ActiveTrans Priority Tool: An Analysis of the San Luis Obispo Council of Government's Regional Transportation Plan Active Transportation Project List and Step-by-Step Methodology

A Senior Project
presented to
the Faculty of the City and Regional Planning Department
California Polytechnic State University, San Luis Obispo

In Partial Fulfillment
of the Requirements for the Degree
Bachelor of Science

by

William F. Daniels

June 5, 2023

Foreword

Recognizing the significance of establishing financial constraints and effectively prioritizing the multitude of active transportation projects put forth by local agencies, a refined approach was imperative. This methodology was designed to score, rank, and ultimately determine the priority level for each nominated project, ensuring a transparent and equitable allocation of resources within the 2023 Regional Transportation Plan (RTP) framework.

This methodology presents the "ActiveTrans Priority Tool (APT)" in action. The founding methodology is based on the National Cooperative Highway Research Program (NCHRP) Report 803 *Pedestrian and Bicycle Transportation Along Existing Roads – Activetrans Priority Tool Guidebook.* The purpose of this report is to show step by step how to implement the NCHRP Report 803. The methodology is flexible and can be changed based on the goals and values of the agency conducting the analysis.

The variables employed in this methodology were carefully chosen by a Local Stakeholder Steering Committee, ensuring that key considerations and perspectives were duly represented. The resulting project list not only supports the 2023 RTP but also serves as a tool for the future efforts of the San Luis Obispo Council of Governments (SLOCOG). By establishing a priority level and fiscal constraint line, approximately 52 projects totaling $184 million over a span of 25 years were identified.

Beyond its immediate impact, this project has broader implications for future planning efforts and resource allocation strategies. By providing insights and recommendations for improved future analysis, this publication serves as a foundation for informed decision-making and the optimal equitable utilization of funds.

I am honored to express my profound appreciation to John DiNunzio and the entire SLOCOG staff for their invaluable support and contributions throughout the development of this transformative project. Their commitment to fostering equitable, inclusive, and sustainable transportation infrastructure, serves as a constant source of inspiration for me and further solidifies San Luis Obispo County as the best place to live, work, and play.

This project is conducted in partial fulfillment of the requirements for the degree of Bachelor of Science in City and Regional Planning. I would also like to express my gratitude to my senior project advisor, Professor Keith Woodcock, MCRP, who has been helpful in providing feedback on this report.

I hope that this project inspires future efforts and helps to create positive change in the field of active transportation.

Table of Contents

List of Figures

List of Tables

List of ATP Project Ranking Committee

Nate Stong, Kevin Buchanan, Jeff Legato, Lea Brooks, Helene Finger, Luke Schwartz, Adam Fukushima, Melissa Streder, Jenna Schudson, Kelly Mcclendon, Jan Devera, John DiNunzio

1. Introduction

The San Luis Obispo region is an attractive and friendly place to live, work, and visit, in no small part due to its temperate climate and coastal geography, which is ideal for walking and bicycling year-round. Consistent with the 2021 SLOCOG Active Transportation Plan (ATP), the ActiveTrans Priority Tool (APT) aims to evaluate proposed AT projects to systematically manage the existing transportation system while proactively planning for future investments. This includes completing necessary infrastructure to make walking and biking easier for all, such as building and maintaining facilities; addressing known conflict points such as highway crossings to improve safety and comfort, completing missing gaps in the 300-mile network of Active Routes of Regional Significance, and clearly delineating routes through signage and other wayfinding techniques.

Active Transportation Relationship to Health, Equity, and Sustainability

Active transportation (AT) refers to any self-propelled, human-powered mode of transportation, such as walking or biking, that provides physical activity as a component of the trip (WHO, 2022). This mode of transportation is seen as an important way to promote physical activity and reduce reliance on motor vehicles, which can have positive impacts on health, equity, and the sustainability of a community. Examples of AT include walking, bicycling, pushing baby strollers, wheelchairs, e-scooters. For the purposes of this report, active transportation refers primarily to walking and biking.

Mobility plays a large part in the health, equity, and sustainability of the community. In *Life Between Buildings*, Jan Gehl studies urban design and its impacts on segregating or integrating communities (Gehl, 2011). Transportation infrastructure can provoke physical and social segregation in communities (Litman, 2023). By providing high-speed transportation facilities such as highways, arterials, and railways, low-income neighborhoods can become disconnected from key destinations such as employment opportunities and essential services (Litman, 2023). As a result, low-income communities are more dependent on public transportation or active transportation like walking and biking.

However, many cities lack active transportation facilities, which means that low-income individuals are more likely to walk or bike in unsafe conditions (Barajas, 2011). Often when cities lack AT facilities the neighborhoods that suffer the worst are the low-income individuals. “In many cities, white, highly educated, and high-income residents have greater access to public transportation, and wealth differences by race and ethnicity make it easier for white residents to purchase a car, allowing for increased access to jobs. Public transit that is inaccessible for elderly people and people with disabilities can leave transit-dependent residents stranded” (Urban Institute, 2020). According to the US Census, low-income people bike and walk significantly more

than wealthy Americans, which suggests that transportation can be the primary factor in social and class segregation (Avila-Palencia et al., 2017). Slowing traffic speed and improving connectivity as well as increasing active transportation facilities and access are ways that cities can provide more equitable infrastructure. The car dependency and way cities are designed increases inequality and reduces social mixing. By investing in compact communities with active transportation infrastructure the cities can foster more social interactions as well as make resources more available to all communities.

Active transportation and access can improve health in communities in various ways. According to a report by the American Society of Landscape Architects (2017), active transportation can promote physical activity and reduce the risk of chronic diseases such as heart disease, stroke, and diabetes. Furthermore, a study by Walk with a Doc, which is a program that "offers free doctor-led walking groups in communities around the world. These ongoing events allow participants to safely walk, learn about current health topics, and meet new people" (Walk with a Doc 2023), found that walking may reduce the risk of heart disease, stroke, cancer, lower cholesterol, blood pressure, and body fat. It also helps to strengthen bones, reduce the risk of injuries from falls, and increase muscle flexibility and joint movement (Warburton et al., 2006). Improving access to active transportation also plays a crucial role in promoting health in communities. According to the US Department of Transportation (n.d.), expanding and improving active transportation infrastructure with the idea of safe and comfortable use in mind can promote health by providing opportunities for physical activity from transportation. The report by the American Society of Landscape Architects also states that active transportation can improve air and water quality, reduce noise pollution, and enhance mental health by providing opportunities for social interaction and stress reduction.

Active transportation has the potential to improve equity in communities by increasing accessibility to transportation for all members of the community, regardless of income or mobility limitations. According to a study in the Journal of Transport & Health, improving active transportation infrastructure can reduce transportation-related health disparities and improve the social and economic equity of communities (Ogilvie et al., 2016). Walkability and access to active transportation options can also improve equity by promoting independence for those who are unable or do not want to drive a car. According to a report by the American Public Transportation Association, active transportation modes such as walking and biking can provide more affordable and accessible transportation options for low-income individuals and families (American Public Transportation Association, 2017). Furthermore, creating inclusive and equitable active transportation infrastructure can improve the quality of life for all members of the community. For example, a project by Cities Unlocked developed sound-based technology to assist people with sight loss on a route from Reading to London, and after the first test, 62 percent of the participants reported an increased feeling of safety, confidence, and resilience (Guide Dogs, n.d.).

Active transportation can have a positive impact on the sustainability of a community by reducing greenhouse gas emissions and promoting sustainable land use practices. By promoting active transportation modes such as walking and biking, communities can reduce their dependence on single-occupancy vehicle trips, which are a significant source of greenhouse gas emissions (National Association of City Transportation Officials, 2016). Active transportation can also reduce the need for new road construction, as it requires less space than motor vehicle travel, and can promote more efficient land use by encouraging mixed-use development and more compact neighborhoods (Urban Land Institute, 2016). Studies have shown that increasing active transportation infrastructure can have a significant impact on sustainability. For example, a study in Portland, Oregon found that investments in biking and walking infrastructure reduced greenhouse gas emissions by 14,000 metric tons per year (Oregon Department of Transportation, 2012). Another study in Barcelona, Spain found that promoting active transportation could reduce transportation-related greenhouse gas emissions by 24 percent (Tight, M. 2016).

Figure 1-1: Map of Active Routes of Regional Significance

Active Routes of Regional Significance (ARORS)

"The Active Routes of Regional Significance (ARORS) Network is 300 Miles of existing and planned on and off system bikeways and pedestrian facilities connecting incorporated and unincorporated communities as shown in" Figure 1-1. [1] One goal of the 2021 ATP and 2023 RTP is to complete the 300-mile network in San Luis Obispo County. According to the 2021 RTP, SLOCOG and their partners will continue to build on these corridors by filling gaps in the network including Class 1 bike paths where possible. Supporting these ARORS and connecting the network is critical for the comfort and safety of the users.

[1] SLOCOG's 2021 ATP

ActiveTrans Priority Tool (APT)

The ActiveTrans Priority Tool is a methodology for prioritizing pedestrian and bicycle improvements. It was selected to be utilized to inform decision making regarding AT projects for the 2023 RTP. In January 2022, a Project Ranking and Prioritization Working Group was convened composed of regional stakeholders to help SLOCOG steer a methodology for constraining the RTP's Active Transportation Project List. Over the spring of 2022, the Working Group met twice to better understand the Active Transportation exercise, provide feedback on decision-making, and input into the technical calibrations unique to the San Luis Obispo regional context. The methodology used is based on the NCHRP Report 803.

The following is an Excerpt from the NCHRP Report 803:

The APT is intended to be used by planners and other agency staff charged with managing a pedestrian or bicycle prioritization effort. It is designed to encourage practitioners to prioritize pedestrian and bicycle improvement locations by establishing a clear prioritization process that is:

- Responsive to agency/community values: Transportation agencies often make decisions based on a defined set of goals or values of the communities they serve.
- Flexible: Rather than being a rigid, "one-size-fits-all" tool, the APT is flexible and allows practitioners to choose the most appropriate approach that reflects agency/community values and resource availability.
- Transparent: The APT is designed to facilitate transparency by breaking the prioritization process down into a series of discrete steps, each of which can be easily documented and explained to the public.
- Responsive to the unique needs of pedestrians and bicyclists.[2]

[2] NCHRP 803

Figure 1-2: Stakeholder Factor Weighting

Step 3: Weight Factors	
Factor	**Weight**
Opportunities (Upcoming Projects)	4
Safety	8
Existing Conditions	6
Demand	4
Connectivity	7
Equity	5

Initially, six factors were identified by the steering committee and weighted according to feedback.

- The six factors are:
  - Opportunities
  - Safety
  - Existing Conditions
  - Demand
  - Connectivity
  - Equity

Then variables were determined based on extensive review of peer agency variables and those suggested by NCHRP 803. A Geographic Information System (GIS) was used to encode the variables. Once the months-long process was completed, a priority score and a priority rank was calculated for the 88 ATP projects, which had a timeframe identified as Short, Medium, or Long. Because numerous projects were identified as Beyond 2045 or beyond the financial 25-year constraint of the RTP, these projects were already considered unconstrained, and therefore not prioritized using the method.

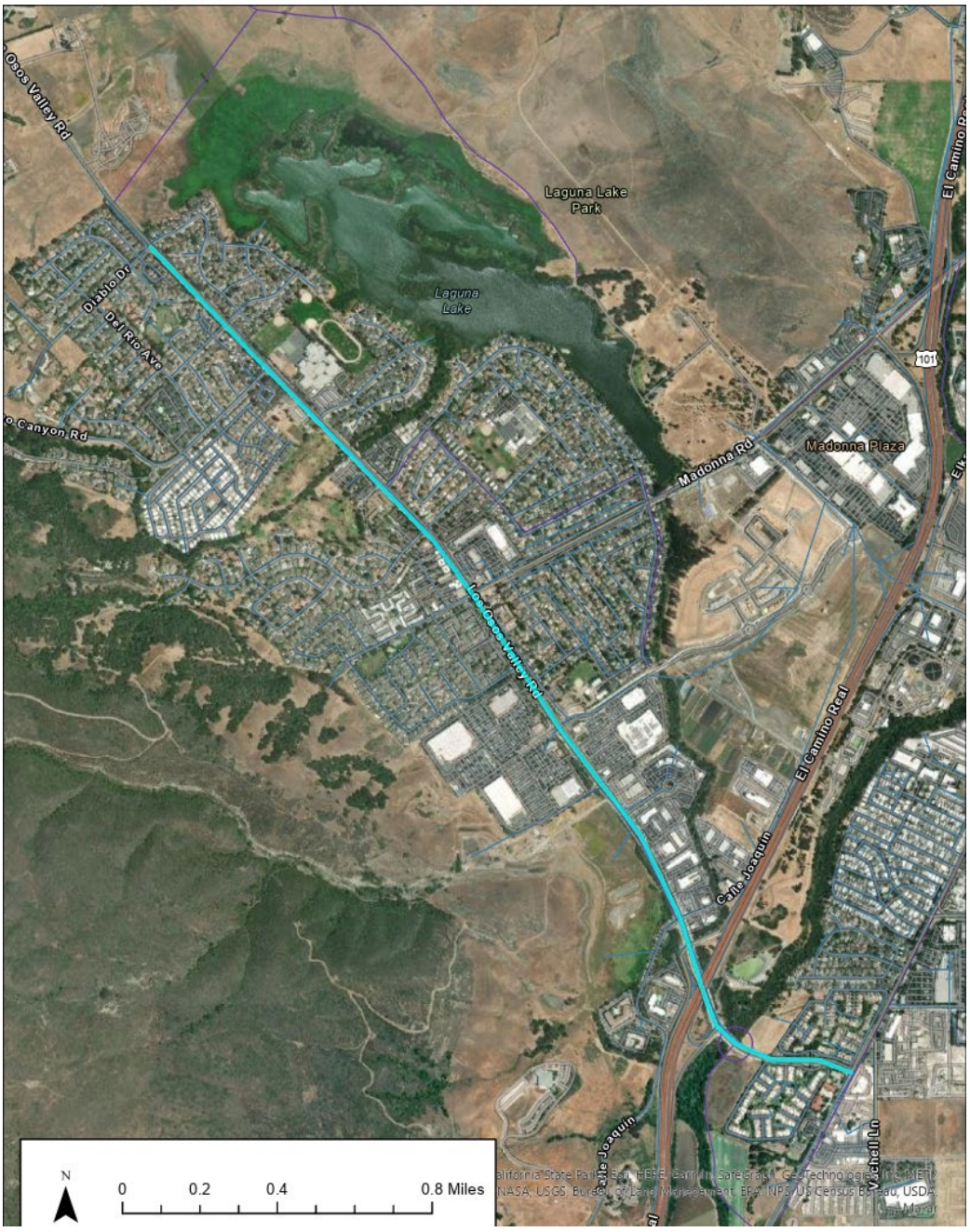
Because the method was designed as a tool to assist planners in constraining the financial threshold at $185M,[3] only 51 projects (S-M-L timeframe), those with the highest priority score were selected to be financially constrained. The remaining 29 projects within the S-M-L timeframe with a lower priority score were filtered out and identified as unconstrained. However, the projects could be funded with a supplemental source.

[3] As per the Financial Element of the SLOCOG 2023 RTP

Sample Project CEN-ATP-2309 Background

The Project "Los Osos Valley Road Protected Bike Lanes" (CEN-ATP-2309) is a plan to Install Class IV bike lanes along Los Osos Valley Road between Diablo Drive and South Higuera Street. The project was selected as a sample project for this report.

Figure 1-2: Map of Sample Project



The highlighted section is the proposed project extents for project CEN-ATP-2309.

Figure 1-3: Intersection of Los Osos Valley Road and Diablo Dr.

Diablo Drive is the northern end of the proposed Class IV bike lane on Los Osos Valley Road.

Figure 1-4: Intersection of Los Osos Valley Road and S. Higuera St.

South Higuera Street is the southern end of the proposed Class IV bike lane on Los Osos Valley Road.

2. Methodology

The following material is a step-by-step procedure of the process undertaken to determine ranking and prioritization for the financial element.

Point Values

Projects were assigned points values based on related physical attributes of the project consistent with the following table.

Table 2-1: Point Value Assignments

Criteria	Definition	Points			
Opportunities	Grant or Developer funding	Beneficial = 50pts	Necessitated = 100pts		
Safety	Fatal Bike/ped crash	25pts for each fatality			
Safety	Total bike/ped crash 10 years	1-3 crashes = 25 pts	4-7 crashes = 50pts	8-10 crashes = 75pts	11+crashes = 100pts
Existing Conditions	Avg. Daily Vehicle Traffic	0-10 thousand =25pts	11-20 thousand = 50pts	21-30 thousand = 75pts	31+ thousand = 100pts
Existing conditions	Posted Speed	1-25 mph = 25pts	26-40 mph = 50pts	41-64 mph = 75pts	65+ mph = 100pts

Criteria	Definition	Points			
Demand	Proximity to Schools	Within 1/2 mile = 25pts	within 1/4 mile = 50pts		
Demand	Population Density	1-976 = 25 pts	977-1952 = 50pts	1953-2928 = 75pts	2929-3904 = 100pts
Connectivity	Located on ARORS	Yes = 100 pts	No = 0pts		
Connectivity	Connects to existing Facility	1-2 Connections = 25pts	3-5 Connections = 50pts	6-8 Connections = 75pts	9+ Connections = 100pts
Equity	Located in DAC	25pts for each DAC hexagon			

Resources

These are the resources used for each factor. All geoprocessing was conducted using ArcGIS Pro 3.0.2.

Table 2-2: File Locations

Factor	File path	Last Updated
Opportunities	H:\GIS\Shapefiles\Transportation\Transportation Efficiency Analysis\RTP_Projects_2022Update.gdb\AT_Projects	03/21/2023
Safety	H:\GIS\Shapefiles\Transportation\Collisions\July_2021_Update\NonMotorized.gdb	08/03/2021
Existing Conditions	H:\GIS\Shapefiles\Transportation\For Will\CombinedLinks2035va1_2 2022-09-07.shp	09/07/2022

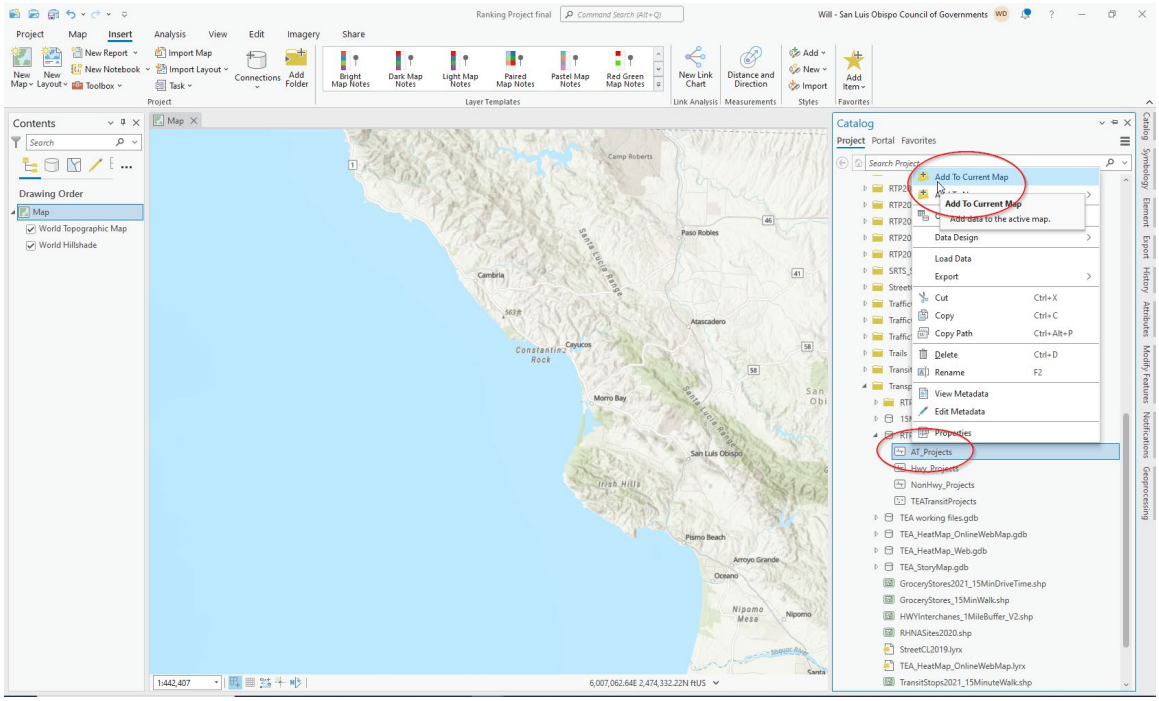
Factor	File path	Last Updated
Demand	H:\GIS\Shapefiles\LandUseInfo\Schools_point.shp	10/25/2021
Connectivity	H:\GIS\Shapefiles\Transportation\ATPP\2023 RTP\ARORS_2023_RTP.shp	08/25/2021
Connectivity	H:\GIS\Shapefiles\Transportation\Bikeways\Bikeways2021.shp	10/13/2022
Equity	H:\GIS\Shapefiles\Transportation\ATPP\2023 RTP\DisadvantagedCommunities2021.shp	06/03/2021

3. Opportunities

Opportunities were given a score of "4" by stakeholders. Opportunities gave SLOCOG the opportunity to factor the ability of the agency to take advantage of existing resources that can support project implementation in a quantifiable way. This can be an important factor because they have the potential to save time and money when implementing AT projects. At the time of this analysis, SLOCOG did not have a mapped database of future roadway improvements or opportunities. When evaluating projects based on their opportunities, SLOCOG had previously identified projects as Necessitated or Beneficial. Land use "Necessitated" projects are transportation projects required for new housing development.[4] These projects are a Transportation Efficiency Analysis (TEA) priority projects because they are needed to accelerate housing development. Land use "Beneficial" projects are transportation projects that are not required for housing development but improve the transportation efficiency of an area. Necessitated projects were given a point value of 100 points and beneficial projects were given a score of 50. Projects without these designations scored 0 points.

