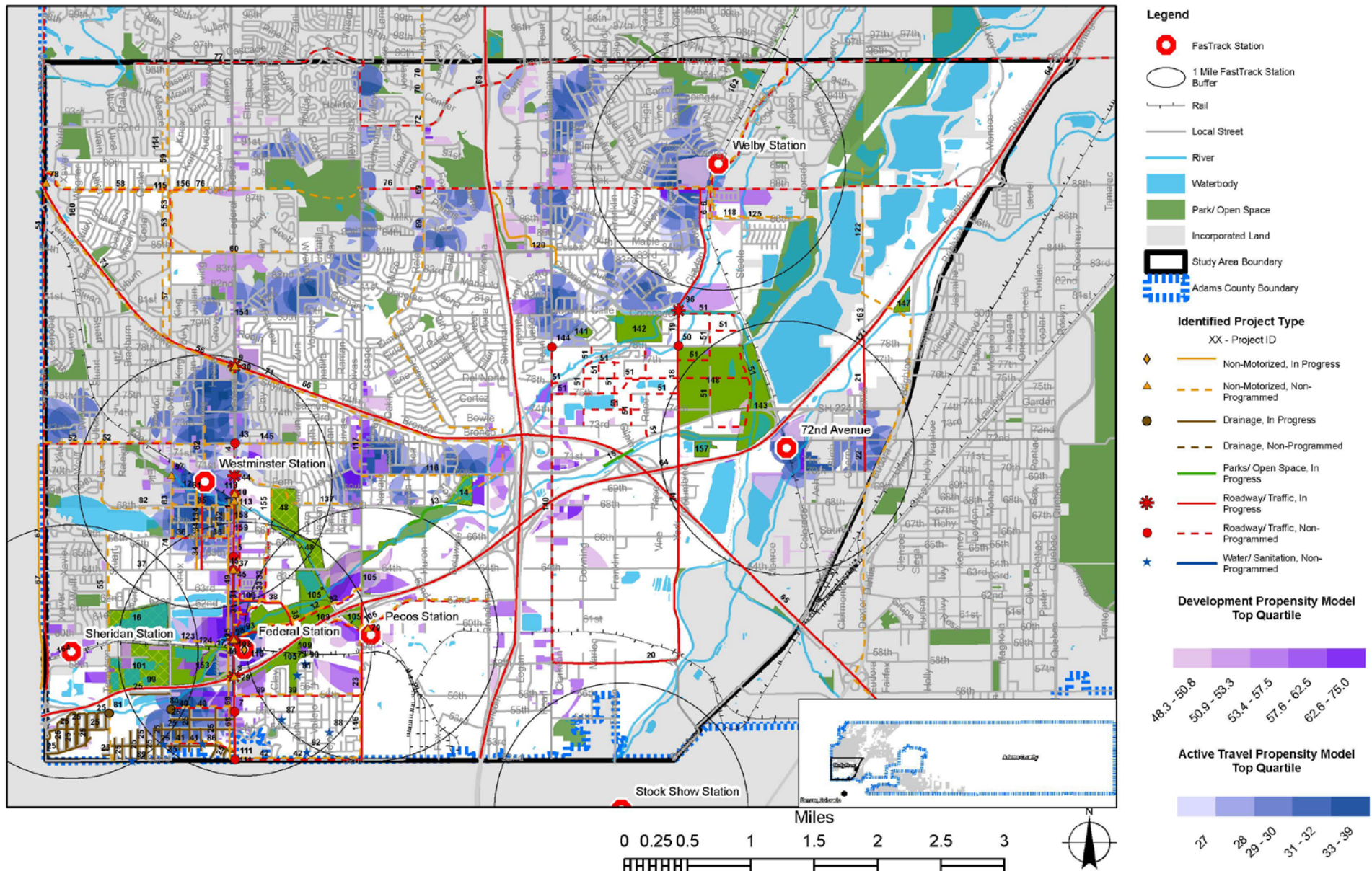


## 4 TOP 40 PROJECTS

Described in Chapters 2 and 3 of this report, the Project Team first worked to identify a full list of projects followed by an exercise to identify target areas for prioritization. From these two efforts a composite map was developed that indicates the top quartile of the two propensity models as well as all of the identified projects. The composite map is displayed as Figure 13.