Creating the Opportunity Layer

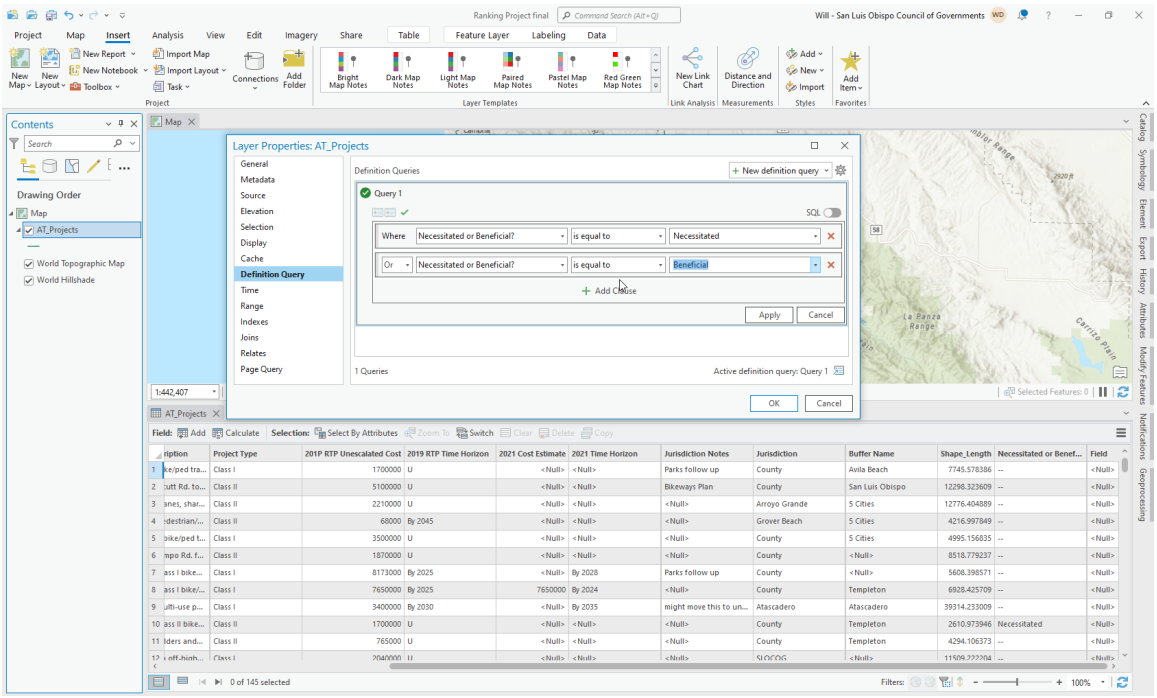
Figure 3-1: Adding the Active Transportation Projects



[4] Transportation Efficiency Analysis (TEA)

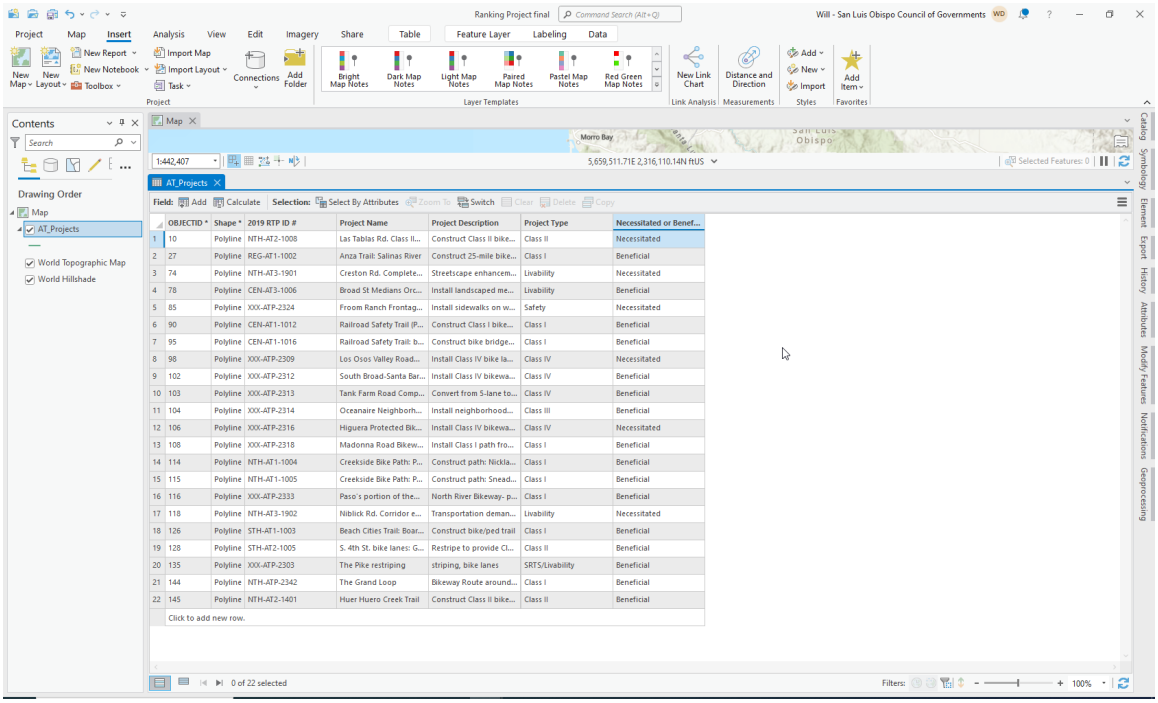
Step 1: Find the AT Projects under: **H:\GIS\Shapefiles\Transportation\Transportation Efficiency Analysis\RTP_Projects_2022Update.gdb\AT_Projects** and add to current map.

Figure 3-2: Running an Opportunity Definition Query



Step 2: Create a definition query. This will filter out all projects in the data that are not necessitated or beneficial.

Figure 3-3: Conducting Opportunity Analysis of a Project



Step 3: After the definition query, determine the point value based on the criteria found in Table 1.

Step 4: Input the project into the PlanDesign_Tools_APT_Programmed_Spreadsheet using the points assigned in the previous step.

Sample Project CEN-ATP-2309 Opportunity Analysis:

Figure 3-4: Opportunity Analysis Sample Project (GIS)

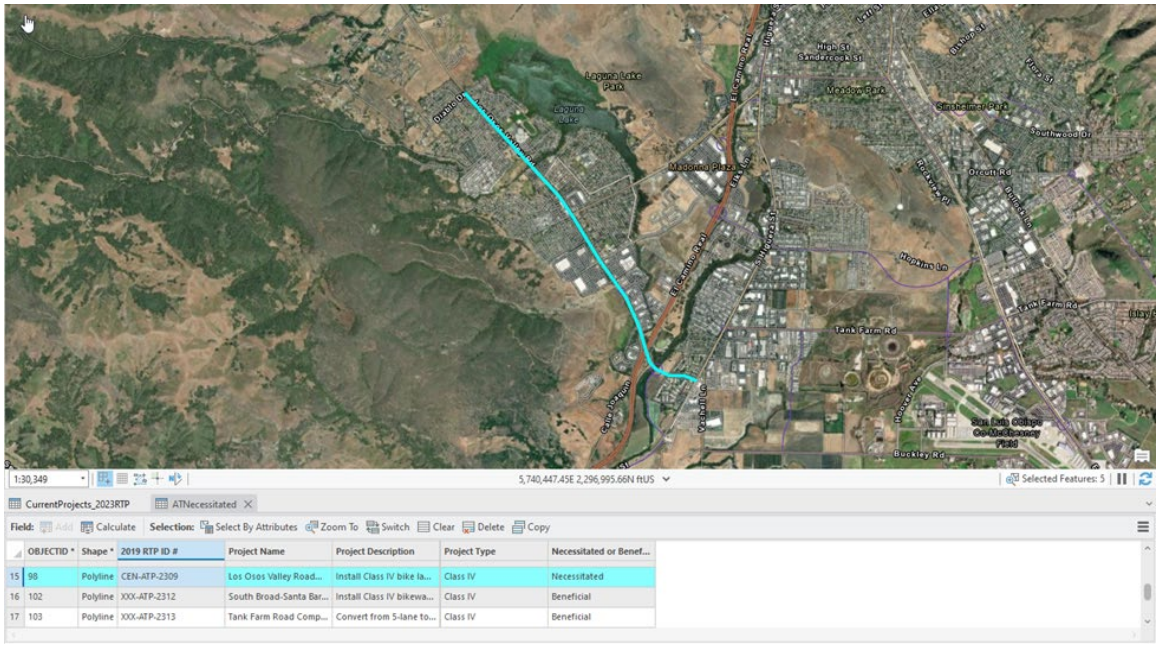
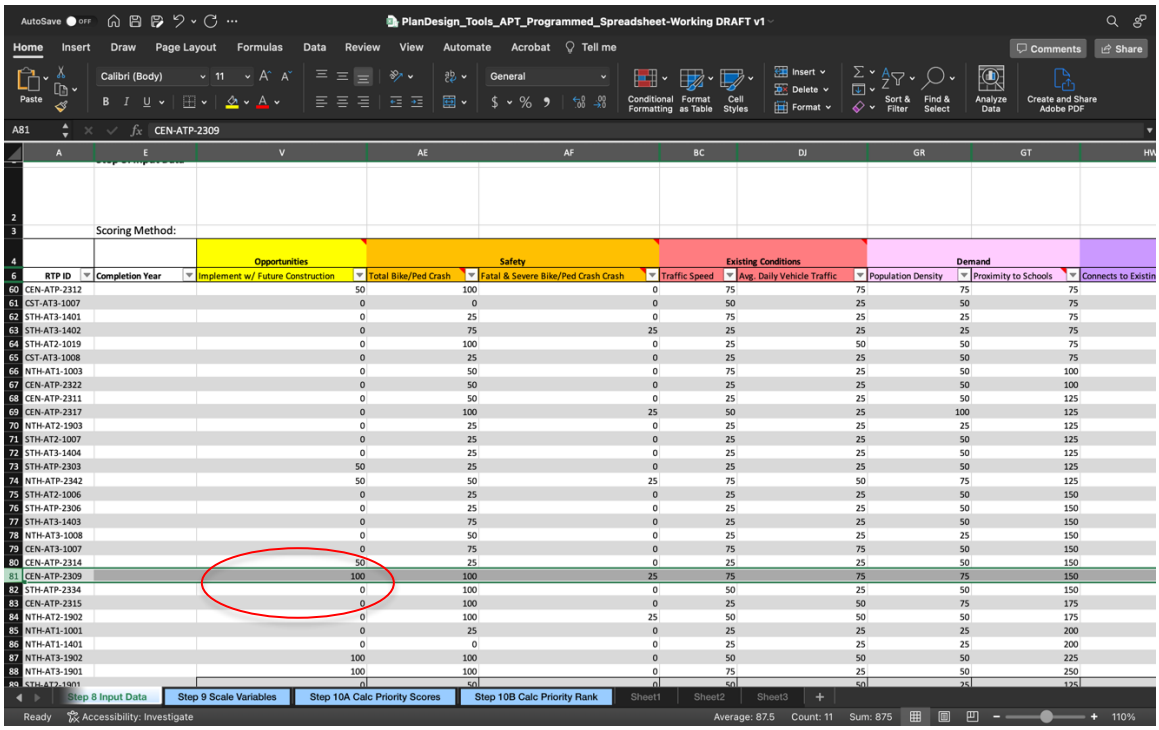


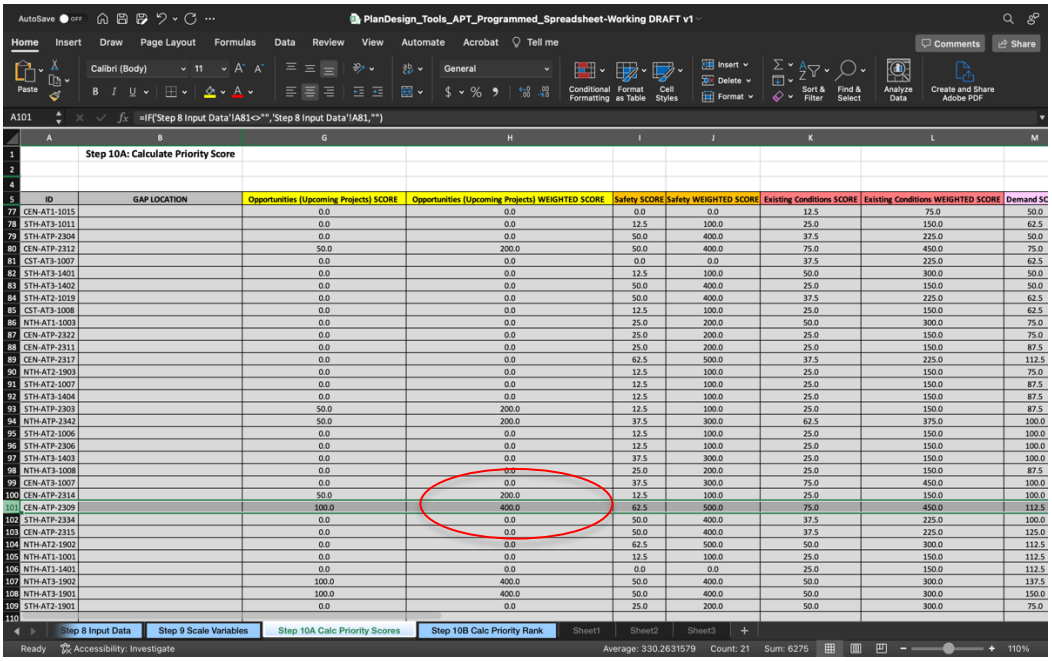
Figure 3-4 is the linework for Project CEN-ATP-2309 with the field "Necessitated or Beneficial".

Figure 3-5: Opportunity Analysis Sample Project (Excel)



This project was previously designated as a necessitated project and scored 100 raw points for the opportunities factor. The points in this section were multiplied by the stakeholder value of 4 and added with the other 5 factor scores to create the final score.

Figure 3-6: Opportunity Analysis Sample Project Weighted Score



Step 10A: Calculate Priority Score

ID	GAP LOCATION	Opportunities (Upcoming Projects) SCORE	Opportunities (Upcoming Projects) WEIGHTED SCORE	Safety SCORE	Safety WEIGHTED SCORE	Existing Conditions SCORE	Existing Conditions WEIGHTED SCORE	Demand SC
CEN-AT1-1015		0.0	0.0	0.0	0.0	12.5	75.0	50.0
STH-AT3-1011		0.0	0.0	12.5	100.0	25.0	150.0	62.5
STH-ATP-2304		0.0	0.0	50.0	400.0	37.5	225.0	50.0
CEN-ATP-2312		50.0	200.0	50.0	400.0	75.0	450.0	75.0
CST-AT3-1007		0.0	0.0	0.0	0.0	37.5	225.0	62.5
STH-AT3-1401		0.0	0.0	12.5	100.0	50.0	300.0	50.0
STH-AT3-1402		0.0	0.0	50.0	400.0	25.0	150.0	50.0
STH-AT2-1019		0.0	0.0	50.0	400.0	37.5	225.0	62.5
CST-AT3-1008		0.0	0.0	12.5	100.0	25.0	150.0	62.5
NTH-AT1-1003		0.0	0.0	25.0	200.0	50.0	300.0	75.0
CEN-ATP-2322		0.0	0.0	25.0	200.0	25.0	150.0	75.0
CEN-ATP-2311		0.0	0.0	25.0	200.0	25.0	150.0	87.5
CEN-ATP-2317		0.0	0.0	62.5	500.0	37.5	225.0	112.5
NTH-AT2-1903		0.0	0.0	12.5	100.0	25.0	150.0	75.0
STH-AT2-1007		0.0	0.0	12.5	100.0	25.0	150.0	87.5
STH-AT3-1404		0.0	0.0	12.5	100.0	25.0	150.0	87.5
STH-ATP-2303		50.0	200.0	12.5	100.0	25.0	150.0	87.5
NTH-ATP-2342		50.0	200.0	37.5	300.0	62.5	375.0	100.0
STH-AT2-1006		0.0	0.0	12.5	100.0	25.0	150.0	100.0
STH-ATP-2306		0.0	0.0	12.5	100.0	25.0	150.0	100.0
STH-AT3-1403		0.0	0.0	37.5	300.0	25.0	150.0	100.0
NTH-AT3-1008		0.0	0.0	25.0	200.0	25.0	150.0	87.5
CEN-AT3-1007		0.0	0.0	37.5	300.0	75.0	450.0	100.0
CEN-ATP-2314		50.0	200.0	12.5	100.0	25.0	150.0	100.0
CEN-ATP-2309		100.0	400.0	62.5	500.0	75.0	450.0	112.5
STH-ATP-2334		0.0	0.0	50.0	400.0	37.5	225.0	100.0
CEN-ATP-2315		0.0	0.0	50.0	400.0	37.5	225.0	125.0
NTH-AT2-1902		0.0	0.0	62.5	500.0	50.0	300.0	112.5
NTH-AT1-1001		0.0	0.0	12.5	100.0	25.0	150.0	112.5
NTH-AT1-1401		0.0	0.0	0.0	0.0	25.0	150.0	112.5
NTH-AT3-1902		100.0	400.0	50.0	400.0	50.0	300.0	137.5
NTH-AT3-1901		100.0	400.0	50.0	400.0	50.0	300.0	150.0
STH-AT2-1901		0.0	0.0	25.0	200.0	50.0	300.0	75.0

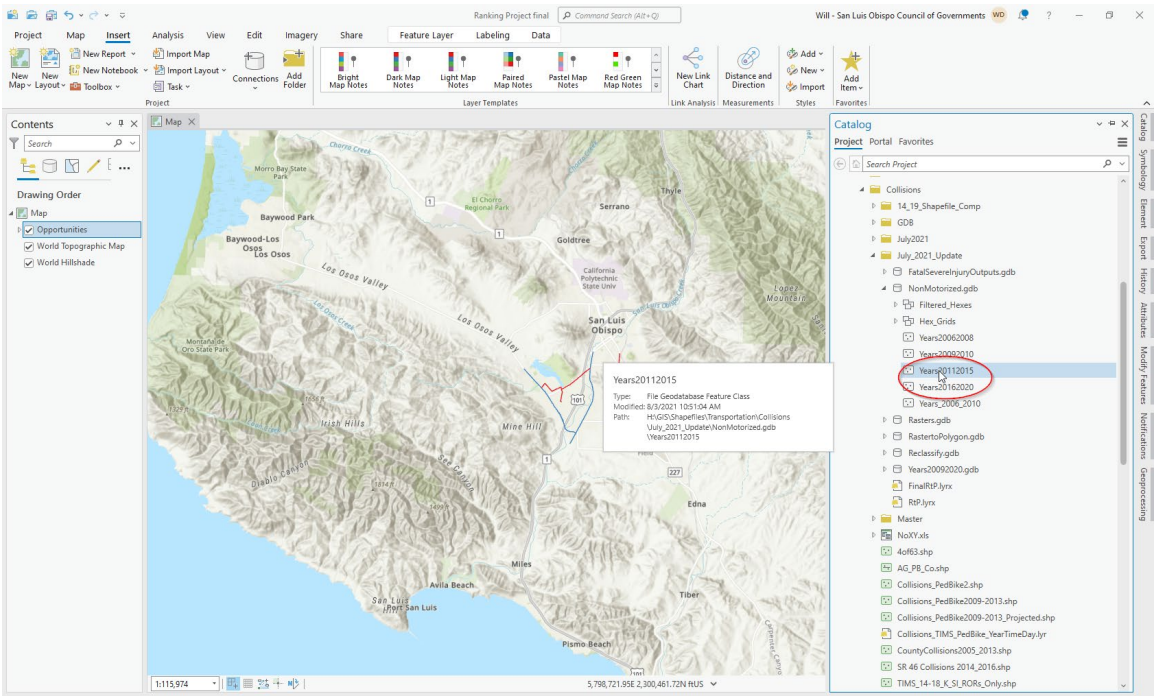
Figure 3-6 shows with the stakeholder multiplier of 4, the project scores 400 points for the Opportunity factor.

4. Safety

Safety was given the highest score of "8" by the stakeholder group. The Safety factor accounts for the risk of a pedestrian or bicyclist being involved with a traffic collision or crash. Safety is important because pedestrians and bicyclists are vulnerable to being killed or injured when struck by a motor vehicle. Concerns about safety can be a significant barrier when people choose to walk or bicycle. In this analysis safety was evaluated primarily in terms of reported pedestrian and bicycle crashes and crash rates. Transportation Injury Mapping System (TIMS) data was utilized during this section of the analysis. Crash data was separated by fatal and non-fatal crashes. Crashes along a corridor were counted up and depending on the total number of crashes, they were given a predetermined number of points. They were also assigned 25 extra points for each fatality along the corridor. The points in this section were multiplied by the stakeholder value of 8 and added with the other 5 factor scores to create the final score.

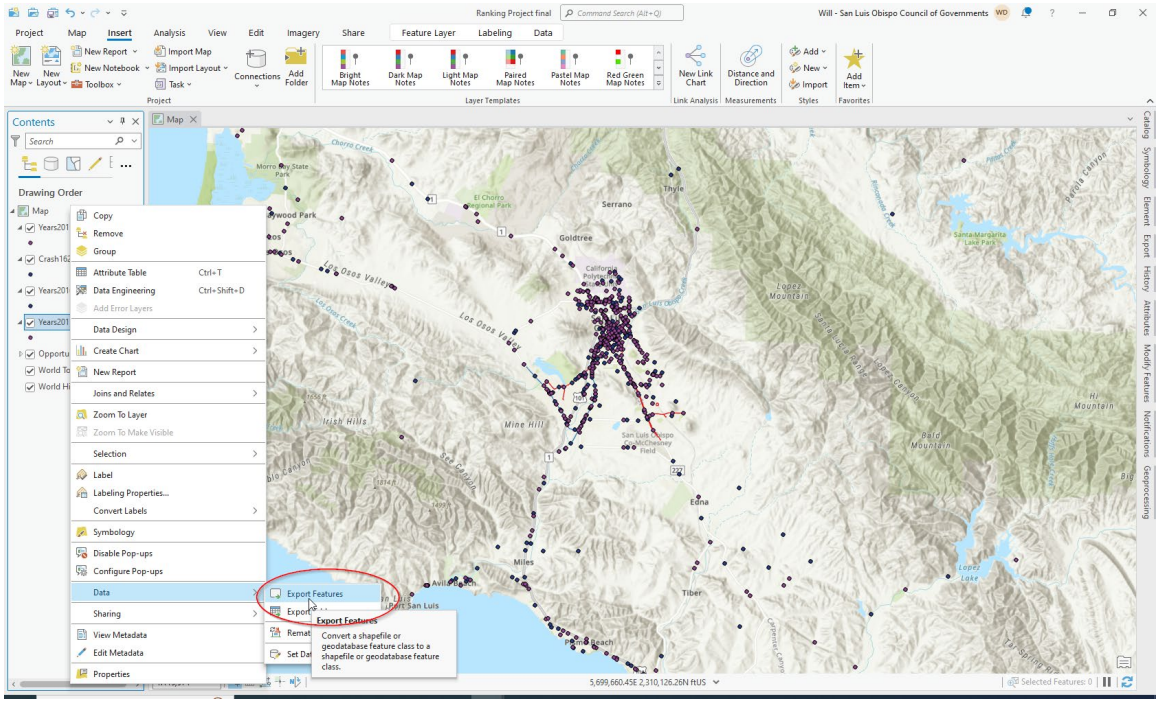
Creating the Safety Layer

Figure 4-1: Adding the Crash Data to the Map



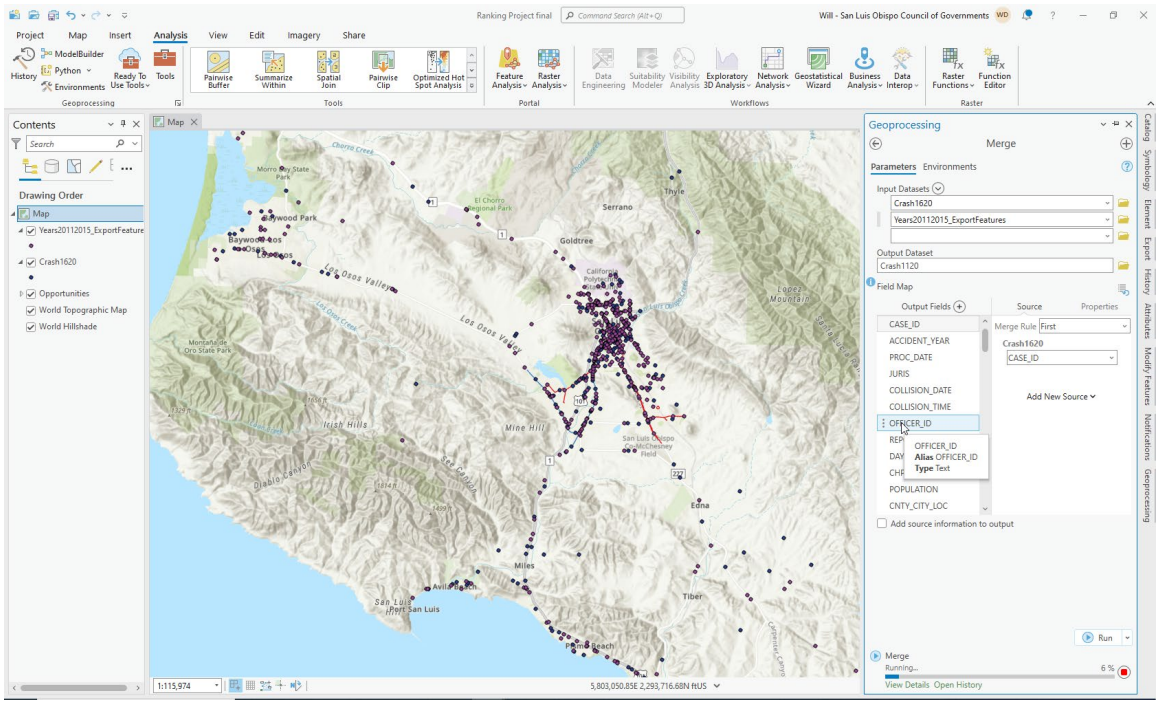
Step 1: Find the most recent non-motorized crash data for the past 10 years and add it to the map: **H:\GIS\Shapefiles\Transportation\Collisions\July_2021_Update\NonMotorized.gdb**

Figure 4-2: Exporting Crash Data Features



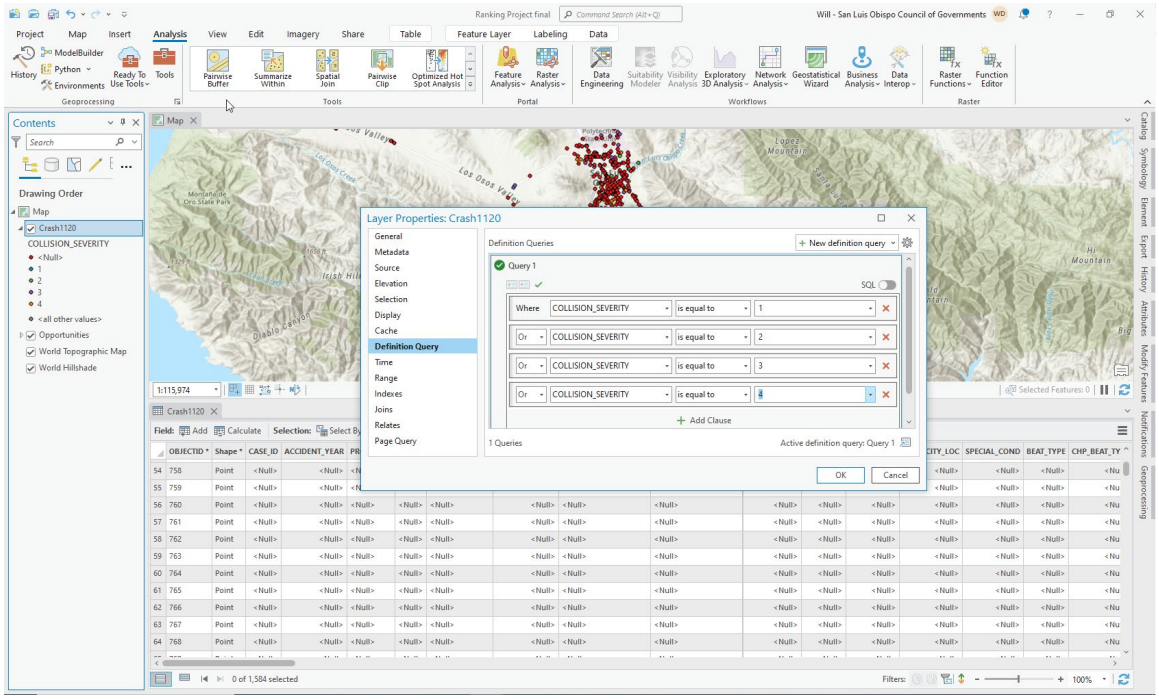
Step 2: Export features to preserve the original data set. In this case this step had to be completed with the 2011-2015 and 2016-2020 datasets.

Figure 4-3: Merging Crash Data Features



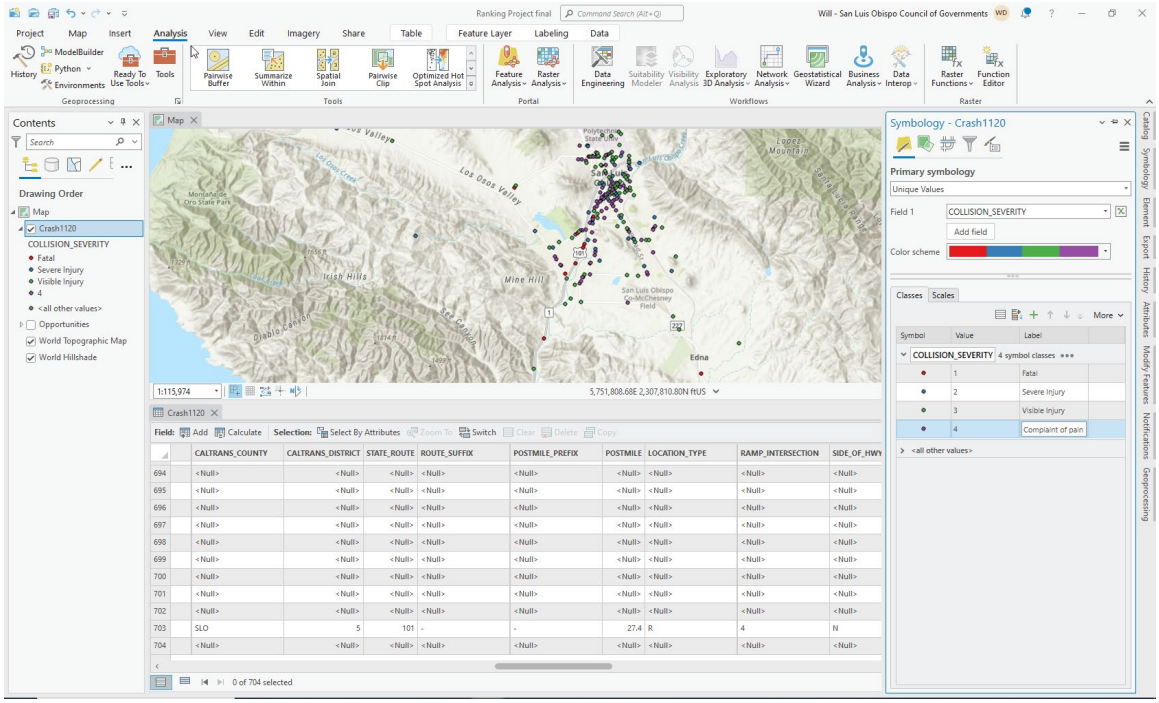
Step 3: Merge the exported features into one dataset.

Figure 4-4: Running a Crash Data Definition Query



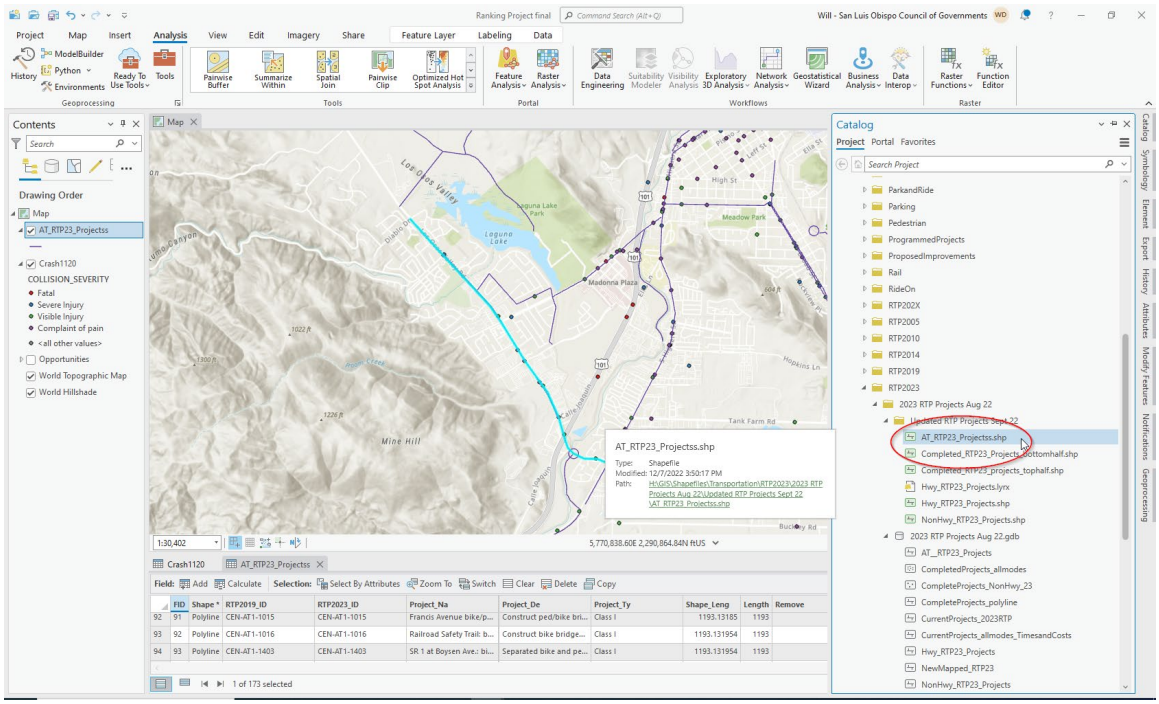
Step 4: Run a definition query to remove the Null crashes (crashes without a noted collision severity) in the dataset.

Figure 4-5: Changing the Symbology



Step 5: Change the symbology to unique values with respect to crash severity to make it easier to visually identify the severity of the crash.

Figure 4-6 Adding Active Transportation Projects



Step 6: Add the most recent shapefile of all the AT projects to be evaluated. Select the project. Count the collisions on the corridor noting the severity. Note: it is important to zoom in along the corridor; some crashes happen on top of each other and may be difficult to count accurately. Use Table 1 to determine point values for the variables.

Step 7: Input the project into the PlanDesign_Tools_APT_Programmed_Spreadsheet using the points assigned in the previous step.

Sample Project CEN-ATP-2309 Safety Analysis:

Figure 4-7: Safety Analysis Sample Project (GIS)

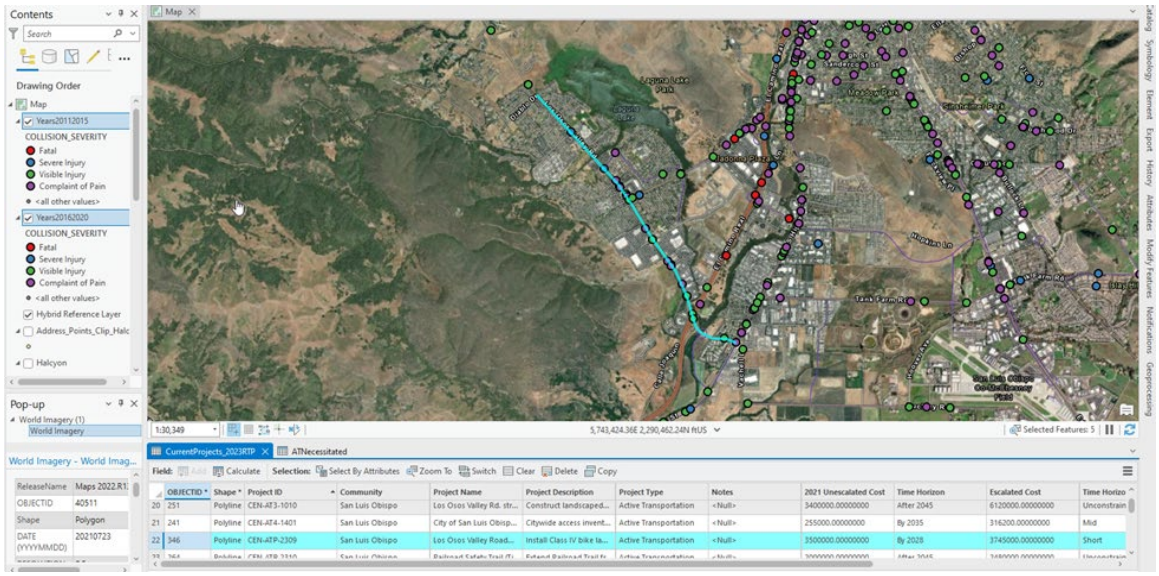
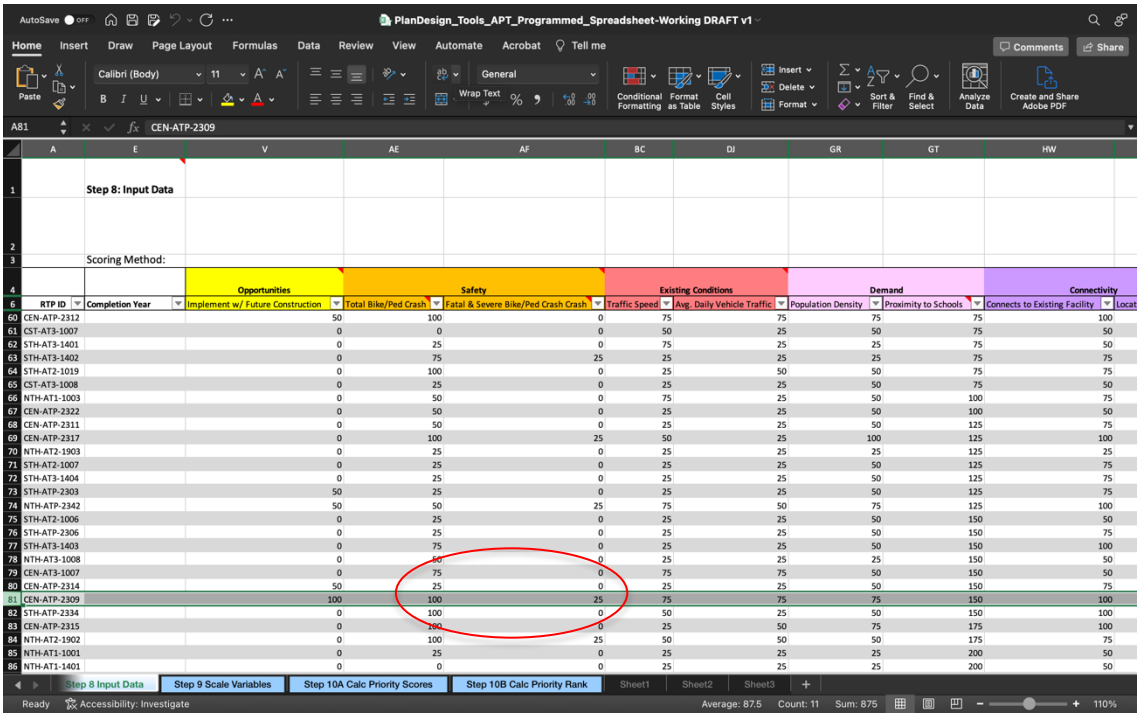


Figure 4-7 is the linework for project CEN-ATP-2309 with the Crash Data.

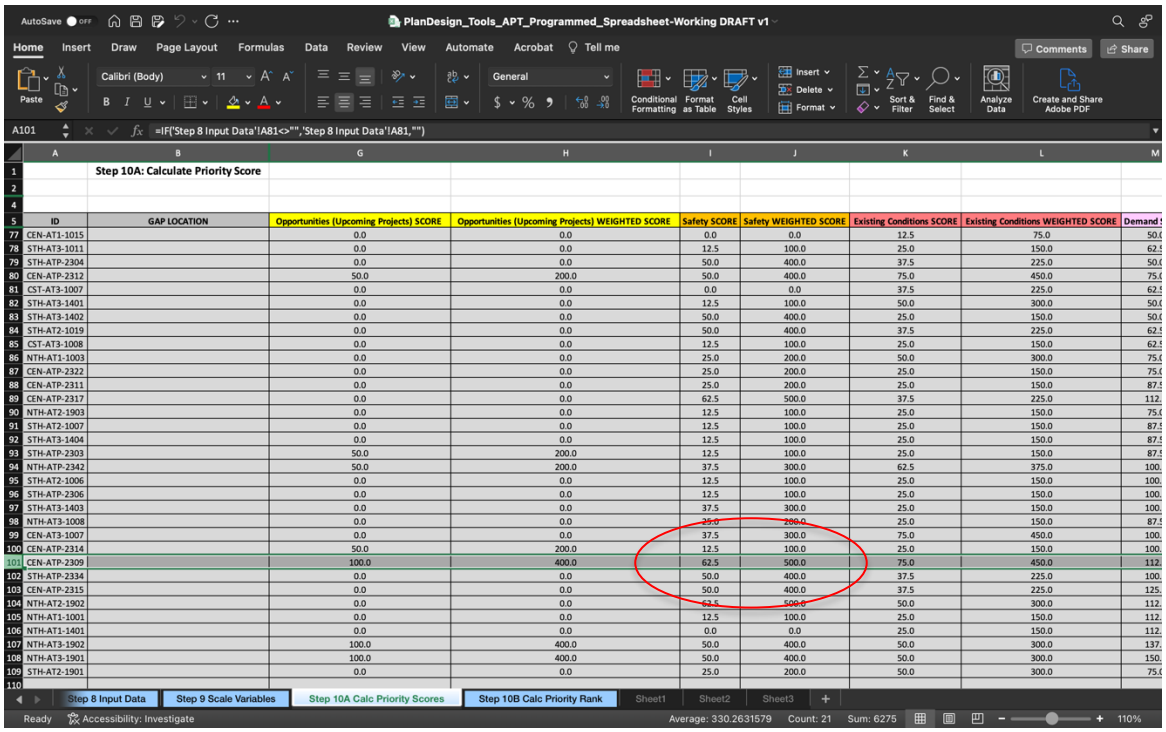
Figure 4-8: Safety Analysis Sample Project (Excel)



RTP ID	Completion Year	Implement w/ Future Construction	Total Bike/Ped Crash	Fatal & Severe Bike/Ped Crash Crash	Traffic Speed	Avg. Daily Vehicle Traffic	Population Density	Proximity to Schools	Connects to Existing Facility
CEN-ATP-2312		50	100	0	75	75	75	75	100
CST-AT3-1007		0	0	0	50	25	50	75	50
STH-AT3-1401		0	25	0	75	25	25	75	50
STH-AT3-1402		0	75	25	25	25	25	75	75
STH-AT2-1019		0	100	0	25	50	50	75	75
CST-AT3-1008		0	25	0	25	25	50	75	50
NTH-AT1-1003		0	50	0	75	25	50	100	75
CEN-ATP-2322		0	50	0	25	25	50	100	50
CEN-ATP-2311		0	50	0	25	25	50	125	75
CEN-ATP-2317		0	100	25	50	25	100	125	100
NTH-AT2-1903		0	25	0	25	25	25	125	25
STH-AT2-1007		0	25	0	25	25	50	125	75
STH-AT3-1404		0	25	0	25	25	50	125	75
STH-ATP-2303		50	25	0	25	25	50	125	75
NTH-ATP-2342		50	50	25	75	50	75	125	100
STH-AT2-1006		0	25	0	25	25	50	150	50
STH-ATP-2306		0	25	0	25	25	50	150	75
STH-AT3-1403		0	75	0	25	25	50	150	100
NTH-AT3-1008		0	50	0	25	25	25	150	50
CEN-AT3-1007		0	75	0	75	75	50	150	50
CEN-ATP-2314		50	25	0	25	25	50	150	75
CEN-ATP-2309		100	100	25	75	75	75	150	100
STH-ATP-2334		0	100	0	50	25	50	150	100
CEN-ATP-2315		0	100	0	25	50	75	175	100
NTH-AT2-1902		0	100	25	50	50	50	175	75
NTH-AT1-1001		0	25	0	25	25	25	200	50
NTH-AT1-1401		0	0	0	25	25	25	200	50

CEN-ATP-2309 had over 11 crashes along the corridor so it scored 100 points for “total bike/ped crash”. The corridor also got a score of 25 points for a fatality in the past 10 years. The project scored a raw 62.5 points for safety.

Figure 4-9 Safety Analysis Sample Project Weighted Score



PlanDesign_Tools_APT_Programmed_Spreadsheet-Working DRAFT v1

Step 10A: Calculate Priority Score

ID	GAP LOCATION	Opportunities (Upcoming Projects) SCORE	Opportunities (Upcoming Projects) WEIGHTED SCORE	Safety SCORE	Safety WEIGHTED SCORE	Existing Conditions SCORE	Existing Conditions WEIGHTED SCORE	Demand
CEN-AT1-1015		0.0	0.0	0.0	0.0	12.5	75.0	50.
STH-AT3-1011		0.0	0.0	12.5	100.0	25.0	150.0	62.
STH-ATP-2304		0.0	0.0	50.0	400.0	37.5	225.0	50.
CEN-ATP-2312		50.0	200.0	50.0	400.0	75.0	450.0	75.
CST-AT3-1007		0.0	0.0	0.0	0.0	37.5	225.0	62.
STH-AT3-1401		0.0	0.0	12.5	100.0	50.0	300.0	50.
STH-AT3-1402		0.0	0.0	50.0	400.0	25.0	150.0	50.
STH-AT2-1019		0.0	0.0	50.0	400.0	37.5	225.0	62.
CST-AT3-1008		0.0	0.0	12.5	100.0	25.0	150.0	62.
NTH-AT1-1003		0.0	0.0	25.0	200.0	50.0	300.0	75.
CEN-ATP-2322		0.0	0.0	25.0	200.0	25.0	150.0	75.
CEN-ATP-2311		0.0	0.0	25.0	200.0	25.0	150.0	87.
CEN-ATP-2317		0.0	0.0	62.5	500.0	37.5	225.0	112.
NTH-AT2-1903		0.0	0.0	12.5	100.0	25.0	150.0	75.
STH-AT2-1007		0.0	0.0	12.5	100.0	25.0	150.0	87.
STH-AT3-1404		0.0	0.0	12.5	100.0	25.0	150.0	87.
STH-ATP-2303		50.0	200.0	12.5	100.0	25.0	150.0	87.
NTH-ATP-2342		50.0	200.0	37.5	300.0	62.5	375.0	100.
STH-AT2-1006		0.0	0.0	12.5	100.0	25.0	150.0	100.
STH-ATP-2306		0.0	0.0	12.5	100.0	25.0	150.0	100.
STH-AT3-1403		0.0	0.0	37.5	300.0	25.0	150.0	100.
NTH-AT3-1008		0.0	0.0	25.0	200.0	25.0	150.0	87.
CEN-AT3-1007		0.0	0.0	37.5	300.0	75.0	450.0	100.
CEN-ATP-2314		50.0	200.0	12.5	100.0	25.0	150.0	100.
CEN-ATP-2309		100.0	400.0	62.5	500.0	75.0	450.0	112.
STH-ATP-2334		0.0	0.0	50.0	400.0	37.5	225.0	100.
CEN-ATP-2315		0.0	0.0	50.0	400.0	37.5	225.0	125.
NTH-AT2-1902		0.0	0.0	62.5	500.0	50.0	300.0	112.
NTH-AT1-1001		0.0	0.0	12.5	100.0	25.0	150.0	112.
NTH-AT1-1401		0.0	0.0	0.0	0.0	25.0	150.0	112.
NTH-AT3-1902		100.0	400.0	50.0	400.0	50.0	300.0	137.
NTH-AT3-1901		100.0	400.0	50.0	400.0	50.0	300.0	150.
STH-AT2-1901		0.0	0.0	25.0	200.0	50.0	300.0	75.

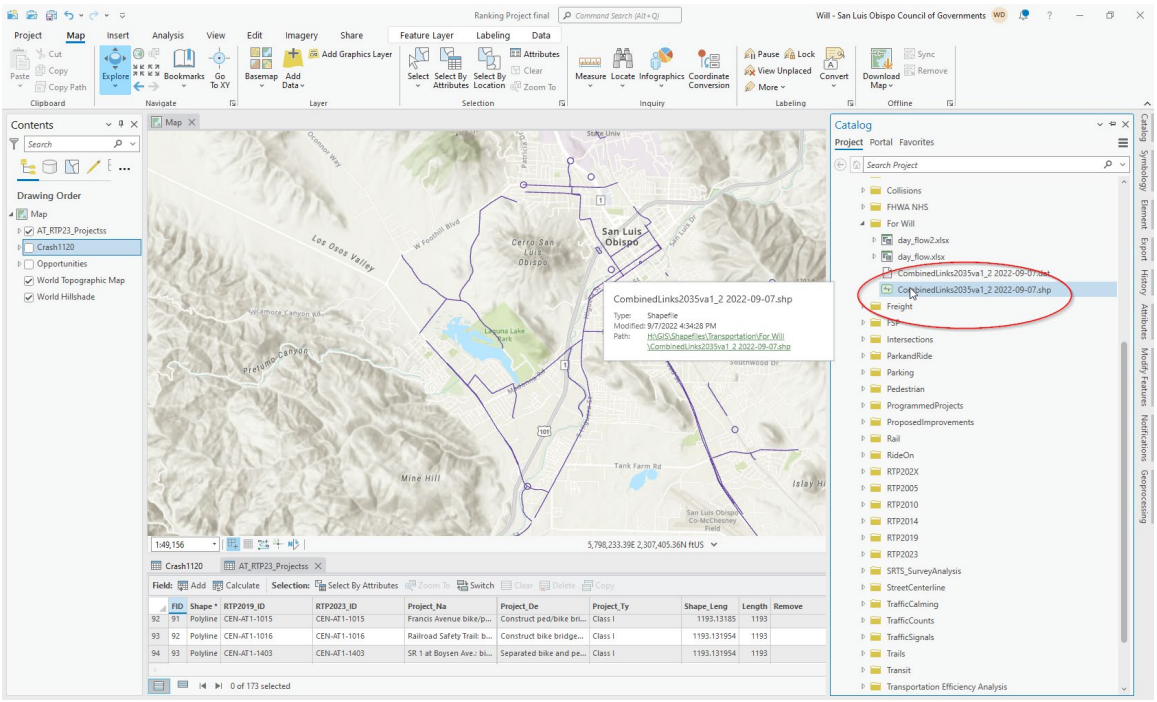
The points in this section were multiplied by the stakeholder value of 8 and added with the other 5 factor scores to create the final score. Figure 4-9 shows the final weighted score of 500 points.

5. Existing Conditions

Existing conditions scored a "6" with the stakeholder group. The existing conditions factor includes physical conditions that have an impact on pedestrian or bicycle safety, comfort, or demand. This can include whether a sidewalk exists, the number of travel lanes, or the presence of a buffer. The existing conditions factor also includes travel behaviors that influence conditions for walking and bicycling such as motor vehicle volumes and speeds. This is especially relevant when prioritizing with an emphasis on Safety and Demand. In this analysis, existing conditions were evaluated by the presence of bike lanes or sidewalks, Average daily vehicle traffic, and posted speed. They were evaluated consistent with Table 1.