The Project Team then worked on identifying projects that fall within the priority or target areas and clustering or grouping projects by project type. The results of this effort are summarized into infrastructure, policy/program, and development site projects. The infrastructure projects are categorized by target area. The policies and programs are intended to cover the full project area and are therefore under a separate heading. The development sites include summarization of efforts needed to get target locations development ready. These Top 40 Projects are described in the sections that follow. An initial project rank by target area was established based on several factors including number of times it was referenced in a planning document, project status, and if partnership organizations are identified.

Figure 13: Identified Projects





## 4.1 Policies or Programs

Seven policy or program improvements were identified as part of the Top 40. They are described below and summarized in Table 9.

### 1. Update Zoning

Current zoning does not allow for good urban development patterns without forcing a developer to go through a PUD process. There is a desire by the County to reduce the number of PUD applications and have sufficient base zone regulations to accommodate different development typologies. First, an assessment should take place to identify where specific needs may be, whether creating new zone districts and/or amending existing zone district language. Updates to the code should then be written and adopted.

A cursory review reveals that the County needs to provide at least one base zone district for mixed use activity centers. Two new districts may be needed, such as clear "Residential Mixed Use" and "Employment Mixed Use" zone districts. In addition, the TOD zone district should be updated to include a larger area around a station, address more than the Federal and Pecos stations, and be calibrated as necessary since original adoption.

### 2. Update Parking Regulations

Parking regulations are not calibrated to account for typical spaces provided in mixed use activity centers. Parking reductions need to be made for both commercial and residential uses.

### 3. Affordable Housing Policy

Create a comprehensive affordable housing policy for development. The policy should begin by focusing within one mile of rail station or bus rapid transit area. The policy should be expanded to the larger Study Area and overall County after a baseline policy and applicability has been established. The policy may include things such as (not exhaustive list):

#### Regulatory:

- Create inclusionary housing ordinance
- Expedite zoning and permitting process
- Reduce/waive permit fees
- Assure appropriate regulations exist per #1 above
- Assure reduction in parking requirements
- County share on public street improvements adjacent to public housing

#### Financing:

- Establish a housing trust fund
- Provide a low interest/interest only loans (program with local bank partners)
- Establish a County Land Trust

#### Infrastructure:



- Reduced tap fees
- Use of regional or off-site stormwater detention

4. Sidewalk Gap annual implementation

Create an annual program and identify budget dollar amount per year for 10 years (to start) to provide better pedestrian mobility within the Study Area.

5. ADA Transition Plan annual implementation

Identify annual budget dollar amount for 10 years (to start) to implement the approved County American's with Disabilities (ADA) Transition Plan.

6. Study Feasibility of Local Tax Alternatives

Evaluate options for financing. Funds could be dedicated to transportation, public health, recreational facilities and tourism.

Table 9: Policy or Program Recommendations

| Rank | Project Number | Project Name   |
|------|----------------|--|
| 1    | P1             | <u>Update Zoning</u><br>•Need to provide at least one base zone district that is workable in mixed use activity centers.<br>•Perhaps need two - "Residential Mixed Use" and "Employment Mixed Use".<br>•Current zoning does not allow for good urban development patterns without forcing a developer to go through a PUD process. |
| 2    | P2             | <u>Update Parking Regulations</u><br>Parking regulations are not calibrated enough to account for typical spaces provided in and near transit areas or to accommodate mixed use activity centers.  |
| 3    | P3             | <u>Affordable Housing Policy</u><br>Create comprehensive affordable housing policy for development within 1 mile of rail station or bus rapid transit area (to start)  |
| 4    | P4             | <u>Sidewalk Gap Annual Implementation</u><br>Identify budget dollar amount per year for 10 years (to start) to provide better pedestrian mobility  |
| 5    | P5             | <u>ADA Transition Plan Annual Implementation</u><br>Identify budget dollar amount per year for 10 years (to start) to implement ADA Transition Plan within study area.   |
| 6    | P              | <u>Study Feasibility of Local Tax Alternatives</u><br>•Evaluate financing options.<br>•Funds to be dedicated to transportation, public health, and recreational facilities.  |



## 4.2 Development

Development recommendations focus around five target areas. All development areas are identified to be a next step to a parallel study being undertaken by the County that includes a brownfields inventory followed by Phase I and Phase II environmental site assessments. The intent is to complete the initial environmental review on parcels within these five development areas and then prioritize, create a clean-up strategy, and solicit funding for clean up to help spur development in these key areas around transit or at potential future mixed use nodes. Each of these target development nodes are listed in Table 10 below.