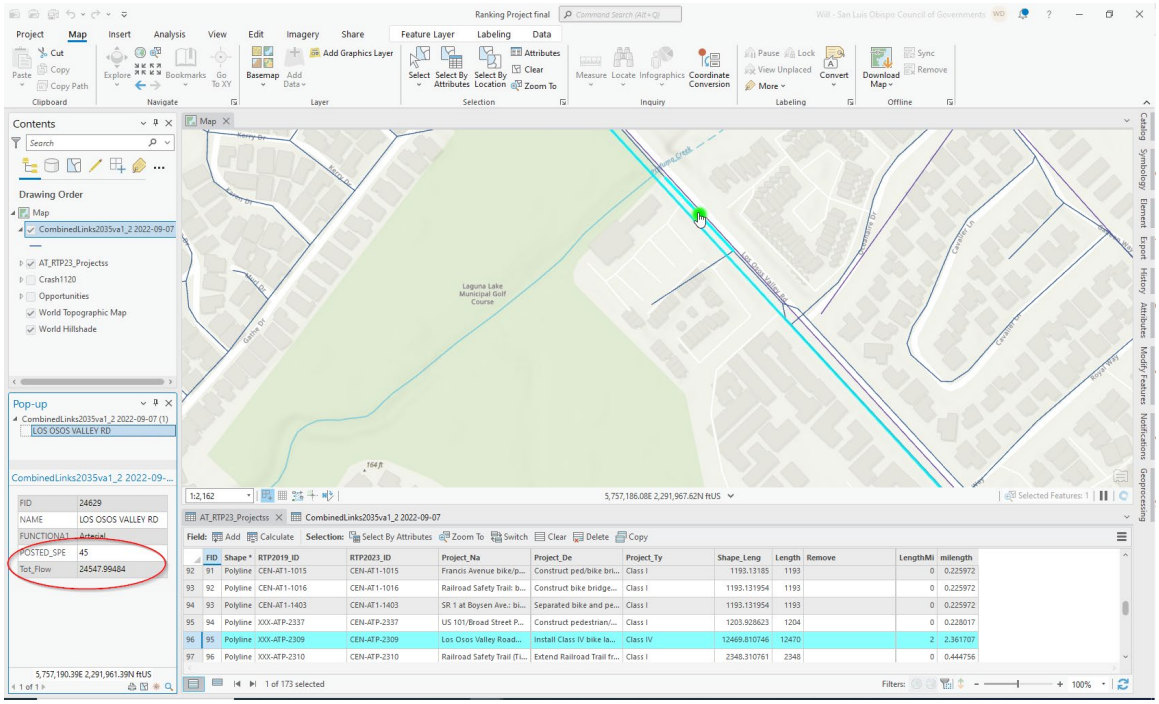
Creating the Existing Conditions Layer

Figure 5-1: Adding Average Daily Traffic Data



Step 1: Find the most recent Average Daily Traffic from the traffic model: **H:\GIS\Shapefiles\Transportation\For Will\CombinedLinks2035va1_2 2022-09-07.shp** This was provided by GIS for this project and not consistently updated. It would be best to ask for new data.

Figure 5-2: Finding Speed and Flow for the Corridor



Step 2: Select a section of roadway along the corridor the project is located on and note the posted speed and the total flow. Use Table 1 to determine point values for the variables.

Step 3: Input the project into the PlanDesign_Tools_APT_Programmed_Spreadsheet using the points assigned in the previous step.

Sample Project CEN-ATP-2309 Existing Conditions Analysis:

Figure 5-3 Sample Project Existing Conditions Analysis (GIS)

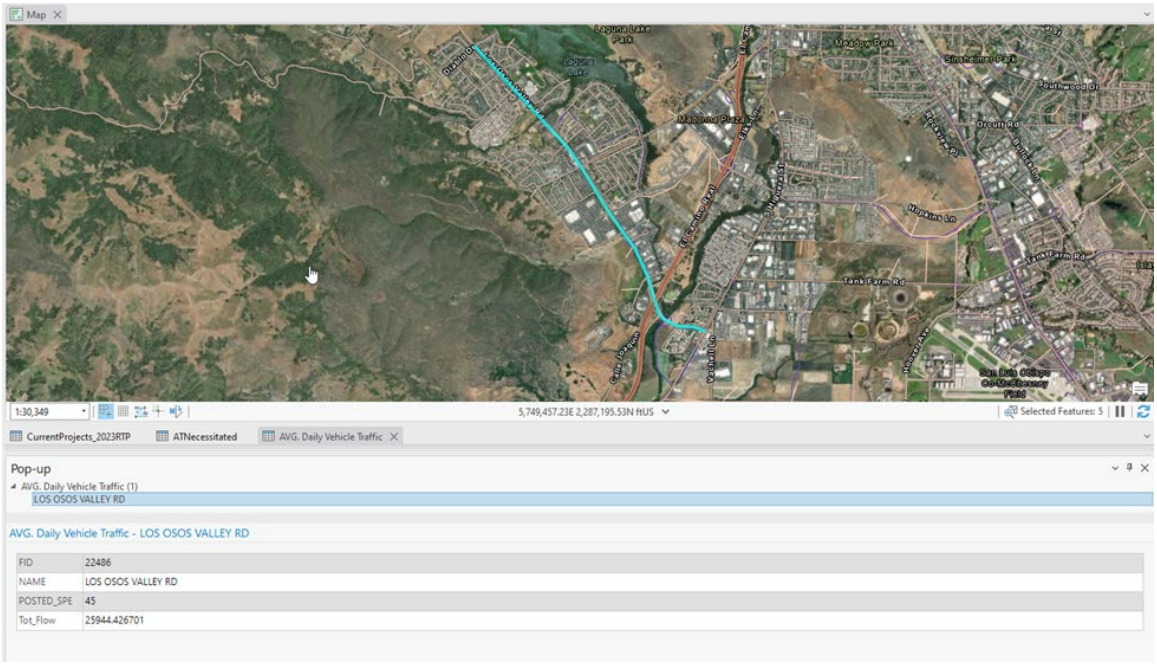
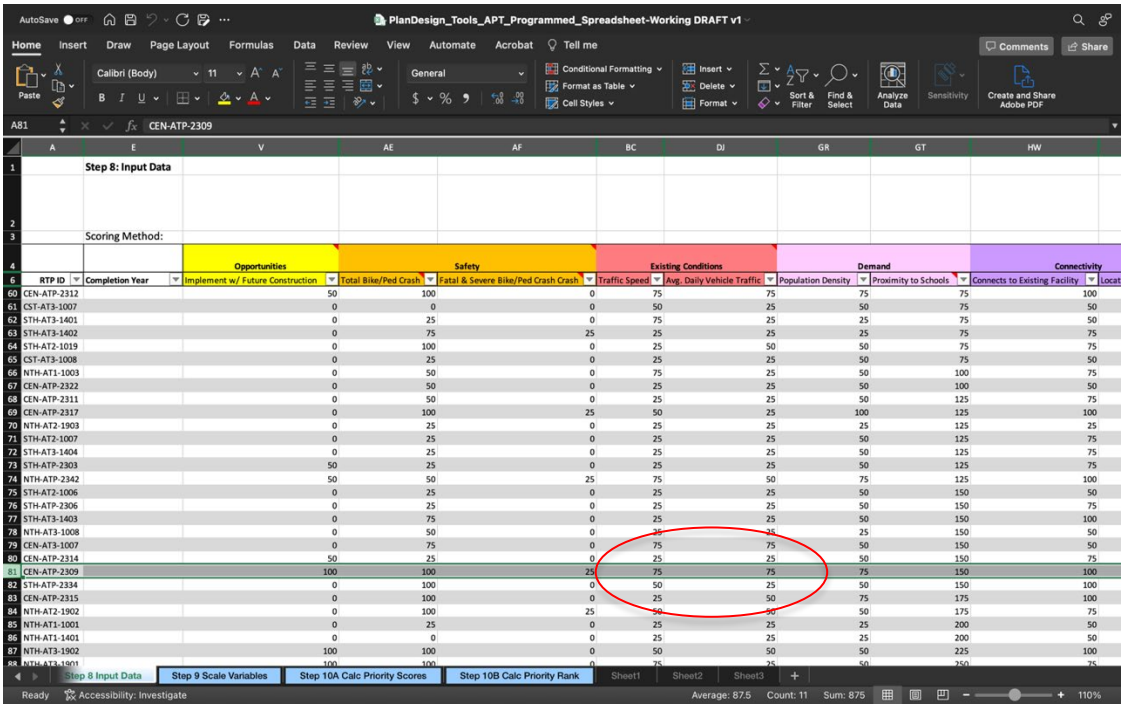


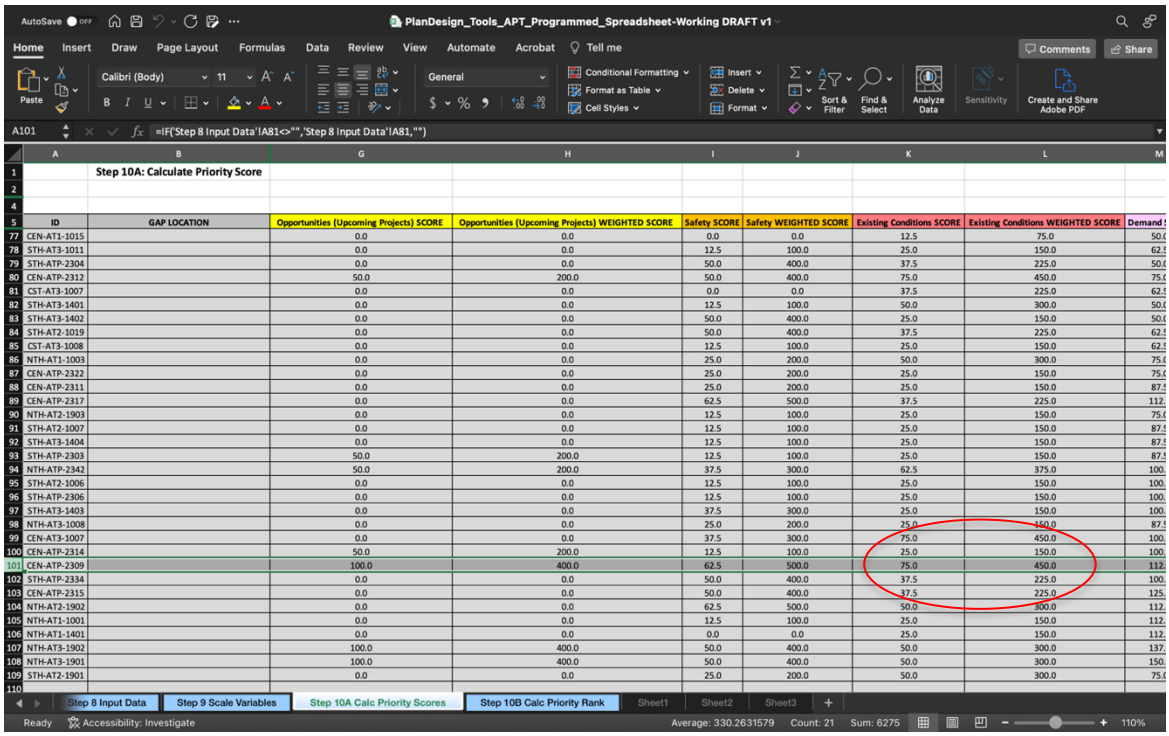
Figure 5-3 is the linework for project CEN-ATP-2309 with the with the traffic model data.

Figure 5-4: Sample Project Existing Conditions Analysis (Excel)



The project CEN-ATP-2309 is located on Los Osos Valley Road which has a speed limit of 45 and has an average daily vehicle traffic flow of 25944 cars. The corridor scored 75 points for the posted speed limit and 75 points for having between 21,000 and 30,000 cars per day.

Figure 5-5: Sample Project Existing Conditions Analysis Weighted Score



PlanDesign_Tools_APT_Programmed_Spreadsheet-Working DRAFT v1

=IF('Step 8 Input Data'!A81<>"",'Step 8 Input Data'!A81,"")

Step 10A: Calculate Priority Score

ID	GAP LOCATION	Opportunities (Upcoming Projects) SCORE	Opportunities (Upcoming Projects) WEIGHTED SCORE	Safety SCORE	Safety WEIGHTED SCORE	Existing Conditions SCORE	Existing Conditions WEIGHTED SCORE	Demand
CEN-AT1-1015		0.0	0.0	0.0	0.0	12.5	75.0	50.
STH-AT3-1011		0.0	0.0	12.5	100.0	25.0	150.0	62.
STH-ATP-2304		0.0	0.0	50.0	400.0	37.5	225.0	50.
CEN-ATP-2312		50.0	200.0	50.0	400.0	75.0	450.0	75.
CST-AT3-1007		0.0	0.0	0.0	0.0	37.5	225.0	62.
STH-AT3-1401		0.0	0.0	12.5	100.0	50.0	300.0	50.
STH-AT3-1402		0.0	0.0	50.0	400.0	25.0	150.0	50.
STH-AT2-1019		0.0	0.0	50.0	400.0	37.5	225.0	62.
CST-AT3-1008		0.0	0.0	12.5	100.0	25.0	150.0	62.
NTH-AT1-1003		0.0	0.0	25.0	200.0	50.0	300.0	75.
CEN-ATP-2322		0.0	0.0	25.0	200.0	25.0	150.0	75.
CEN-ATP-2311		0.0	0.0	25.0	200.0	25.0	150.0	87.
CEN-ATP-2317		0.0	0.0	62.5	500.0	37.5	225.0	112.
NTH-AT2-1903		0.0	0.0	12.5	100.0	25.0	150.0	75.
STH-AT2-1007		0.0	0.0	12.5	100.0	25.0	150.0	87.
STH-AT3-1404		0.0	0.0	12.5	100.0	25.0	150.0	87.
STH-ATP-2303		50.0	200.0	12.5	100.0	25.0	150.0	87.
NTH-ATP-2342		50.0	200.0	37.5	300.0	62.5	375.0	100.
STH-AT2-1006		0.0	0.0	12.5	100.0	25.0	150.0	100.
STH-ATP-2306		0.0	0.0	12.5	100.0	25.0	150.0	100.
STH-AT3-1403		0.0	0.0	37.5	300.0	25.0	150.0	100.
NTH-AT3-1008		0.0	0.0	25.0	200.0	25.0	150.0	87.
CEN-AT3-1007		0.0	0.0	37.5	300.0	75.0	450.0	100.
CEN-ATP-2314		50.0	200.0	12.5	100.0	25.0	150.0	100.
CEN-ATP-2309		100.0	400.0	62.5	500.0	75.0	450.0	112.
STH-ATP-2334		0.0	0.0	50.0	400.0	37.5	225.0	100.
CEN-ATP-2315		0.0	0.0	50.0	400.0	37.5	225.0	125.
NTH-AT2-1902		0.0	0.0	62.5	500.0	50.0	300.0	112.
NTH-AT1-1001		0.0	0.0	12.5	100.0	25.0	150.0	112.
NTH-AT1-1401		0.0	0.0	0.0	0.0	25.0	150.0	112.
NTH-AT3-1902		100.0	400.0	50.0	400.0	50.0	300.0	137.
NTH-AT3-1901		100.0	400.0	50.0	400.0	50.0	300.0	150.
STH-AT2-1901		0.0	0.0	25.0	200.0	50.0	300.0	75.

Step 8 Input Data | Step 9 Scale Variables | Step 10A Calc Priority Scores | Step 10B Calc Priority Rank | Sheet1 | Sheet2 | Sheet3

Ready | Accessibility: Investigate | Average: 330.2631579 | Count: 21 | Sum: 6275 | 110%

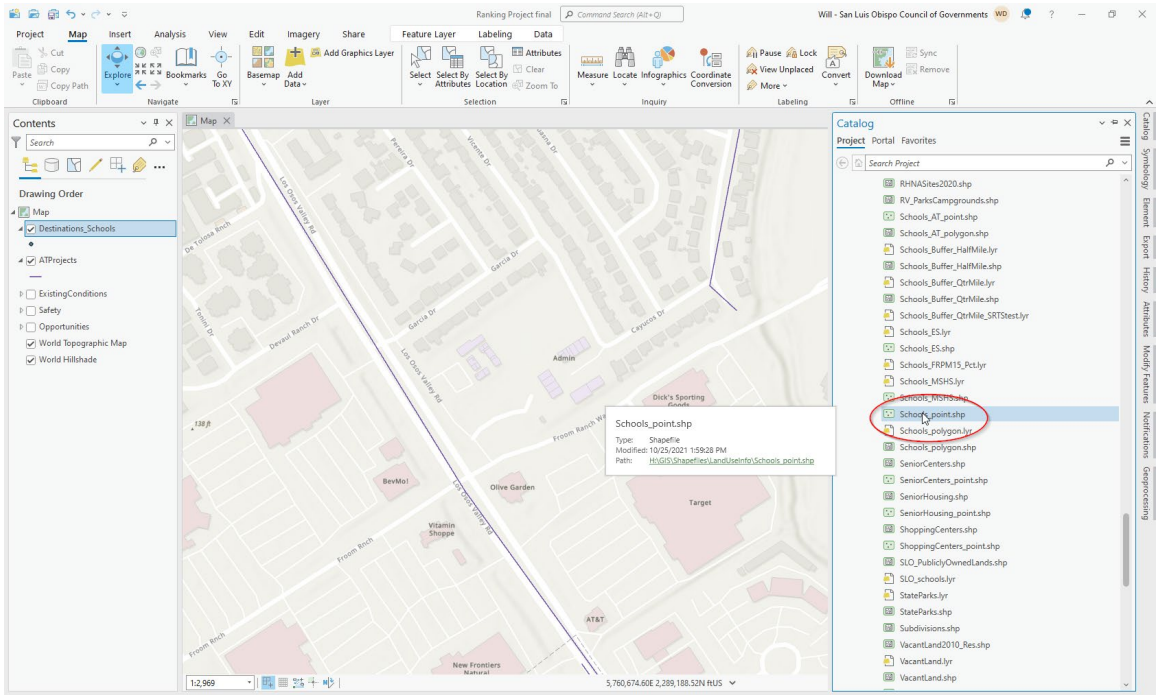
The project scored a raw 75 points for existing conditions. The points in this section were multiplied by the stakeholder value of 6 and added with the other 5 factor scores to create the final score. Figure 5-5 shows the weighted score of 450 points.

6. Demand

The Demand factor scored a "4" with the stakeholders. The demand factor represents existing or potential pedestrian and bicycle activity levels. This is a key factor to consider when one of the goals for this project is aiming to add new AT facilities. Existing demand can be measured by counting the number of people on foot and bike at a given time and location. This did not exist for all active transportation projects, so projects were evaluated based on potential or latent pedestrian or bicycle demand. This was done by considering the proximity of the specific AT project to schools and the population density in the area surrounding the project. Analyzing latent demand enables communities to focus resources and investments on areas with the greatest potential for multimodal trips even if current levels of AT trips are low. When analyzing the proximity to schools, if the project was within ½ a mile they scored 25 points and if it was within ¼ mile they scored 50 points. Projects that were counted for ¼ mile did not double count for ½ mile. To analyze the population density all the residential addresses within 400 meters of a project were counted.

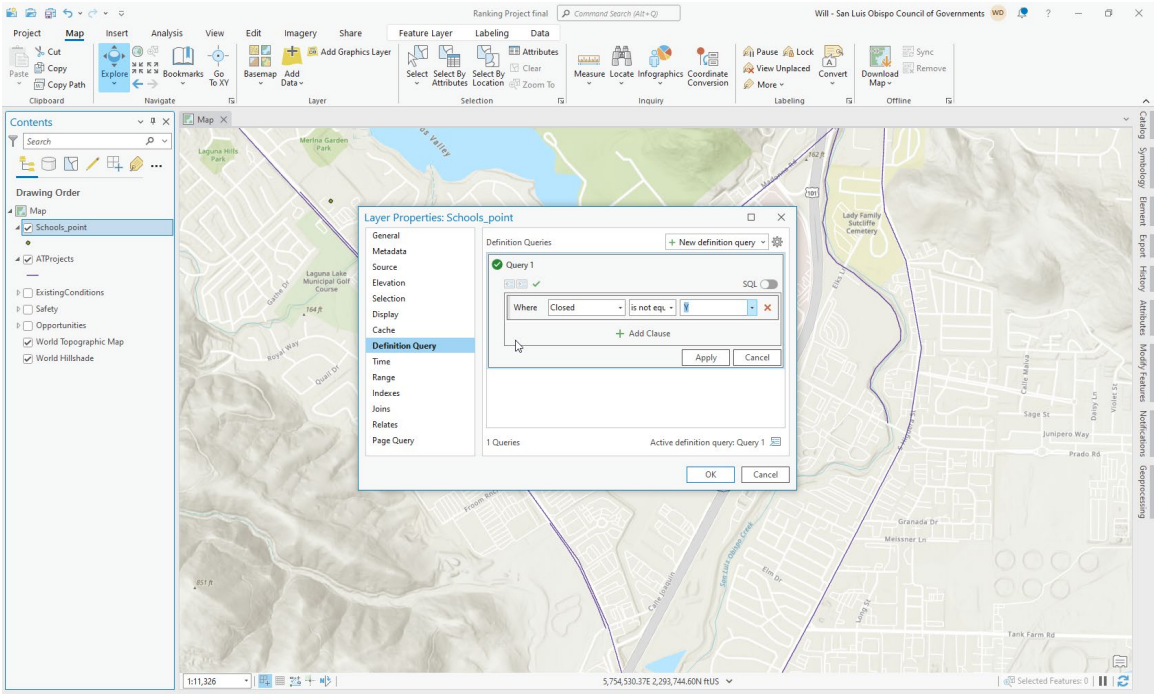
Creating the Demand Layers

Figure 6-1: Importing the Existing School Data



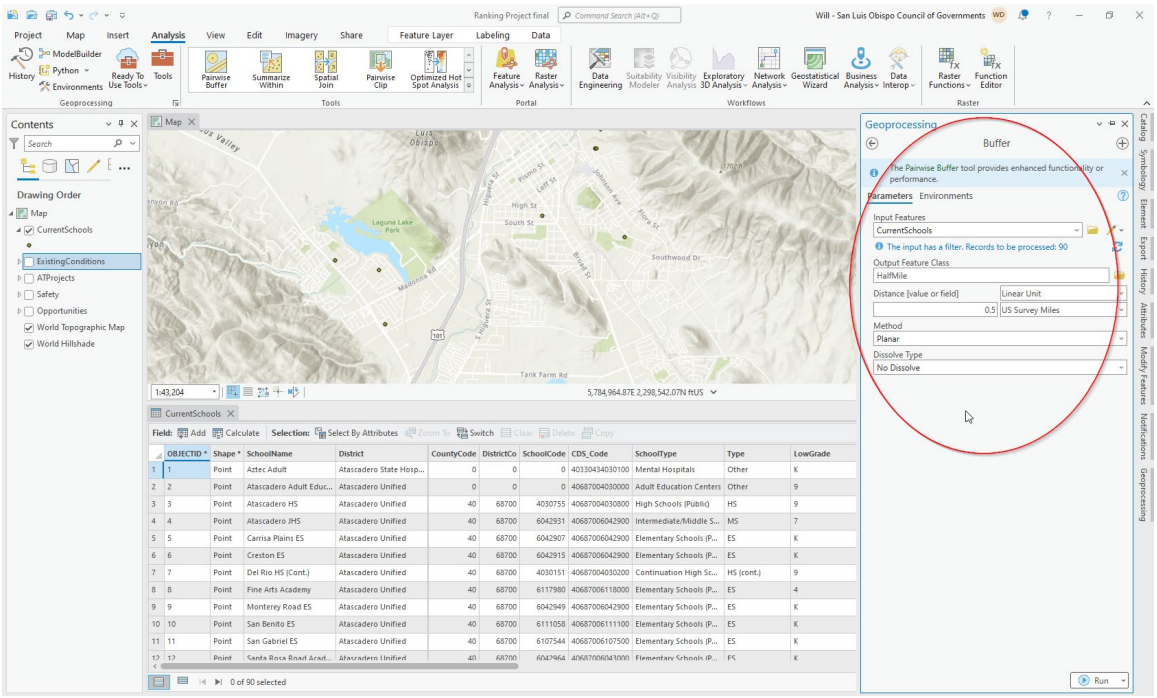
Step 1: Find the most recent school data here: **H:\GIS\Shapefiles\LandUseInfo\Schools_point.shp** and add to the current map. Note: This is point value data. Polygon data was used in the original evaluation and may cause some discrepancies in scores in recreating this experiment. However, this is the most recently updated data as of this report.

Figure 6-2: Filtering out Closed Schools



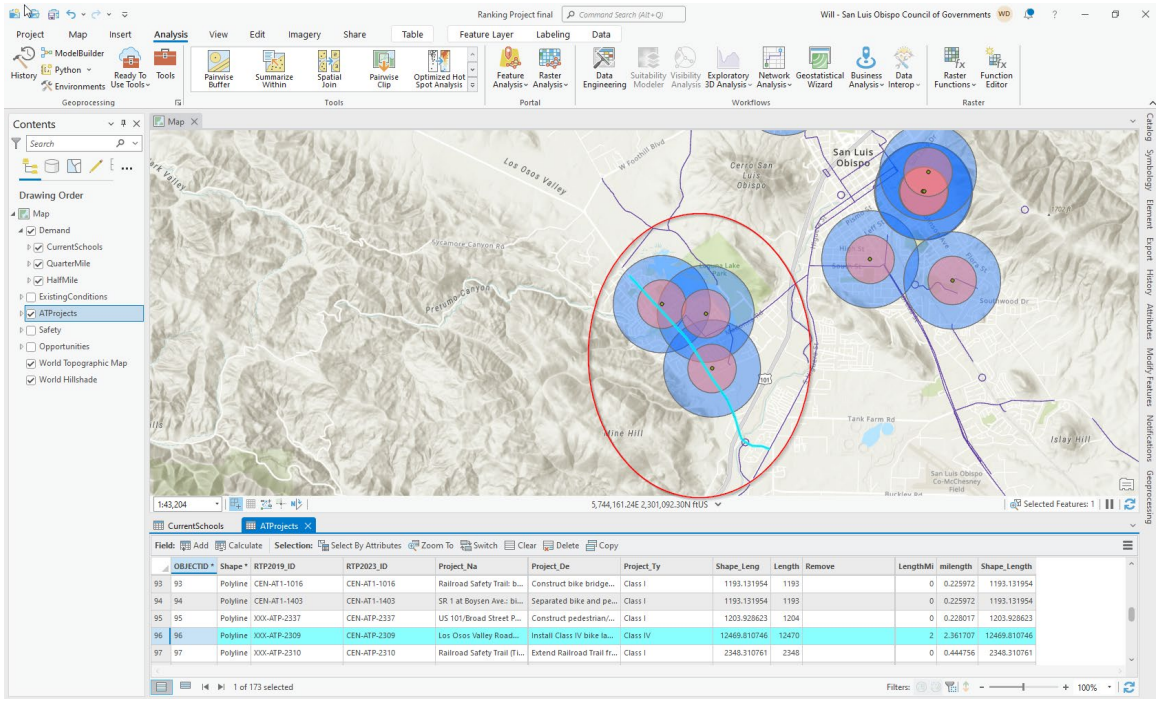
Step 2: Run a definition query to make sure that you are only using the current and open schools in the area.

Figure 6-3: Creating School Buffers



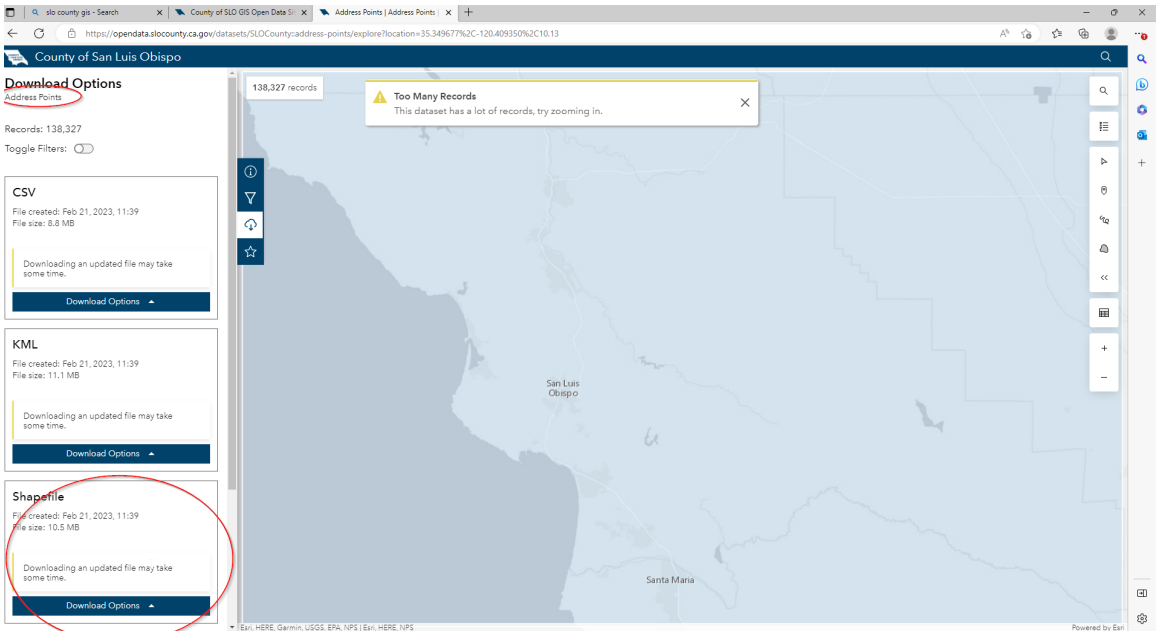
Step 3: Create a Buffer around the school points for a half mile and quarter mile.

Figure 6-4: Assessing Point Values for Schools



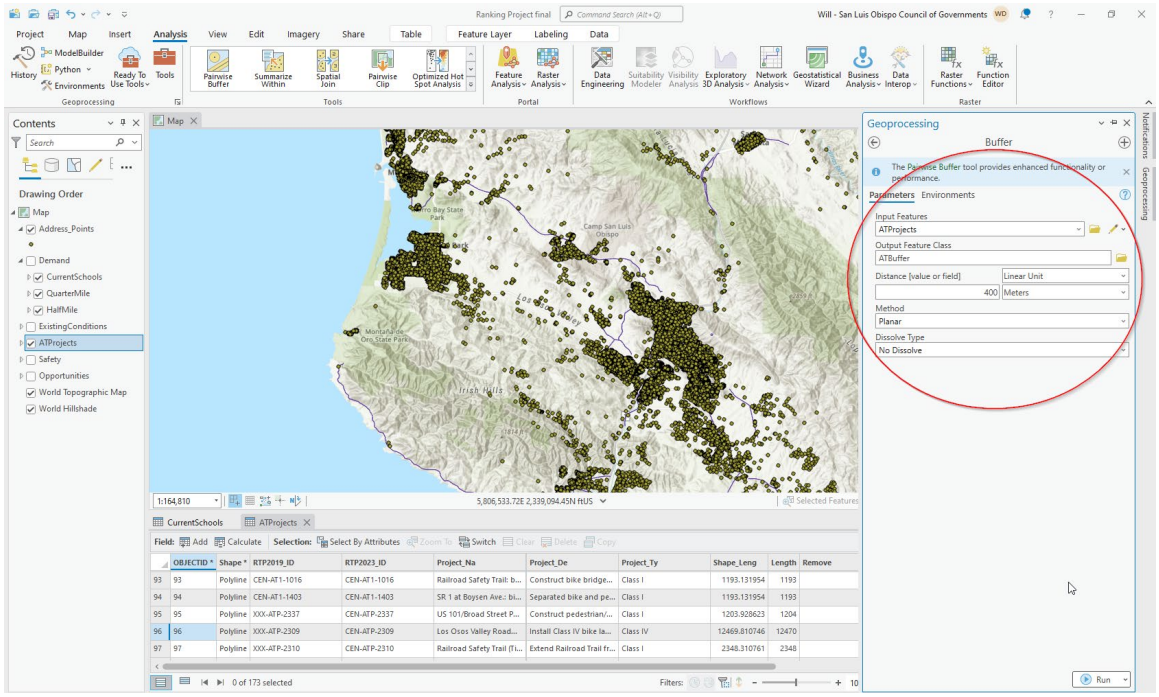
Step 4: Count the number of schools within ¼ and ½ miles of the project and assign point values consistent with Table 2-1.

Figure 6-5: Finding Address Data



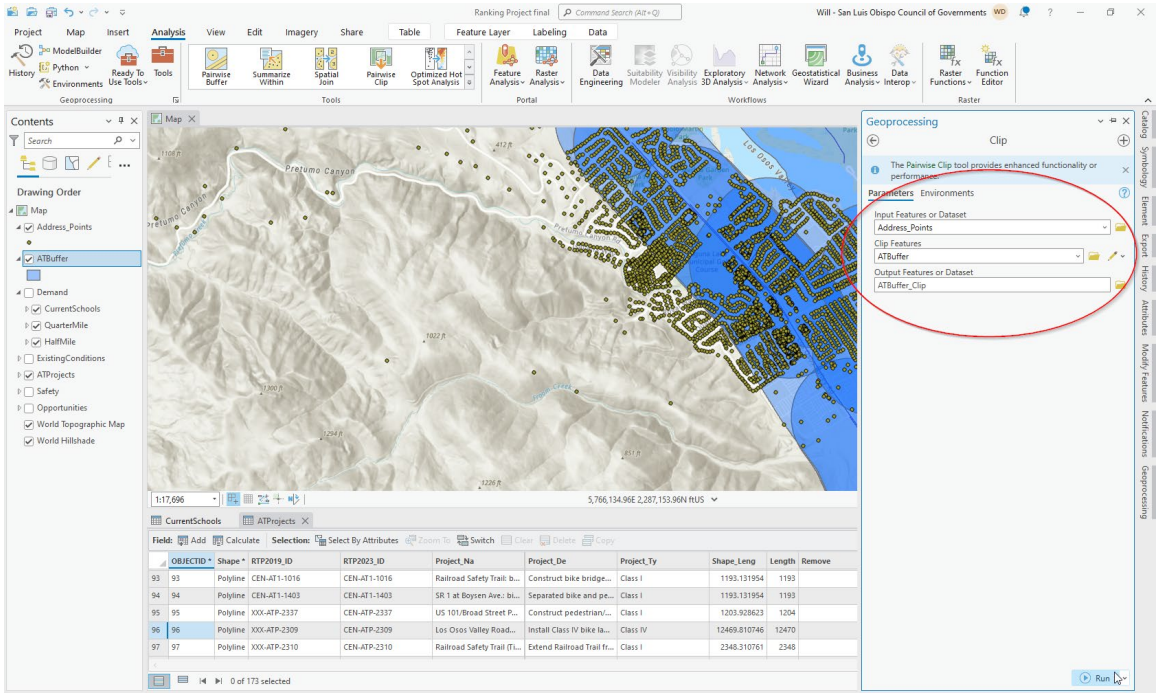
Step 5: Find the most updated address data on the SLO County website. The address points can be found here: County of San Luis Obispo GIS.

Figure 6-6: Creating the Active Transportation Buffer



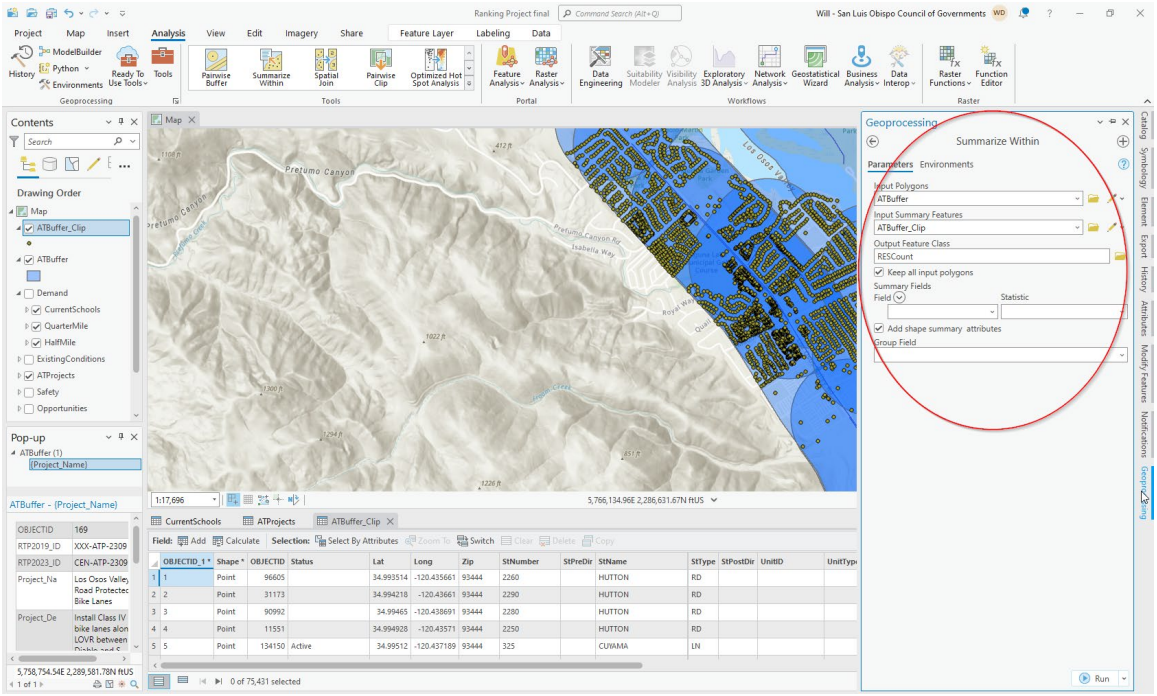
Step 6: After importing the data, create a 400m buffer around all the proposed AT projects.

Figure 6-7: Clipping the Address Points to the Buffer



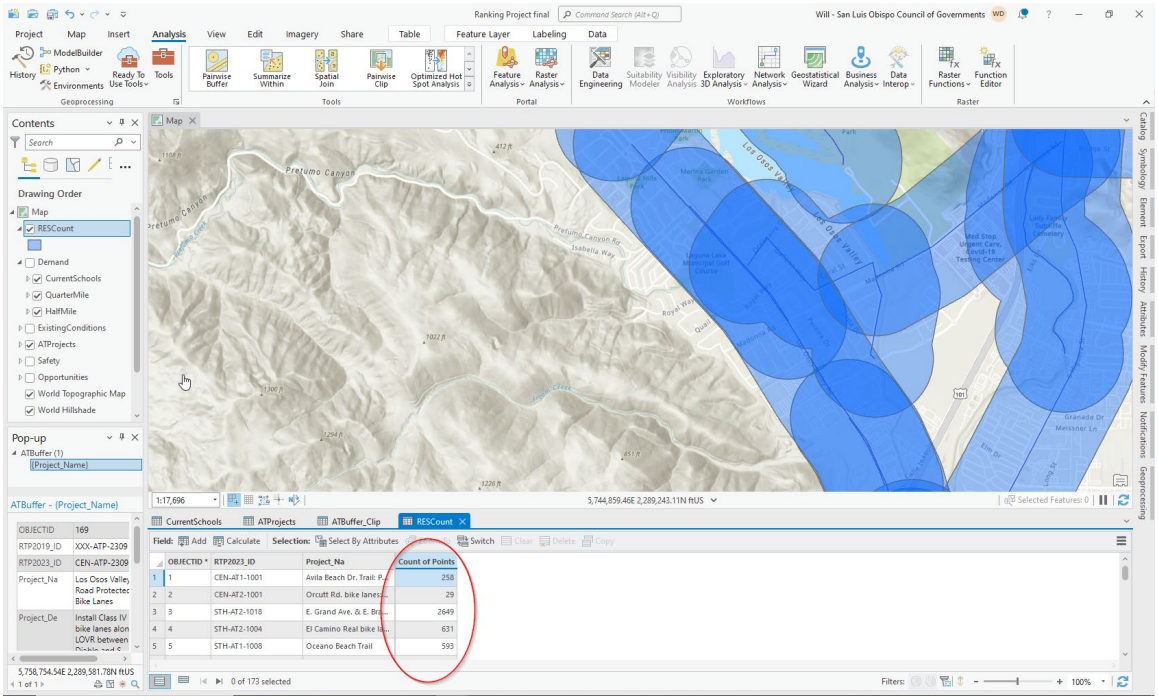
Step 7: Clip the address points to the 400m AT buffer.

Figure 6-8: Counting the Addresses within 400m of a Project



Step 8: Use Summarize Within to count the address points in the 400m buffer.

Figure 6-9: Scoring the Projects

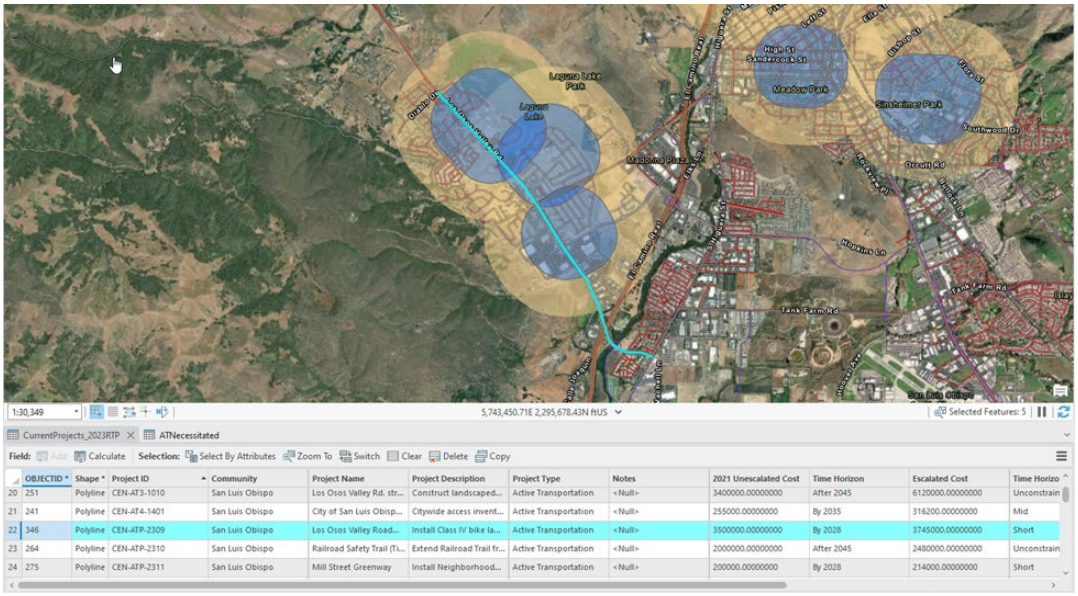


Step 9: Score the projects based on the values in Table 2-1.

Step 10: Input the project into the PlanDesign_Tools_APT_Programmed_Spreadsheet using the points assigned in the previous step.

Sample Project CEN-ATP-2309 Demand Analysis:

Figure 6-10: Sample Project Demand Analysis (GIS)



OBJECTID	Shape	Project ID	Community	Project Name	Project Description	Project Type	Notes	2021 Unescalated Cost	Time Horizon	Escalated Cost	Time Horizo
251	Polyline	CEN-AT3-1010	San Luis Obispo	Los Osos Valley Rd. str...	Construct landscaped...	Active Transportation	<Null>	3400000.00000000	After 2045	6120000.00000000	Unconstrain
241	Polyline	CEN-AT4-1401	San Luis Obispo	City of San Luis Obisp...	Citywide access invent...	Active Transportation	<Null>	255000.00000000	By 2035	316200.00000000	Mid
346	Polyline	CEN-ATP-2309	San Luis Obispo	Los Osos Valley Road...	Install Class IV bike la...	Active Transportation	<Null>	3500000.00000000	By 2028	3745000.00000000	Short
264	Polyline	CEN-ATP-2310	San Luis Obispo	Railroad Safety Trail (Ti...	Extend Railroad Trail fr...	Active Transportation	<Null>	2000000.00000000	After 2045	2480000.00000000	Unconstrain
275	Polyline	CEN-ATP-2311	San Luis Obispo	Mill Street Greenway	Install Neighborhood...	Active Transportation	<Null>	200000.00000000	By 2028	214000.00000000	Short

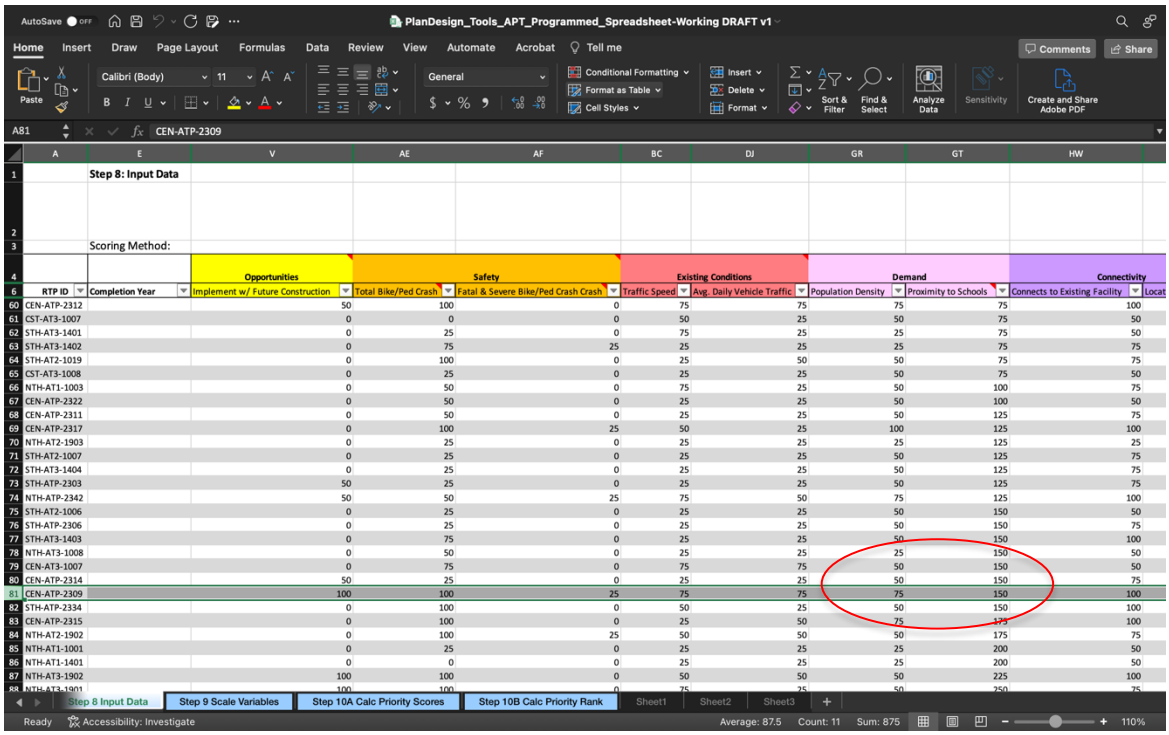
Figure 6-10 shows the schools proximity to the project

Figure 6-11 Sample Project Demand Analysis (GIS)

OBJECTID	Shape	Project ID	Community	Project Name	Project Description	Project Type	Notes	2021 Unescalated Cost	Time Horizon	Escalated Cost	Time Horizo
251	Polyline	CEN-AT3-1010	San Luis Obispo	Los Osos Valley Rd. str...	Construct landscaped...	Active Transportation	<Null>	3400000.00000000	After 2045	6120000.00000000	Unconstrain
241	Polyline	CEN-AT4-1401	San Luis Obispo	City of San Luis Obisp...	Citywide access invent...	Active Transportation	<Null>	255000.00000000	By 2035	316200.00000000	Mid
346	Polyline	CEN-ATP-2309	San Luis Obispo	Los Osos Valley Road...	Install Class IV bike la...	Active Transportation	<Null>	3500000.00000000	By 2028	3745000.00000000	Short
264	Polyline	CEN-ATP-2310	San Luis Obispo	Railroad Safety Trail (Ti...	Extend Railroad Trail fr...	Active Transportation	<Null>	2000000.00000000	After 2045	2480000.00000000	Unconstrain
275	Polyline	CEN-ATP-2311	San Luis Obispo	Mill Street Greenway	Install Neighborhood...	Active Transportation	<Null>	200000.00000000	By 2028	214000.00000000	Short

Figure 6-11 shows the total addresses within 400m of the project.