Table 10: Target Development Area Recommendations

| Rank | Project Number | Project Name  |
|------|----------------|---|
| 1    | D1             | <u>Federal Gold Line Station – Sites included in Clear Creek TOD Plan</u> <ul style="list-style-type: none"> <li>• Larger sites</li> <li>• Mix of uses currently</li> <li>• Approximately 4-5 parcels around future rail station</li> <li>• Some within area identified for key future road connection</li> <li>• Portions in floodway and floodplain</li> <li>• Recommend Phase II Environmental Testing as part of ongoing brownfields study</li> </ul> |
| 2    | D2             | <u>Federal Boulevard - between 62nd and 70th</u> <ul style="list-style-type: none"> <li>• Smaller sites</li> <li>• Mix of uses currently</li> <li>• Approximately 3-4 parcels</li> <li>• In floodplain</li> <li>• Recommend Phase II Environmental Testing as part of ongoing brownfields study</li> </ul>  |
| 3    | D3             | <u>64th and Pecos –both sides of Pecos north of I-76</u> <ul style="list-style-type: none"> <li>• Mix of uses currently</li> <li>• Approximately 4-5 parcels around future rail station</li> <li>• Portions in floodway and floodplain</li> <li>• Recommend Phase II Environmental Testing as part of ongoing brownfields study</li> </ul>  |
| 4    | D4             | <u>72nd and Colorado</u> <ul style="list-style-type: none"> <li>• Currently industrial</li> <li>• Approximately 4-5 parcels around future rail station</li> <li>• Small piece in floodway</li> <li>• Recommend Phase II Environmental Testing as part of ongoing brownfields study</li> </ul>   |
| 5    | D5             | <u>72nd and Pecos – Southwest Corner</u> <ul style="list-style-type: none"> <li>• Currently commercial</li> <li>• 1 small parcel/area of larger development identified as solid waste site</li> <li>• Recommend Phase II Environmental Testing as part of ongoing brownfields study</li> </ul>  |



### 4.3 Infrastructure

Prioritized infrastructure projects include parks and open space, floodplain mitigation, stormwater improvements, water and sanitary improvements, roadway or traffic improvements, and non-motorized improvements. Each of these recommendations are categorized into geographic target areas and are listed in Tables 11, 12 and 13 that follow.