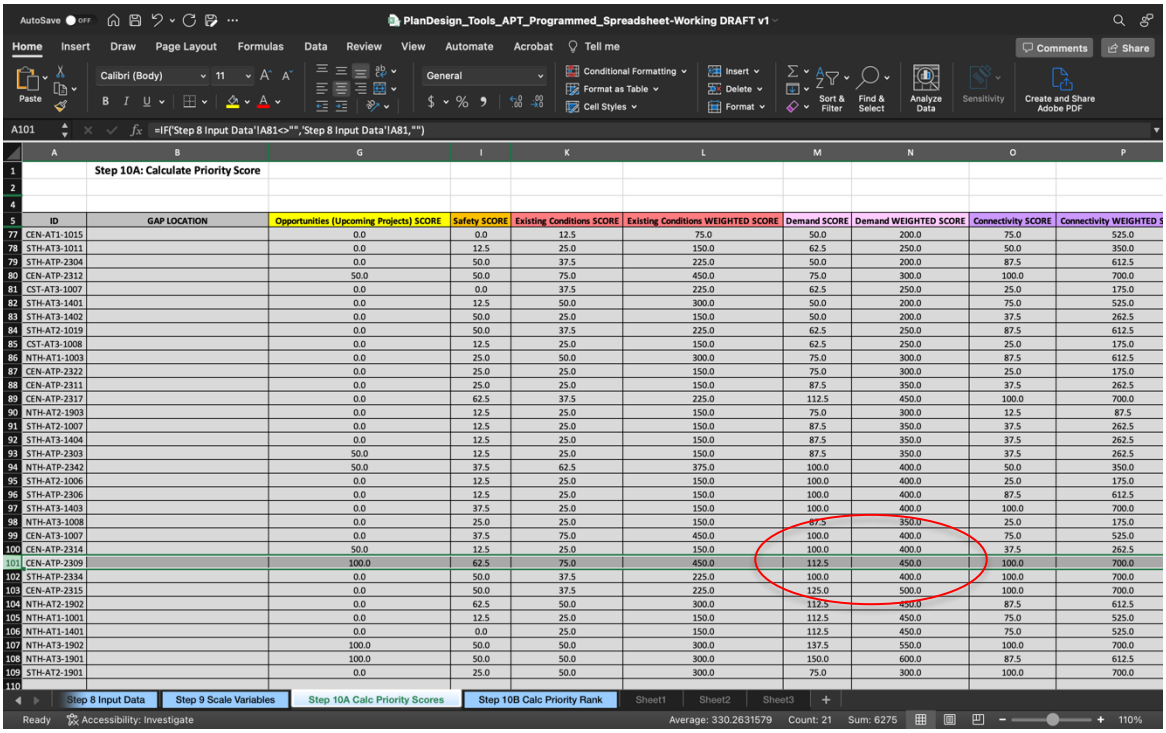
Figure 6-12 Sample Project Demand Analysis (Excel)



RTP ID	Completion Year	Opportunities: Implement w/ Future Construction	Safety: Total Bike/Ped Crash	Safety: Fatal & Severe Bike/Ped Crash Crash	Existing Conditions: Traffic Speed	Existing Conditions: Avg. Daily Vehicle Traffic	Demand: Population Density	Demand: Proximity to Schools	Connectivity: Connects to Existing Facility
CEN-ATP-2312		50	100	0	75	75	75	75	100
CST-AT3-1007		0	0	0	50	25	50	75	50
STH-AT3-1401		0	25	0	75	25	25	75	50
STH-AT3-1402		0	75	25	25	25	25	75	75
STH-AT2-1019		0	100	0	25	50	50	75	75
CST-AT3-1008		0	25	0	25	25	50	75	50
NTH-AT1-1003		0	50	0	75	25	50	100	75
CEN-ATP-2322		0	50	0	25	25	50	100	50
CEN-ATP-2311		0	50	0	25	25	50	125	75
CEN-ATP-2317		0	100	25	50	25	100	125	100
NTH-AT2-1903		0	25	0	25	25	25	125	25
STH-AT2-1007		0	25	0	25	25	50	125	75
STH-AT3-1404		0	25	0	25	25	50	125	75
STH-ATP-2303		50	25	0	25	25	50	125	75
NTH-ATP-2342		50	50	25	75	50	75	125	100
STH-AT2-1006		0	25	0	25	25	50	150	50
STH-ATP-2306		0	25	0	25	25	50	150	75
STH-AT3-1403		0	75	0	25	25	50	150	100
NTH-AT3-1008		0	50	0	25	25	25	150	50
CEN-AT3-1007		0	75	0	75	75	50	150	50
CEN-ATP-2314		50	25	0	25	25	50	150	75
CEN-ATP-2309		100	100	25	75	75	75	150	100
STH-ATP-2334		0	100	0	50	25	50	150	100
CEN-ATP-2315		0	100	0	25	50	75	175	100
NTH-AT2-1902		0	100	25	50	50	50	175	75
NTH-AT1-1001		0	25	0	25	25	25	200	50
NTH-AT1-1401		0	0	0	25	25	25	200	50
NTH-AT3-1902		100	100	0	50	50	50	225	100

The project CEN-ATP-2309 is located within ¼ of a mile of three schools which scores 150. The points for this factor were averaged with the following factor of population density to create the demand score. The project also had between 1953 and 2928 addresses within 400m of the project scoring 75 points.

Figure 6-13 Sample Project Demand Analysis Weighted Score



Step 10A: Calculate Priority Score

ID	GAP LOCATION	Opportunities (Upcoming Projects) SCORE	Safety SCORE	Existing Conditions SCORE	Existing Conditions WEIGHTED SCORE	Demand SCORE	Demand WEIGHTED SCORE	Connectivity SCORE	Connectivity WEIGHTED S
CEN-AT1-1015		0.0	0.0	12.5	75.0	50.0	200.0	75.0	525.0
STH-AT3-1011		0.0	12.5	25.0	150.0	62.5	250.0	50.0	350.0
STH-ATP-2304		0.0	50.0	37.5	225.0	50.0	200.0	87.5	612.5
CEN-ATP-2312		50.0	50.0	75.0	450.0	75.0	300.0	100.0	700.0
CST-AT3-1007		0.0	0.0	37.5	225.0	62.5	250.0	25.0	175.0
STH-AT3-1401		0.0	12.5	50.0	300.0	50.0	200.0	75.0	525.0
STH-AT3-1402		0.0	50.0	25.0	150.0	50.0	200.0	37.5	262.5
STH-AT2-1019		0.0	50.0	37.5	225.0	62.5	250.0	87.5	612.5
CST-AT3-1008		0.0	12.5	25.0	150.0	62.5	250.0	25.0	175.0
NTH-AT1-1003		0.0	25.0	50.0	300.0	75.0	300.0	87.5	612.5
CEN-ATP-2322		0.0	25.0	25.0	150.0	75.0	300.0	25.0	175.0
CEN-ATP-2311		0.0	25.0	25.0	150.0	87.5	350.0	37.5	262.5
CEN-ATP-2317		0.0	62.5	37.5	225.0	112.5	450.0	100.0	700.0
NTH-AT2-1903		0.0	12.5	25.0	150.0	75.0	300.0	12.5	87.5
STH-AT2-1007		0.0	12.5	25.0	150.0	87.5	350.0	37.5	262.5
STH-AT3-1404		0.0	12.5	25.0	150.0	87.5	350.0	37.5	262.5
STH-ATP-2303		50.0	12.5	25.0	150.0	87.5	350.0	37.5	262.5
NTH-ATP-2342		50.0	37.5	62.5	375.0	100.0	400.0	50.0	350.0
STH-AT2-1006		0.0	12.5	25.0	150.0	100.0	400.0	25.0	175.0
STH-ATP-2306		0.0	12.5	25.0	150.0	100.0	400.0	87.5	612.5
STH-AT3-1403		0.0	37.5	25.0	150.0	100.0	400.0	100.0	700.0
NTH-AT3-1008		0.0	25.0	25.0	150.0	87.5	350.0	25.0	175.0
CEN-AT3-1007		0.0	37.5	75.0	450.0	100.0	400.0	75.0	525.0
CEN-ATP-2314		50.0	12.5	25.0	150.0	100.0	400.0	37.5	262.5
CEN-ATP-2309		100.0	62.5	75.0	450.0	112.5	450.0	100.0	700.0
STH-ATP-2334		0.0	50.0	37.5	225.0	100.0	400.0	100.0	700.0
CEN-ATP-2315		0.0	50.0	37.5	225.0	125.0	500.0	100.0	700.0
NTH-AT2-1902		0.0	62.5	50.0	300.0	112.5	450.0	87.5	612.5
NTH-AT1-1001		0.0	12.5	25.0	150.0	112.5	450.0	75.0	525.0
NTH-AT1-1401		0.0	0.0	25.0	150.0	112.5	450.0	75.0	525.0
NTH-AT3-1902		100.0	50.0	50.0	300.0	137.5	550.0	100.0	700.0
NTH-AT3-1901		100.0	50.0	50.0	300.0	150.0	600.0	87.5	612.5
STH-AT2-1901		0.0	25.0	50.0	300.0	75.0	300.0	100.0	700.0

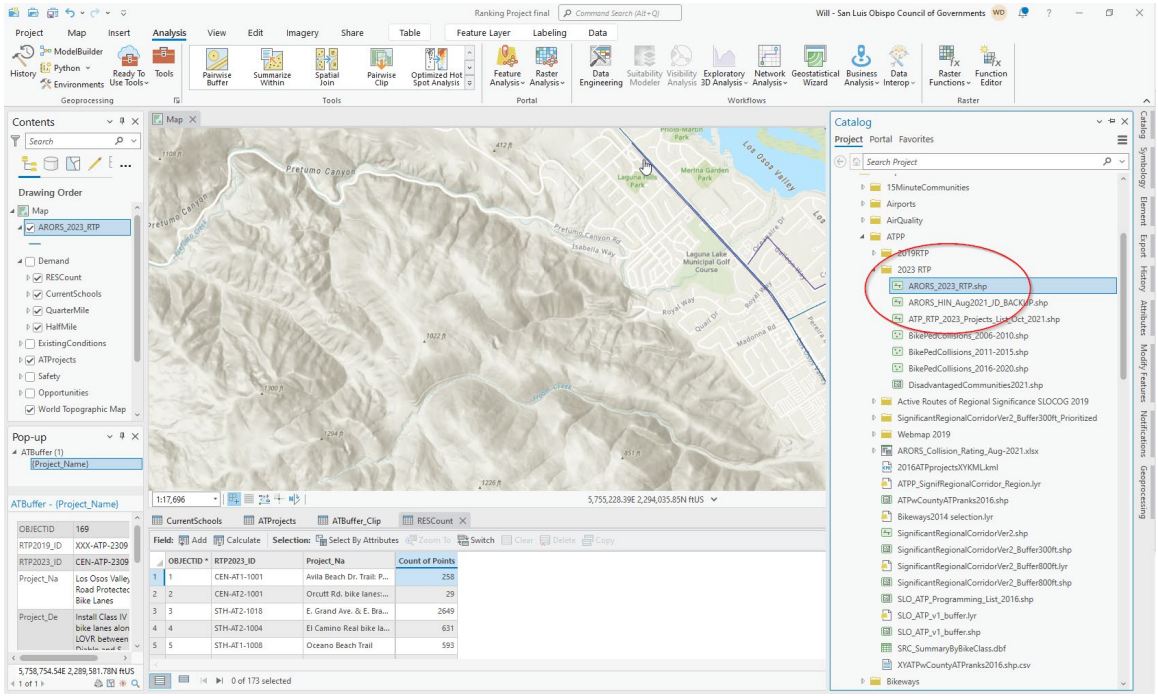
The project scored a raw 112.5 points for demand. The points in this section were multiplied by the stakeholder value of 4 and added with the other 5 factor scores to create the final score. Figure 6-13 shows the weighted score of 450 points.

7. Connectivity

The connectivity factor which scored a "7" with the stakeholder group accounts for the degree to which a project allows pedestrians or bicyclists to travel comfortably and continuously throughout their community. Connectivity is a relevant factor when prioritizing new AT facilities on existing roadways such as new sidewalks and bike lanes. This is particularly important when a new or proposed facility fills in a gap between existing facilities. Points were allocated if projects fell along an active route of regional significance (ARORS). Projects were also evaluated on the number of connections they had with existing AT infrastructure.

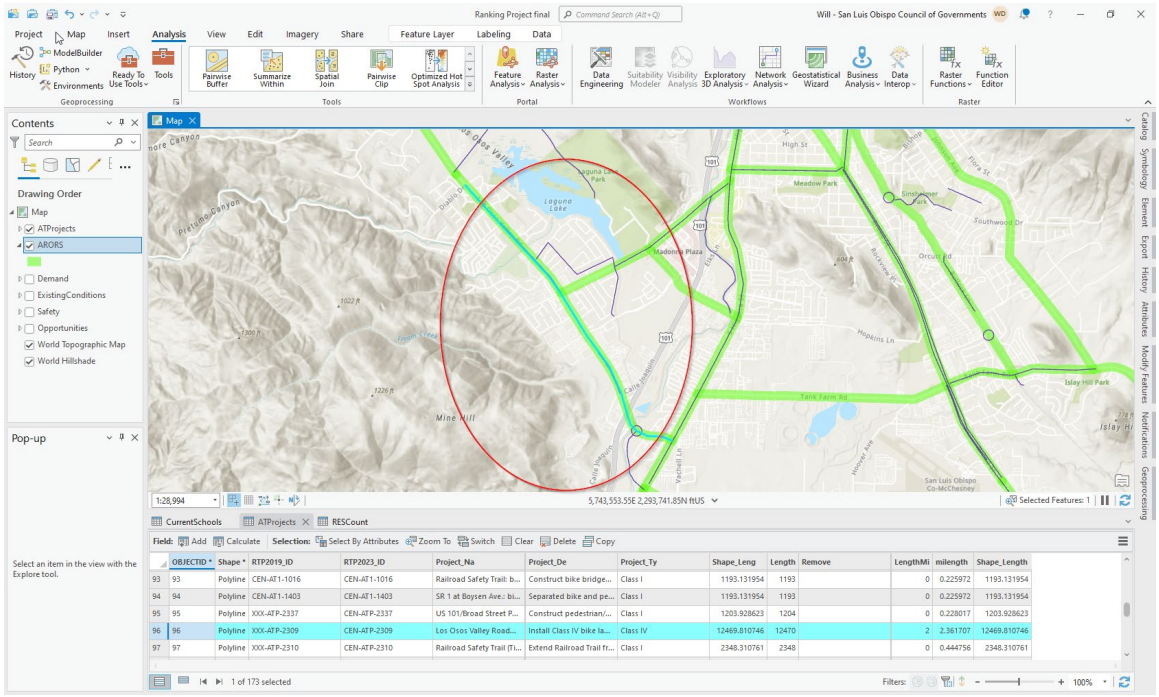
Creating the Connectivity Layers

Figure 7-1: Finding the Routes of Regional Significance



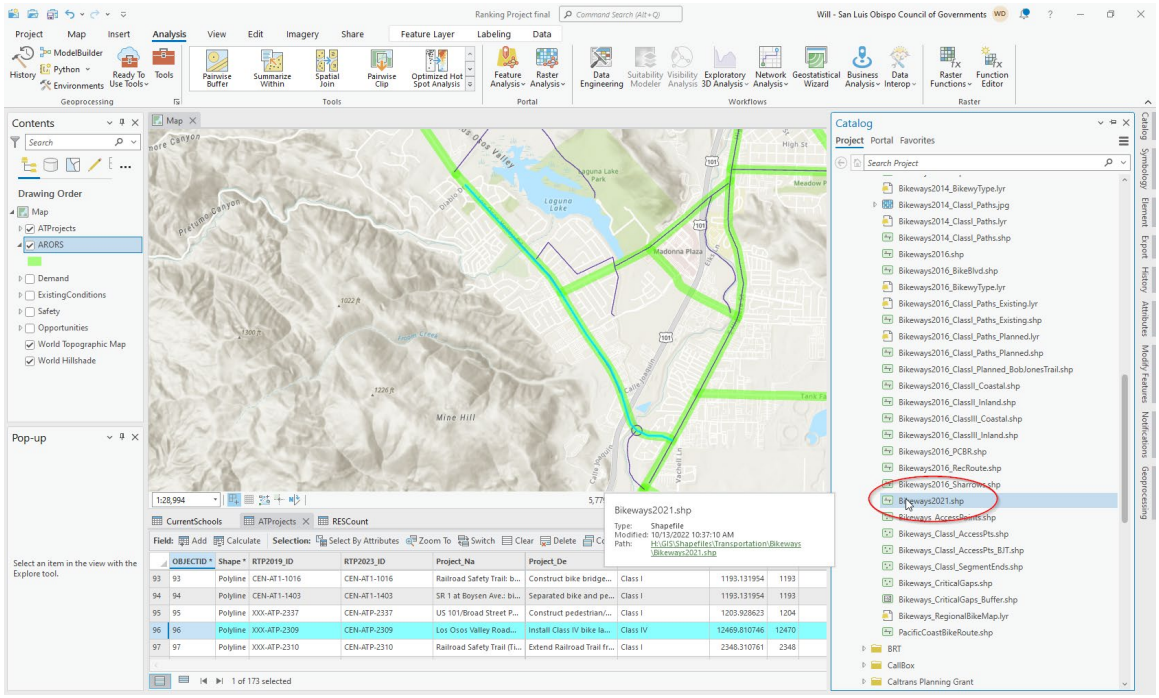
Step 1: Find the Routes of Regional Significance here:
H:\GIS\Shapefiles\Transportation\ATPP\2023 RTP\ARORS_2023_RTP.shp

Figure 7-2: Allocating Points for ARORS



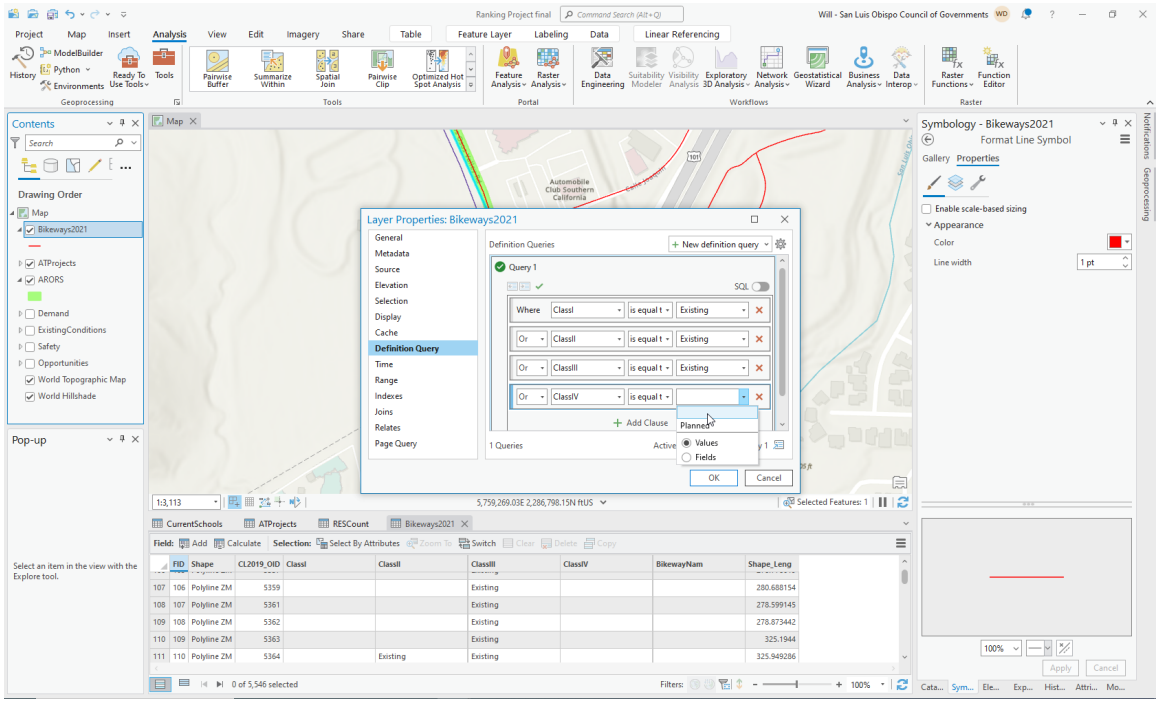
Step 2: If the project falls along an Active Route of Regional Significance, give it the points allocated in Table 2-1.

Figure 7-3: Importing Updated Bikeways Data



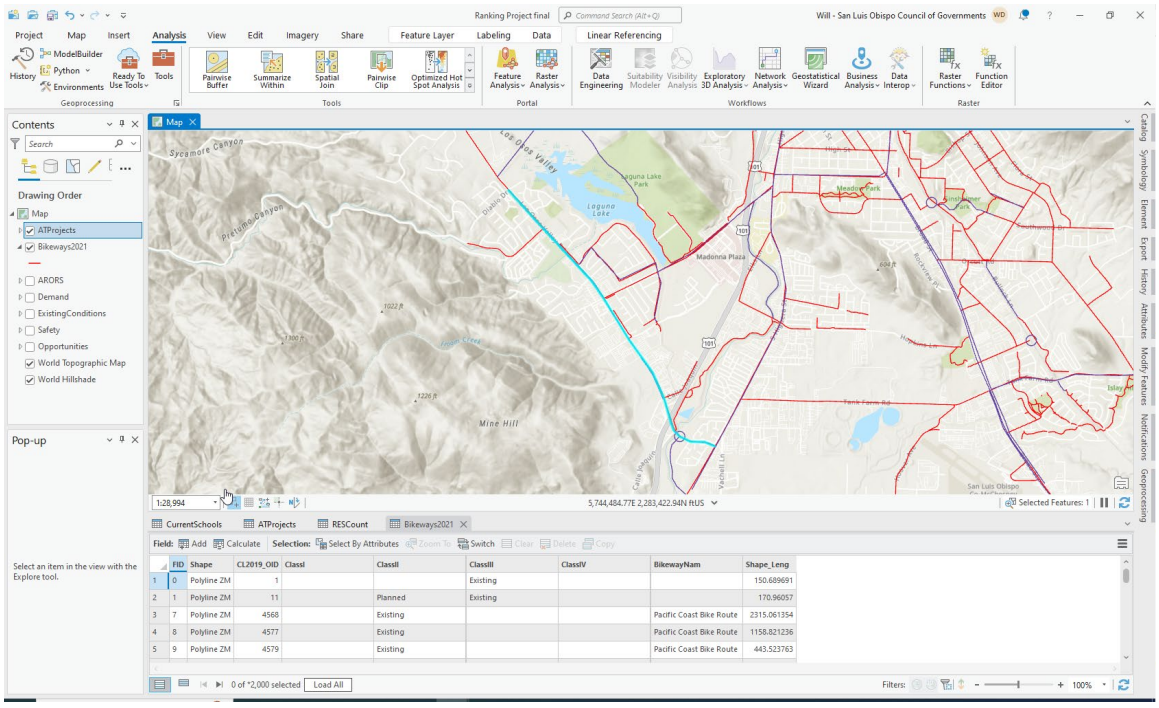
Step 3: Find the most updated Bikeways data here:
H:\GIS\Shapefiles\Transportation\Bikeways\ Bikeways2021.shp

Figure 7-4: Excluding Planned Bikeway Linework



Step 4: Run a definition query to only include existing bikeway data. Note: there are only planned Class IV projects so those were not included in the analysis. The class of the bikeway also did not play a factor in the analysis.

Figure 7-5: Assessing Existing Connectivity



Step 5: Count the existing connections that interact with the proposed project and evaluate with Table 2-1.

Step 6: Input the project into the PlanDesign_Tools_APT_Programmed_Spreadsheet using the points assigned in the previous step.

Sample Project CEN-ATP-2309 Connectivity Analysis:

Figure 7-6: Sample Project Connectivity Analysis (GIS)

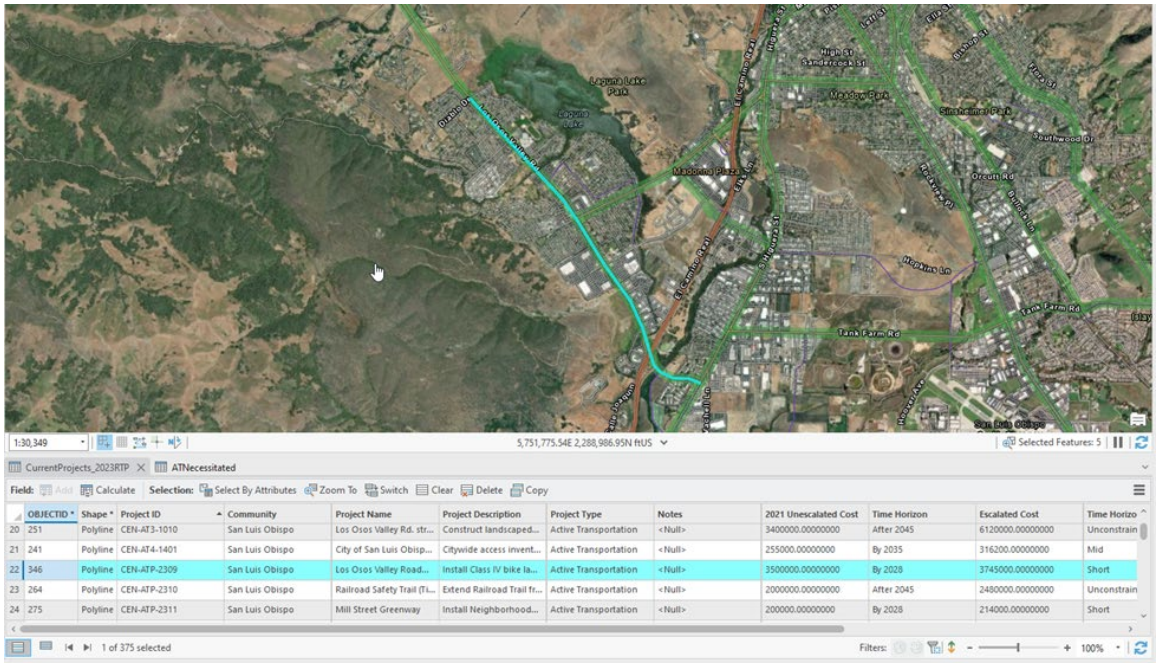
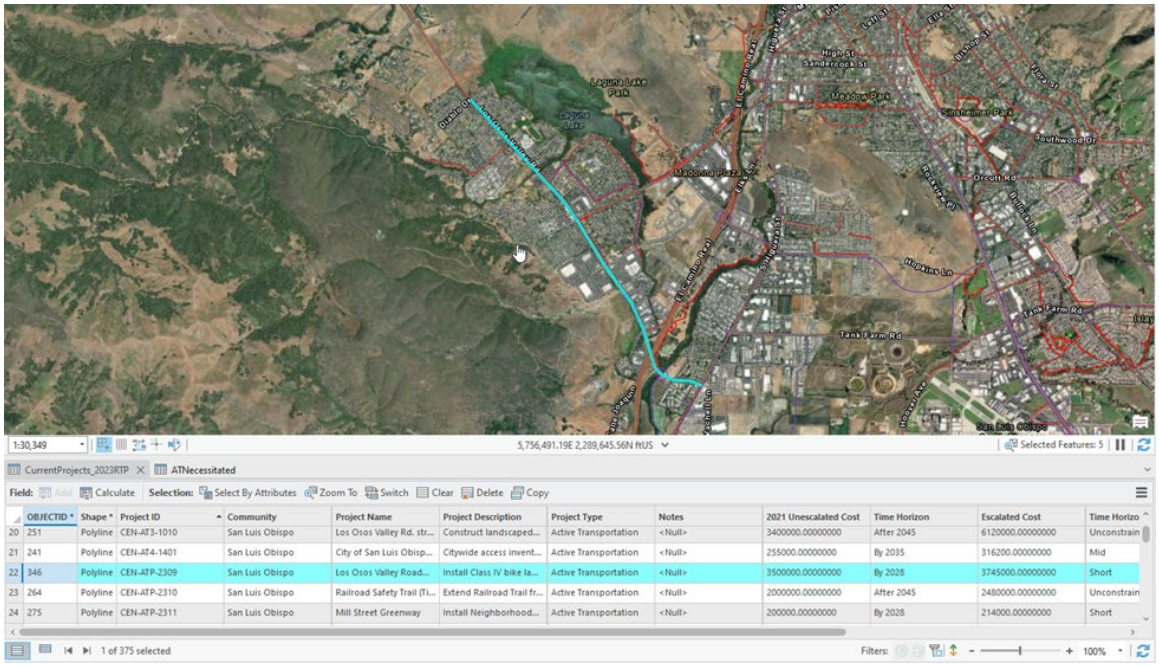


Figure 7-6 shows the sample project is located along an ARORS.

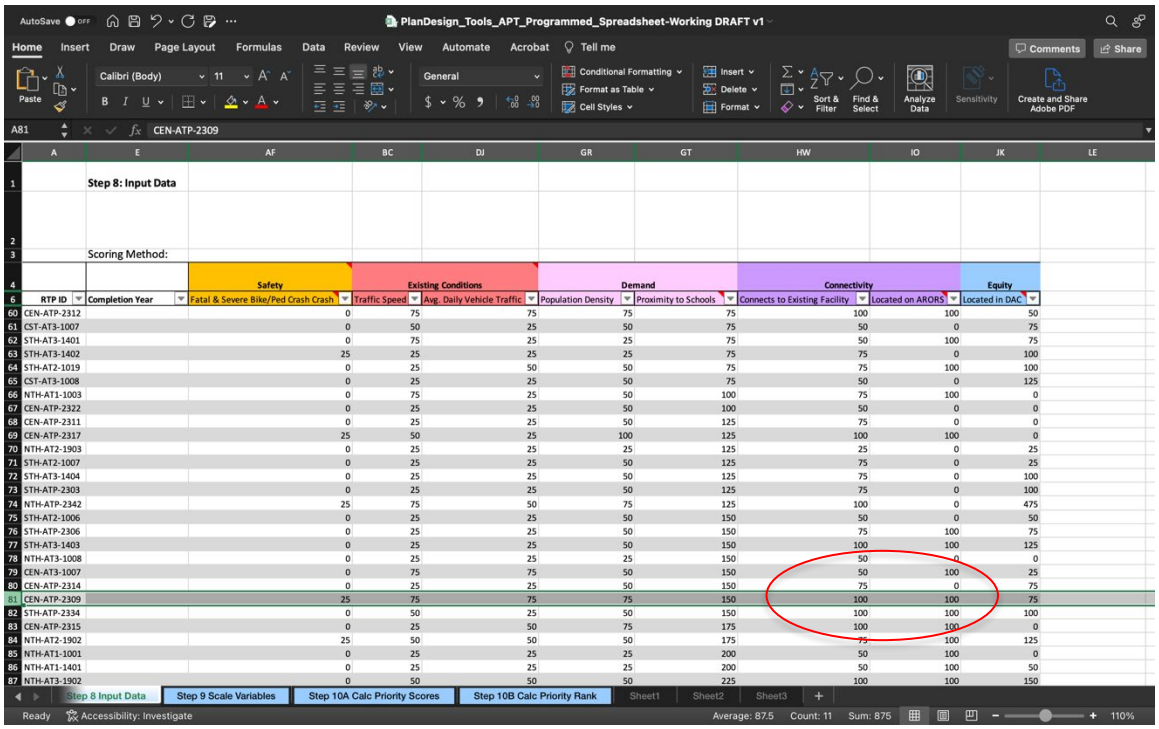
Figure 7-7: Sample Project Connectivity Analysis (GIS)



OBJECTID	Shape	Project ID	Community	Project Name	Project Description	Project Type	Notes	2021 Unescalated Cost	Time Horizon	Escalated Cost	Time Horizo
251	Polyline	CEN-ATP-1010	San Luis Obispo	Los Osos Valley Rd. str...	Construct landscaped...	Active Transportation	<Null>	3400000.00000000	After 2045	6120000.00000000	Unconstrain
241	Polyline	CEN-AT4-1401	San Luis Obispo	City of San Luis Obisp...	Citywide access invent...	Active Transportation	<Null>	255000.00000000	By 2035	316200.00000000	Mid
346	Polyline	CEN-ATP-2309	San Luis Obispo	Los Osos Valley Road...	Install Class IV bike la...	Active Transportation	<Null>	3500000.00000000	By 2028	3745000.00000000	Short
264	Polyline	CEN-ATP-2310	San Luis Obispo	Railroad Safety Trail (Ti...	Extend Railroad Trail fr...	Active Transportation	<Null>	2000000.00000000	After 2045	2480000.00000000	Unconstrain
275	Polyline	CEN-ATP-2311	San Luis Obispo	Mill Street Greenway	Install Neighborhood...	Active Transportation	<Null>	200000.00000000	By 2028	214000.00000000	Short

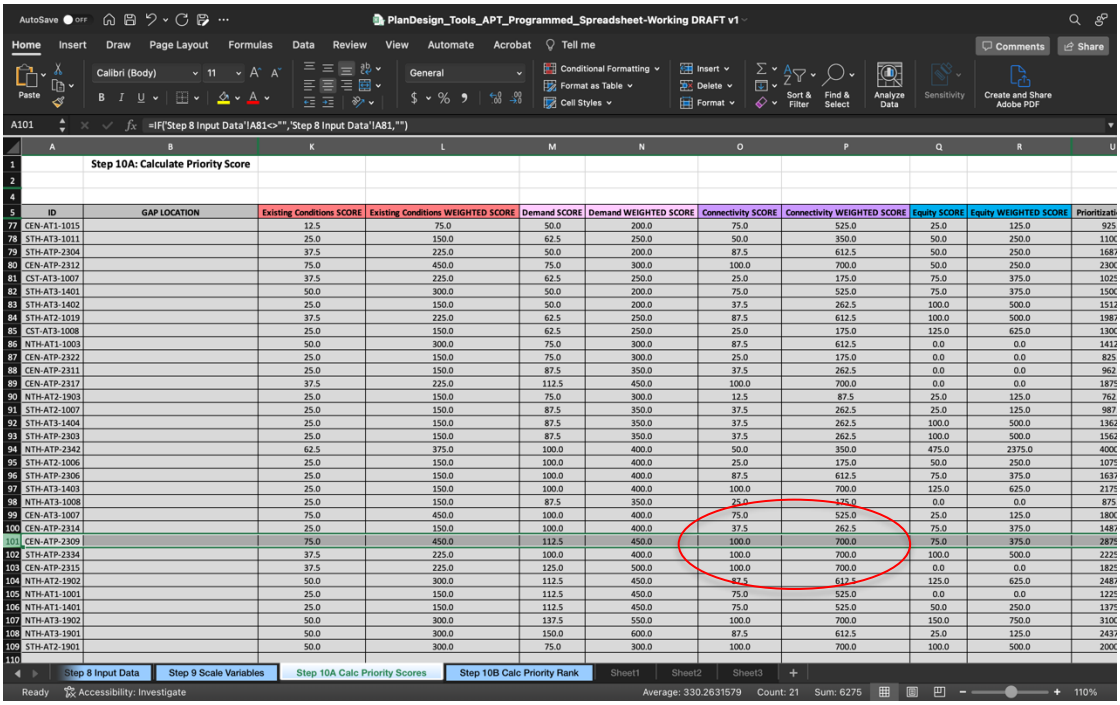
Figure 7-7 shows the existing connections on the corridor.

Figure 7-8: Sample Project Connectivity Analysis (Excel)



The project CEN-ATP-2309 is located along an ARORS and therefore gets 100 points. The points for this factor were averaged with the following factor of existing connections to create the connectivity score. CEN-ATP-2309 had over 9 connections to existing bicycle infrastructure. Providing the project with a score of 100.

Figure 7-9: Sample Project Connectivity Analysis Weighted Score



PlanDesign_Tools_APT_Programmed_Spreadsheet-Working DRAFT v1

=IF('Step 8 Input Data'!A81<>"",'Step 8 Input Data'!A81,"")

Step 10A: Calculate Priority Score

ID	GAP LOCATION	Existing Conditions SCORE	Existing Conditions WEIGHTED SCORE	Demand SCORE	Demand WEIGHTED SCORE	Connectivity SCORE	Connectivity WEIGHTED SCORE	Equity SCORE	Equity WEIGHTED SCORE	Prioritizati
CEN-AT1-1015		12.5	75.0	50.0	200.0	75.0	525.0	25.0	125.0	925
STH-AT3-1011		25.0	150.0	62.5	250.0	50.0	350.0	50.0	250.0	1100
STH-ATP-2304		37.5	225.0	50.0	200.0	87.5	612.5	50.0	250.0	1687
CEN-ATP-2312		75.0	450.0	75.0	300.0	100.0	700.0	50.0	250.0	2300
CST-AT3-1007		37.5	225.0	62.5	250.0	25.0	175.0	75.0	375.0	1025
STH-AT3-1401		50.0	300.0	50.0	200.0	75.0	525.0	75.0	375.0	1500
STH-AT3-1402		25.0	150.0	50.0	200.0	37.5	262.5	100.0	500.0	1512
STH-AT2-1019		37.5	225.0	62.5	250.0	87.5	612.5	100.0	500.0	1987
CST-AT3-1008		25.0	150.0	62.5	250.0	25.0	175.0	125.0	625.0	1300
NTH-AT1-1003		50.0	300.0	75.0	300.0	87.5	612.5	0.0	0.0	1412
CEN-ATP-2322		25.0	150.0	75.0	300.0	25.0	175.0	0.0	0.0	825
CEN-ATP-2311		25.0	150.0	87.5	350.0	37.5	262.5	0.0	0.0	962
CEN-ATP-2317		37.5	225.0	112.5	450.0	100.0	700.0	0.0	0.0	1875
NTH-AT2-1903		25.0	150.0	75.0	300.0	12.5	87.5	25.0	125.0	762
STH-AT2-1007		25.0	150.0	87.5	350.0	37.5	262.5	25.0	125.0	987
STH-AT3-1404		25.0	150.0	87.5	350.0	37.5	262.5	100.0	500.0	1362
STH-ATP-2303		25.0	150.0	87.5	350.0	37.5	262.5	100.0	500.0	1562
NTH-ATP-2342		62.5	375.0	100.0	400.0	50.0	350.0	475.0	2375.0	4000
STH-AT2-1006		25.0	150.0	100.0	400.0	25.0	175.0	50.0	250.0	1075
STH-ATP-2306		25.0	150.0	100.0	400.0	87.5	612.5	75.0	375.0	1637
STH-AT3-1403		25.0	150.0	100.0	400.0	100.0	700.0	125.0	625.0	2175
NTH-AT3-1008		25.0	150.0	87.5	350.0	25.0	175.0	0.0	0.0	875
CEN-AT3-1007		75.0	450.0	100.0	400.0	75.0	525.0	25.0	125.0	1800
CEN-ATP-2314		25.0	150.0	100.0	400.0	37.5	262.5	75.0	375.0	1487
CEN-ATP-2309		75.0	450.0	112.5	450.0	100.0	700.0	75.0	375.0	2875
STH-ATP-2334		37.5	225.0	100.0	400.0	100.0	700.0	100.0	500.0	2225
CEN-ATP-2315		37.5	225.0	125.0	500.0	100.0	700.0	0.0	0.0	1825
NTH-AT2-1902		50.0	300.0	112.5	450.0	87.5	612.5	125.0	625.0	2487
NTH-AT1-1001		25.0	150.0	112.5	450.0	75.0	525.0	0.0	0.0	1225
NTH-AT1-1401		25.0	150.0	112.5	450.0	75.0	525.0	50.0	250.0	1375
NTH-AT3-1902		50.0	300.0	137.5	550.0	100.0	700.0	150.0	750.0	3100
NTH-AT3-1901		50.0	300.0	150.0	600.0	87.5	612.5	25.0	125.0	2437
STH-AT2-1901		50.0	300.0	75.0	300.0	100.0	700.0	100.0	500.0	2000

Step 8 Input Data | Step 9 Scale Variables | Step 10A Calc Priority Scores | Step 10B Calc Priority Rank | Sheet1 | Sheet2 | Sheet3

Ready | Accessibility: Investigate | Average: 330.2631579 | Count: 21 | Sum: 6275 | 110%

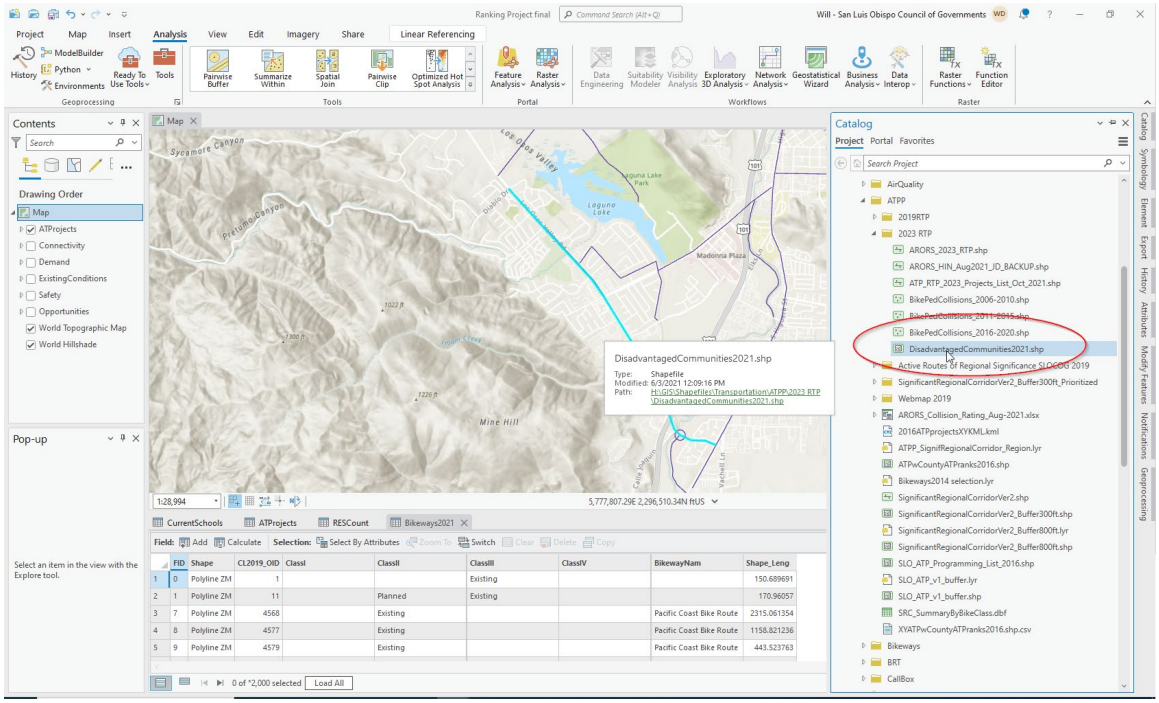
Averaged between ARORS and connections, the project scored a raw 100 points for connectivity. The points in this section were multiplied by the stakeholder value of 7 and added with the other 5 factor scores to create the final score. Figure 7-9 shows the weighted score of 700 points.

8. Equity

Equity scored a “5” with the stakeholder group. The equity factor represents the degree to which opportunities for safe and convenient pedestrian and bicycle travel are distributed evenly to all groups within a community. Taking equity into account can help agencies ensure that pedestrian and bicycle improvements serve the needs of all the users within the transportation system. This includes socioeconomic characteristics. This was assessed using SLOCOG’s Disadvantaged Communities (DAC) Dashboard. Points were allocated by the number of DAC’s the project interacted with.

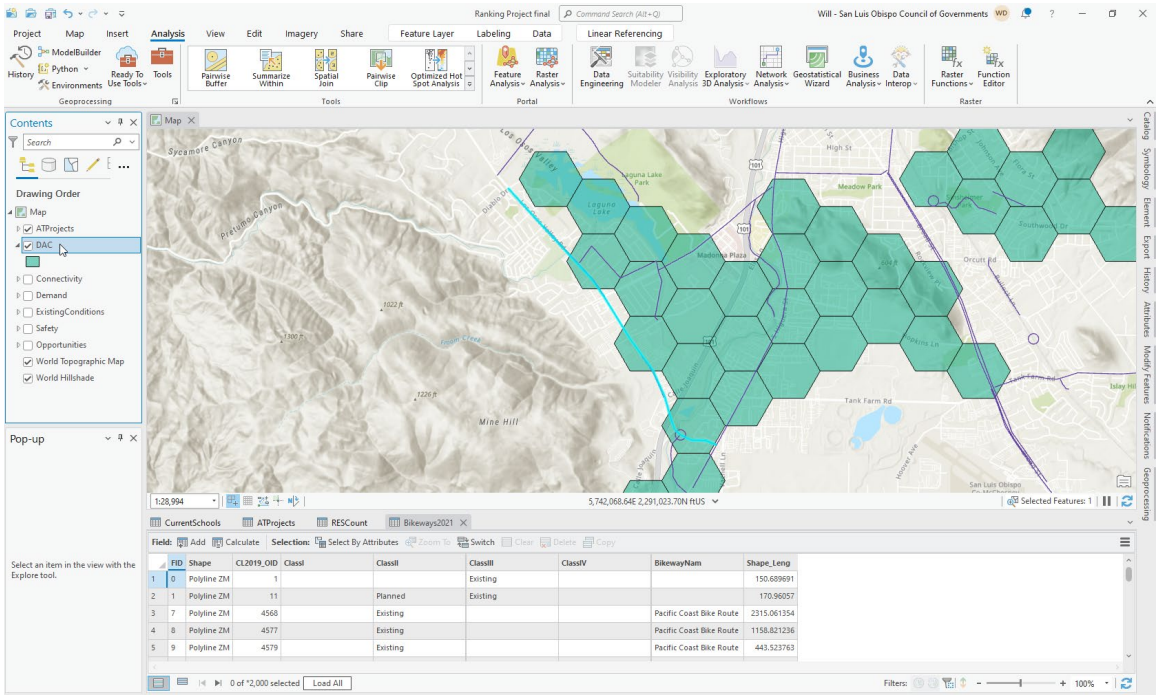
Creating the Equity Layer

Figure 8-1: Adding the Equity Analysis



Step 1: Find the Disadvantaged Communities (DAC) Dashboard here:
H:\GIS\Shapefiles\Transportation \ATPP\2023 RTP\DisadvantagedCommunities2021.shp

Figure 8-2: Assigning Points for Equity



Step 2: Evaluate the project consistent Table 2-1.

Step 3: Input the project into the PlanDesign_Tools_APT_Programmed_Spreadsheet using the points assigned in the previous step.