Table 11: Federal Boulevard and Federal Station Projects

| Rank | Project Number           | Project Name  | Project Status   | Partnership        |
|------|--------------------------|---|--|--------------------|
| 1    | i68<br>i17               | <u>Federal Boulevard Comprehensive Street Design</u><br>•Federal, 52-72 Ave 2035 Baseline Roadway Network (comprehensive street design)<br>•Sidewalk Gap Fill Project<br>•Phasing considerations will include ranked projects 2 through 6, as well as 10 and 11   | In Progress<br>Not In Progress                                       |                    |
| 2    | i95<br>i49               | <u>Federal Boulevard Waterline Improvements</u><br>•Waterline Replacement Federal, 56th to 64th Ave<br>•"Improve Crestview Water Capacity to Accommodate New Development"   | Not In Progress<br>Not In Progress                                   | Water & Sanitation |
| 3    | i1<br>i10                | <u>Little Dry Creek Federal Blvd Bridge</u><br>•Federal Blvd Bridge Expansion Over Little Dry Creek/ BSNF<br>•Lighting Under Bridge Little Dry Creek Trail  | In Progress<br>Not in Progress                                       | DOT                |
| 4    | i45<br>i44<br>i5<br>i7   | <u>Intersection Improvements</u><br>•Intersection Improvement (High Priority) 64th and Federal<br>•Intersection Improvement 70th and Federal<br>•65 Ave Alignment to 4 way Intersection<br>•Intersection Improvement, Federal and 55 Ave  | Not In Progress<br>In Progress<br>Not In Progress<br>Not In Progress |                    |
| 5    | i4<br>i43                | <u>Westminster Partnership Project</u><br>•Westminster Federal Streetscape 70-72<br>•Intersection Improvement 72nd and Federal  | Not In Progress<br>Not In Progress                                   | Westminster        |
| 6    | i32<br>i46<br>i93<br>i98 | <u>Proposed Clear Creek Parkway or 60<sup>th</sup> Avenue</u><br>•Study necessary, various recommendations to be considered.<br>•Proposed Clear Creek Pkwy (Multimodal)<br>•60th Ave Intersection Improvements/ Realignment<br>•Waterline Replacement 60th Ave, Federal to Zuni<br>•Roadway Improvement 60th Ave, Federal to Zuni | Not In Progress<br>In Progress<br>Not In Progress<br>Not In Progress | Water & Sanitation |
| 7    | i108                     | Parcels to be Removed from Floodplain in proposed Phase B Urban Drainage Master Plan  | Not In Progress  | UDFCD              |
| 8    | i105<br>i153<br>i123     | <u>Park/ Open Space &amp; Trail Improvement</u><br>•Park and Open Space in Clear Creek TOD Plan<br>•New/ Improvement of Park/ Open Space, NW Corner of Federal and I-76<br>•ADCO Multi-Use Trail Improvement/ Development   | Not In Progress<br>Not In Progress<br>Not In Progress                |                    |



| Rank | Project Number | Project Name   | Project Status                 | Partnership        |
|------|----------------|--|--------------------------------|--------------------|
| 9    | i31            | Proposed "Elm Street" 61st to 67th Ave (Multimodal)  | Not In Progress                |                    |
| 10   | i33            | Proposed Clay St, Federal Blvd to Little Dry Creek (Multimodal)  | Not In Progress                |                    |
| 11   | i29<br>i8      | <u>I-76 and Federal Ramp</u><br>•Preserve and Enhance On/Off-Ramp at Federal & I-76<br>•Safe Pedestrian Crossing, I-76 and Federal   | In Progress<br>Not in Progress | DOT                |
| 12   | i30<br>i9      | <u>US 36 and Federal Ramp</u><br>•Preserve and Enhance On/Off-Ramp Federal & US36<br>•Safe Pedestrian Crossing, US 36 and Federal  | In Progress<br>Not in Progress | DOT<br>Westminster |
| 13   | i165           | <u>Clay Community Outfall</u><br>•County indicated need for Clay Outfall project.<br>•Zuni Street alignment under UPRR<br>•Connect Guardian Angel Neighborhood north to Clear Creek. | Not In Progress                |                    |

Table 12: Pecos Station and Pecos Commercial District Projects

| Rank | Project Number       | Project Name   | Project Status  | Partnership |
|------|----------------------|--|---|-------------|
| 1    | i23<br>i146<br>i117  | <u>Pecos Street Improvements</u><br>•Pecos Street Roadway Improvement, 52nd Ave to I-76 - 5yr CIP<br>•Pecos Street Bike/ Trail Facility, 52nd Ave to I-76<br>•Pecos St Bike Facility/Trail, 70 <sup>th</sup> to US36 | In Progress<br>Not In Progress<br>Not In Progress     | DOT         |
| 2    | i106<br>i79          | <u>Pecos Station Area Improvements</u><br>New Collector Street, Federal to Pecos to Broadway<br>Multimodal/Pedestrian Activity Center at Pecos Station   | Not In Progress<br>Not In Progress                    |             |
| 3    | i116<br>i137<br>i145 | <u>Pecos/US36 Commercial Area Improvements</u><br>• SH 224/ 70th Ave Bike Facility , I-25 to Pecos<br>•70th/68th Ave Bike Lanes, Federal to Pecos<br>•72nd Ave Non-Motorized Improvements, Lowell to Pecos           | Not In Progress<br>Not In Progress<br>Not In Progress | DOT         |
| 4    | i105                 | New Parks/ Open Space in Clear Creek TOD Plan  | Not In Progress                                       |             |
| 5    | i71                  | •US36 Highway Multi-Use Path, I-25 to Sheridan   | Not In Progress                                       |             |





Table 13: Welby Station and Welby Neighborhood Projects

| Rank | Project Number | Project Name  | Project Status  | Partnership        |
|------|----------------|---|-----------------|--------------------|
| 1    | i6             | <u>York/ Welby St Improvements</u><br>•Welby Street Improvements including Bike/Trail Facility<br>•York Rd Improvement, Hwy224 to 78 <sup>th</sup> – 5yr CIP<br>•York/ Welby St Improvement 78 <sup>th</sup> to 88 <sup>th</sup> – 5yr CIP<br>• York St Road Improvement, 58Ave to Hwy 224<br>• York St/78 Ave Intersection Improvement<br>• York/Welby and Coronado Grade Separation | Not In Progress |                    |
|      | i18            |   | In Progress     |                    |
|      | i19            |   | In Progress     |                    |
|      | i24            |   | In Progress     |                    |
|      | i50            |   | Not In Progress |                    |
|      | i96            |   | In Progress     |                    |
| 2    | i118           | <u>Thornton Partnership Project</u><br>•86th and 88th Ave Bike Connection<br>•Adams County Local Trail<br>•88th Ave New Bus Route   | Not In Progress | Thornton           |
|      | i125           |   | Not In Progress |                    |
|      | i76            |   | Not In Progress |                    |
| 3    | i166           | <u>North Washington Water and Sanitation Partnership Project</u><br>•York Street Water and Sewer Improvements, 78 <sup>th</sup> and 88 <sup>th</sup><br>•York Street Water and Sewer Improvements, 58 <sup>th</sup> to SR224  | Not In Progress | Water & Sanitation |
|      | i167           |   | Not In Progress |                    |
| 4    | i15            | <u>Park/ Trail Improvements</u><br>•Clear Creek Trail Access - 5yr CIP<br>•Downing/78th Ave, Park Improvement<br>•SW of Welby Street/Coronado Pkwy, Rotella Park Improvement<br>•West of Railroad-78 <sup>th</sup> to I-76, New/Improved Park/Open Space<br>•NW of SH224/York, Preserve Agriculture Presence at Parks/Open Spaces<br>• York and I-76, New Park/Park Improvement       | In Progress     | DOT                |
|      | i141           |   | Not In Progress |                    |
|      | i142           |   | Not In Progress |                    |
|      | i143           |   | Not in Progress |                    |
|      | i148           |   | Not in Progress |                    |
|      | i157           |   | Not In Progress |                    |
| 5    | i140           | <u>Washington St Improvements</u><br>•Washington St Improvement, 58 <sup>th</sup> to 72 <sup>nd</sup><br>•78 <sup>th</sup> /Washington, Intersection Improvement  | Not In Progress |                    |
|      | i144           |   | Not In Progress |                    |
| 6    | i51            | <u>Proposed Roadway Network (Approximate Alignments)</u><br>•N/S Streets: Downing, Lafayette, Franklin, Richard, Race, Clayton, Steele<br>•E/W Streets: Coronado, 79 <sup>th</sup> , 77 <sup>th</sup> , 76 <sup>th</sup> , 75 <sup>th</sup> , 74 <sup>th</sup> , Brannan  | Not In Progress |                    |

## 5 SUMMARY

The culmination of this report is the Top 40 Projects list identified in Chapter 4. Following this report, the TAC will evaluate the Top 40 Project list and determine if bundled projects need to be broken up, what sort of planning level costs they would need to budget for the projects, and potential funding sources for the projects. This Top 40 Projects list will be presented to the public at the next Public Meeting to be held May 02, 2016. At this meeting the public will again identify their priorities and answer strategic questions related to how to fund and finance these investments. The result of these next steps in the process will be a narrowed list of Top 10 Projects. Once the Top 10 Project list is finalized the Project Team will develop implementation strategies, planning level cost estimates and identify potential funding sources.