Sample Project CEN-ATP-2309 Equity Analysis:

Figure 8-3: Sample Project Equity Analysis (GIS)

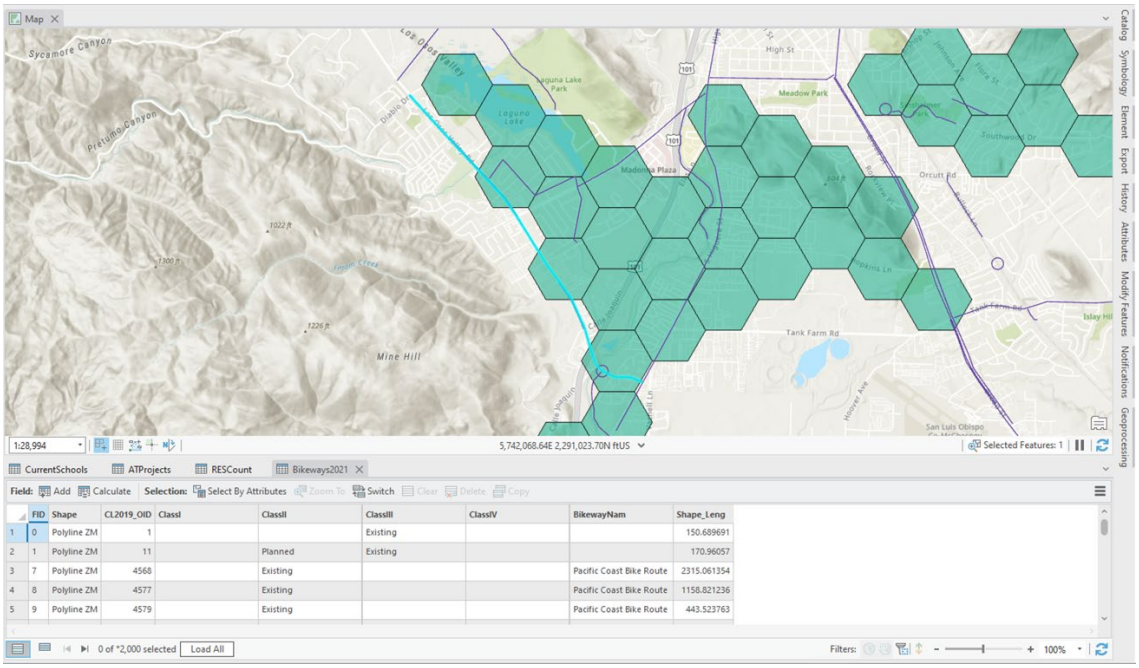
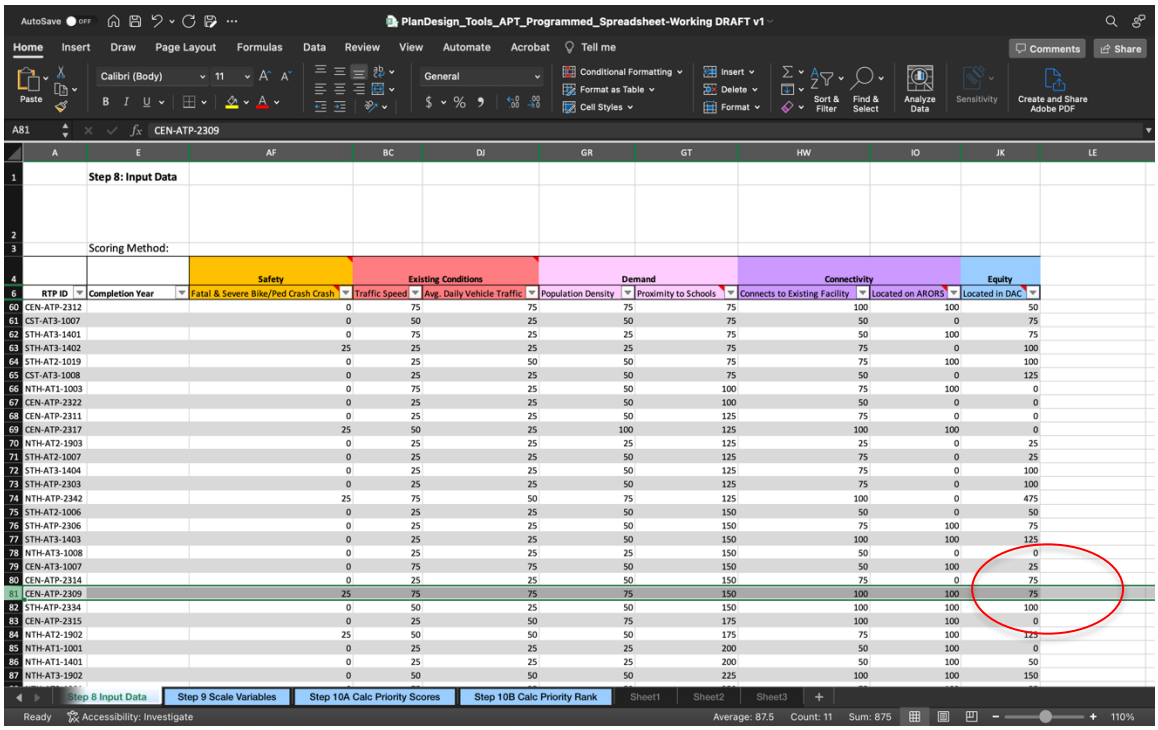


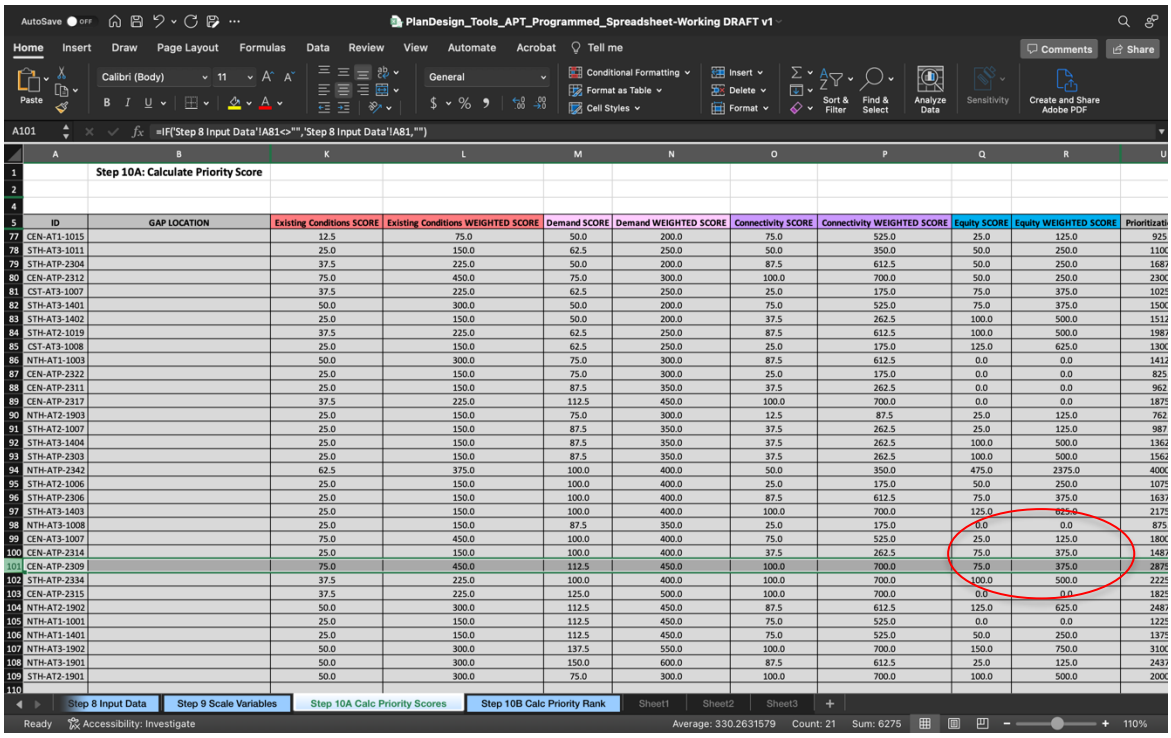
Figure 8-3 shows the project running through sections of DACs.

Figure 8-4: Sample Project Equity Analysis (Excel)



CEN-ATP-2309 runs through 3 (hexagons) designated as a DAC. The project scored a raw 75 points for equity.

Figure 8-5: Sample Project Equity Analysis Weighted Score



PlanDesign_Tools_APT_Programmed_Spreadsheet-Working DRAFT v1

=IF('Step 8 Input Data'!A81<>"",'Step 8 Input Data'!A81,"")

Step 10A: Calculate Priority Score

ID	GAP LOCATION	Existing Conditions SCORE	Existing Conditions WEIGHTED SCORE	Demand SCORE	Demand WEIGHTED SCORE	Connectivity SCORE	Connectivity WEIGHTED SCORE	Equity SCORE	Equity WEIGHTED SCORE	Prioritizati
CEN-AT1-1015		12.5	75.0	50.0	200.0	75.0	525.0	25.0	125.0	925
STH-AT3-1011		25.0	150.0	62.5	250.0	50.0	350.0	50.0	250.0	1100
STH-ATP-2304		37.5	225.0	50.0	200.0	87.5	612.5	50.0	250.0	1687
CEN-ATP-2312		75.0	450.0	75.0	300.0	100.0	700.0	50.0	250.0	2300
CST-AT3-1007		37.5	225.0	62.5	250.0	25.0	175.0	75.0	375.0	1025
STH-AT3-1401		50.0	300.0	50.0	200.0	75.0	525.0	75.0	375.0	1500
STH-AT3-1402		25.0	150.0	50.0	200.0	37.5	262.5	100.0	500.0	1512
STH-AT2-1019		37.5	225.0	62.5	250.0	87.5	612.5	100.0	500.0	1987
CST-AT3-1008		25.0	150.0	62.5	250.0	25.0	175.0	125.0	625.0	1300
NTH-AT1-1003		50.0	300.0	75.0	300.0	87.5	612.5	0.0	0.0	1412
CEN-ATP-2322		25.0	150.0	75.0	300.0	25.0	175.0	0.0	0.0	825
CEN-ATP-2311		25.0	150.0	87.5	350.0	37.5	262.5	0.0	0.0	962
CEN-ATP-2317		37.5	225.0	112.5	450.0	100.0	700.0	0.0	0.0	1875
NTH-AT2-1903		25.0	150.0	75.0	300.0	12.5	87.5	25.0	125.0	762
STH-AT2-1007		25.0	150.0	87.5	350.0	37.5	262.5	25.0	125.0	987
STH-AT3-1404		25.0	150.0	87.5	350.0	37.5	262.5	100.0	500.0	1362
STH-ATP-2303		25.0	150.0	87.5	350.0	37.5	262.5	100.0	500.0	1562
NTH-ATP-2342		62.5	375.0	100.0	400.0	50.0	350.0	475.0	2375.0	4000
STH-AT2-1006		25.0	150.0	100.0	400.0	25.0	175.0	50.0	250.0	1075
STH-ATP-2306		25.0	150.0	100.0	400.0	87.5	612.5	75.0	375.0	1637
STH-AT3-1403		25.0	150.0	100.0	400.0	100.0	700.0	125.0	625.0	2175
NTH-AT3-1008		25.0	150.0	87.5	350.0	25.0	175.0	0.0	0.0	875
CEN-AT3-1007		75.0	450.0	100.0	400.0	75.0	525.0	25.0	125.0	1800
CEN-ATP-2314		25.0	150.0	100.0	400.0	37.5	262.5	75.0	375.0	1487
CEN-ATP-2309		75.0	450.0	112.5	450.0	100.0	700.0	75.0	375.0	2875
STH-ATP-2334		37.5	225.0	100.0	400.0	100.0	700.0	100.0	500.0	2225
CEN-ATP-2315		37.5	225.0	125.0	500.0	100.0	700.0	0.0	0.0	1825
NTH-AT2-1902		50.0	300.0	112.5	450.0	87.5	612.5	125.0	625.0	2487
NTH-AT1-1001		25.0	150.0	112.5	450.0	75.0	525.0	0.0	0.0	1225
NTH-AT1-1401		25.0	150.0	112.5	450.0	75.0	525.0	50.0	250.0	1375
NTH-AT3-1902		50.0	300.0	137.5	550.0	100.0	700.0	150.0	750.0	3100
NTH-AT3-1901		50.0	300.0	150.0	600.0	87.5	612.5	25.0	125.0	2437
STH-AT2-1901		50.0	300.0	75.0	300.0	100.0	700.0	100.0	500.0	2000

Step 8 Input Data | Step 9 Scale Variables | Step 10A Calc Priority Scores | Step 10B Calc Priority Rank | Sheet1 | Sheet2 | Sheet3

Ready | Accessibility: Investigate | Average: 330.2631579 | Count: 21 | Sum: 6275 | 110%

The points in this section were multiplied by the stakeholder value of 5 and added with the other 5 factor scores to create the final score. Figure 8-5 shows the weighted score of 375 points.

9. Results

Final Ranking and Prioritization List

The Final Ranking and Prioritization list has been used to support the 2023 RTP, as well as SLOCOG's funding programs by indicating a priority level and fiscal constraint cut-line which was determined to be approximate 52 projects totaling $184M over 25 years. The final ranking combines data from the six factors to create a priority score. This table ranks projects by their composite priority score.

Table 9-1: Final Ranking and Prioritization List

Project Rank	Project ID	Project Name	Project Score
1	NTH-ATP-2342	The Grand Loop	4000
2	NTH-AT3-1902	Niblick Rd. Corridor enhancements, operational improvements, Complete Street	3100
3	CEN-ATP-2309	Los Osos Valley Road Protected Bike Lanes	2875
4	CEN-ATP-2316	Higuera Protected Bike Lanes	2825
5	NTH-AT2-1902	State Route 41 (El Camino Real to San Gabriel Rd.) Complete Streets Improvements	2487.5
6	NTH-AT3-1901	Creston Rd. Complete Streets Improvements	2437.5
7	CEN-ATP-2312	South Broad-Santa Barbara Protected Bike Lanes	2300
8	STH-ATP-2334	Arroyo Grande Creek Trail - Phase 2	2225
9	STH-AT3-1403	South Oak Park Blvd. pedestrian improvements: West Grand Ave. to The Pike	2175
10	CEN-AT3-1006	Broad St Medians Orcutt Rd. to SLO County Regional Airport (Phase 2)	2100
11	STH-AT2-1901	Halcyon Rd. Complete Streets Improvements	2000
12	STH-AT2-1019	Grand Ave. street enhancements: between 4th St. and 8th St.	1987.5
13	CEN-ATP-2318	Madonna Road Bikeways	1937.5
14	CEN-ATP-2317	Foothill Boulevard Protected Bike Lanes	1875
15	CEN-ATP-2315	Marsh-Higuera Complete Streets	1825
16	CEN-AT3-1007	Los Osos Valley Rd. medians: Prefumo Canyon - Madonna (Ph2)	1800
17	STH-AT3-1014	SR 1/Front St. sidewalks, traffic calming and streetscape: Bellridge St. to 22nd St.	1712.5

Project Rank	Project ID	Project Name	Project Score
18	NTH-ATP-2340	Beechwood Specific Plan	1687.5
19	STH-ATP-2304	Major street rehab 11th to Oak Park Blvd	1687.5
20	CEN-AT3-1005	Install landscaped medians, lighting, street trees on Broad (South to Orcutt) South St. to Orcutt Rd. (Phase 1)	1637.5
21	STH-ATP-2306	S Oak Park Blvd Phase 2	1637.5
22	STH-ATP-2303	The Pike restriping	1562.5
23	CEN-ATP-2324	Froom Ranch Frontage & Streetscape Improvements	1550
24	CST-AT4-1405	LOVR Monarch Elem: SRTS improvements	1550
25	STH-AT3-1402	North 4th St. pedestrian improvements: West Grand Ave. to Pismo Beach city limits	1512.5
26	STH-AT3-1401	Thompson Ave. Olde Towne improvements (Phase 2)	1500
27	CEN-ATP-2314	Oceanaire Neighborhood Greenways	1487.5
28	STH-ATP-2305	S Oak Park Blvd Phase 1	1450
29	CEN-ATP-2313	Tank Farm Road Complete Street	1425
30	NTH-AT1-1003	Atascadero Railroad Multi-Use Path	1412.5
31	NTH-AT1-1401	Centre St. streetscape	1375
32	STH-AT3-1013	Shell Beach Road Multimodal Improvements	1362.5
33	STH-AT3-1404	Farroll Rd. pedestrian improvements: 4th St. to Oak Park Blvd.	1362.5
34	CEN-ATP-2320	Santa Rosa (Hwy 1) / Highland Intersection Crossing Improvements	1325
35	CEN-AT1-1003	Bob Jones Trail: Phase 1- Octagon Barn to Clover Ridge Ln.; Phase 2-Clover Ridge Ln. to San Luis Bay Dr.; Phase 3-San Luis Bay Dr. to existing trailhead	1312.5
36	CEN-ATP-2319	South Street Complete Street Improvements	1312.5
37	CST-AT3-1008	Burton Dr. pedestrian improvements: corridor-wide	1300
38	REG-AT1-1901	Chorro Valley Trail Phase I: Cal Poly to Cuesta College	1250
39	NTH-AT1-1001	Templeton-Atascadero Bikeway Connector	1225
40	CEN-AT1-1403	SR 1 at Boysen Ave.: bike and pedestrian crossing safety issues	1187.5
41	STH-AT2-1004	El Camino Real bike lanes: Pismo Beach to Arroyo Grande	1175
42	STH-AT4-1401	Dana Elementary School Safe Routes to School Infrastructure Project	1125

Project Rank	Project ID	Project Name	Project Score
43	STH-AT3-1011	17th St. and 19th St. pedestrian improvements: Wilmar Ave. to Front St.	1100
44	STH-AT2-1006	Elm St. improvements: Ash St. to Grand Ave. (Phase 1)	1075
45	STH-ATP-2331	Farroll @ S Halcyon	1075
46	CST-AT3-1006	State Park Rd. bike improvements	1062.5
47	STH-AT3-1004	Huasna Rd. non-motorized improvements: E. Branch St. to city limits	1037.5
48	CST-AT3-1007	Santa Ysabel Ave. Pathway (Phase 2)	1025
49	STH-ATP-2332	Midblock crosswalk E Grand Ave	1012.5
50	STH-AT2-1001	Atlantic City Ave. bike lanes: 4th St. to Oak Park Blvd.	987.5
51	STH-AT2-1007	Elm St. improvements: Farroll Ave. to city limits (Phase 2)	987.5
52	CST-AT1-1004	Morro Bay-Cayucos Multi-Use Connector	975
53	CEN-ATP-2311	Mill Street Greenway	962.5
54	CEN-AT1-1005	Bob Jones Trail: Los Osos Valley Rd. to Octagon Barn	950
55	CEN-ATP-2321	Foothill/Patricia/La Entrada SRTS Improvements	950
56	CEN-AT1-1015	Francis Avenue bike/pedestrian bridge	925
57	CEN-AT1-1016	Railroad Safety Trail: bike bridge crossing at Industrial Way	925
58	CEN-AT1-1901	Bob Jones Trail Crossing at Los Osos Valley Road	912.5
59	CST-AT4-1404	El Moro Ave.: SRTS improvements	912.5
60	NTH-ATP-2338	Olsen Ranch Trail Network	912.5
61	CEN-AT1-1004	Railroad Safety Trail: Sinsheimer feeder route	887.5
62	STH-ATP-2330	S Halcyon Rd @ Sandalwood	887.5
63	CEN-ATP-2310	Railroad Safety Trail (Tiburon Wy to Orcutt)	875
64	CEN-ATP-2323	Augusta Neighborhood Traffic Management	875
65	CST-AT3-1005	Main St. / Morro Bay Blvd. street enhancements	875
66	NTH-AT3-1008	Downtown streetscape improvements (Phase 4)	875
67	STH-ATP-2333	Railroad Street Bicycle and Sidewalk Improvements	862.5
68	STH-AT3-1408	Paulding MS bike/ped improvements (Phase 1)	850
69	CEN-ATP-2322	Ramona Neighborhood Traffic Management	825
70	NTH-AT2-1903	Atascadero Ave Mall Connector	762.5

Project Rank	Project ID	Project Name	Project Score
71	CST-AT3-1004	Embarcadero Complete Streets: lateral access improvements	750
72	NTH-ATP-2341	N. River Road	662.5
73	STH-ATP-2335	Arroyo Grande Creek Trail - Phase 3	637.5
74	NTH-AT2-1401	Huer Huero Creek Trail	612.5
75	STH-ATP-2327	Ocean View Elementary SRTS Improvements	562.5
76	STH-AT1-1001	Meadow Creek Path	537.5
77	STH-ATP-2307	Mattie Road Pedestrian Improvements	525
78	CEN-ATP-2344	CA Coastal Trail - Central County Segment	462.5
79	CEN-AT1-1012	Railroad Safety Trail (Phase 7): Bike connection south of Tank Farm Rd.	412.5
80	STH-ATP-2329	Tally Ho Road Multimodal Improvements	387.5
81	STH-ATP-2326	Over Meadow Creek	337.5
82	STH-AT3-1409	Paulding MS bike/ped improvements (Phase 2)	250
83	STH-ATP-2325	Over Arroyo Grande Creek	250

Sample Project Results

The following is an analysis of the sample project first shown in Figure 1-2: First, point values were assigned in accordance with the table, the average amount of the points for each criterion were taken and multiplied with the stakeholder score and added to the scores of all other criteria to create the final score of the project. For project CEN-ATP-2309 the scores were as follows:

Table 9-2: Scores for Sample Project CEN-ATP-2309

Criteria	Raw Score	Weighted Score
Opportunities	100	400
Safety	62.5	500
Existing Conditions	75	450
Demand	112.5	450

Criteria	Raw Score	Weighted Score
Connectivity	100	700
Equity	75	375
Total	525	2875

The project CEN-ATP-2309, a Class IV bike lane along Los Osos Valley Road between Diablo and S. Higuera, ranked 3rd among all constrained projects in this analysis. This was conducted for all 88 projects with an existing timeframe.

10. Lessons Learned

There were a few things that were noticed in the process that may be beneficial to change in future analysis. One thing that may have skewed data was the fact that the DAC scores did not have a cap. They were given 25 points for every hexagon the project touched which led to projects scoring upwards of 475 points. This may have caused physically longer projects to score higher than otherwise equal projects. This may unintentionally cause some projects to score higher than others. One of the ways that this can be mitigated is by dividing the final project score by the length of projects thereby evaluating projects on a point per foot basis.

In this analysis, all factors except opportunities and equity had two data inputs they were evaluated on. In calculating factor scores, the data was averaged to give the overall score for the factor. The factors of opportunities and equity did not get averaged. This created an issue during the weighting process of potentially doubling the weight of those two factors. For example, a project whose opportunity factor includes a necessitated project definition could score 400 points when multiplied by the stakeholder score but, a project with 11+ crashes (100 points) without a fatality would only score 400 points with the stakeholder multiplier of 8 after the weighting step because the safety score of total crashes (100 points) is averaged with the fatality score of 0 points. This unintentionally weighs certain factors higher than others. One of the ways this can be mitigated is by using at least two data sources to evaluate every factor.

Future criteria for the opportunities factor may include factors that may make an active transportation project more competitive for grants or supplemental funding. One example of this may be proximity to schools. Future criteria for the equity factor may include adequate access to alternative transportation within the historically disadvantaged communities. A factor to consider when evaluating Demand may be the surrounding land uses as well. Certain land uses or significant nodes may be destinations for people commuting via AT. In the future, it may be beneficial to automate part of the process. The analysis was conducted manually for the entirety of the project.

Another potential metric is the “risk register” …a relatively simple qualitative metric Caltrans has adopted, that’s regularly used across numerous industries, and is part of the Project Management Professional certification. For example, each of the categories below would be qualitatively scored 1 thru 3 for probability of delivery impacts and 1 thru 3 for significance of delivery impacts. Multiply probability score by significance score for each one with a multiplier to scale for how significant of a factor it is in the overall priority/ranking list.

> **Categories:** Scope; Environmental and R/W impacts; Utility conflicts and impacts; Political/community sensitivity; Project location; Sponsor’s sensitivity to cost and/or schedule; Stakeholders of the project; Duration of the project; New type of design or innovative technology; Alternative project delivery methods.

11. Top Projects by Factor

The final table ranks projects by their composite priority score, but projects can also be considered by each factor individually depending on agency priorities. In this section, projects are ranked by highest score in each respective factor. If a project has the same score in the factor, the composite overall rank determines their place in the top five.

Table 11-1: Top 5 Opportunity Projects

Project	Project Name	Weighted Score	Overall Rank
1. NTH-AT3-1902	Niblick Rd. Corridor enhancements, operational improvements, Complete Street	400	2
2. CEN-ATP-2309	Los Osos Valley Road Protected Bike Lanes	400	3
3. NTH-AT3-1901	Creston Rd. Complete Streets Improvements	400	6
4. NTH-ATP-2342	The Grand Loop	200	1
5. CEN-ATP-2312	South Broad-Santa Barbara Protected Bike Lanes	200	7

Table 11-2: Top 5 Safety Projects

Project	Project Name	Weighted Score	Overall Rank
1. CEN-ATP-2309	Los Osos Valley Road Protected Bike Lanes	500	3
2. CEN-ATP-2316	Higuera Protected Bike Lanes	500	4
3. NTH-AT2-1902	State Route 41 (El Camino Real to San Gabriel Rd.) Complete Streets Improvements	500	5
4. CEN-ATP-2318	Madonna Road Bikeways	500	13
5. CEN-ATP-2317	Foothill Boulevard Protected Bike Lanes	500	14

Table 11-3: Top 5 Existing Conditions Projects

Project	Project Name	Weighted Score	Overall Rank
1. CEN-ATP-2309	Los Osos Valley Road Protected Bike Lanes	450	3
2. CEN-ATP-2312	South Broad-Santa Barbara Protected Bike Lanes	450	7
3. CEN-AT3-1006	Broad St Medians Orcutt Rd. to SLO County Regional Airport (Phase 2)	450	10
4. CEN-AT3-1007	Los Osos Valley Rd. medians: Prefumo Canyon - Madonna (Ph2)	450	16
5. CEN-ATP-2324	Froom Ranch Frontage & Streetscape Improvements	450	24

Table 11-4: Top 5 Demand Projects

Project	Project name	Weighted Score	Overall Rank
1. NTH-AT3-1901	Creston Rd. Complete Streets Improvements	600	6
2. NTH-AT3-1902	Niblick Rd. Corridor enhancements, operational improvements, Complete Street	550	2
3. CEN-ATP-2315	Marsh-Higuera Complete Streets	500	15
4. CEN-ATP-2309	Los Osos Valley Road Protected Bike Lanes	450	3
5. NTH-AT2-1902	State Route 41 (El Camino Real to San Gabriel Rd.) Complete Streets Improvements	450	5

Table 11-5: Top 5 Connectivity Projects

Project	Project Name	Weighted Score	Overall Rank
1. NTH-AT3-1902	Niblick Rd. Corridor enhancements, operational improvements, Complete Street	700	2
2. CEN-ATP-2309	Los Osos Valley Road Protected Bike Lanes	700	3
3. CEN-ATP-2316	Higuera Protected Bike Lanes	700	4
4. CEN-ATP-2312	South Broad-Santa Barbara Protected	700	7

	Bike Lanes		
5. STH-ATP-2334	Arroyo Grande Creek Trail - Phase 2	700	8

Table 11-6: Top 5 Equity Projects

Project	Project Name	Weighted Score	Overall Rank
1. NTH-ATP-2342	The Grand Loop	2375	1
2. CEN-ATP-2316	Higuera Protected Bike Lanes	1000	4
3. NTH-ATP-2340	Beechwood Specific Plan	875	18
4. NTH-AT3-1902	Niblick Rd. Corridor enhancements, operational improvements, Complete Street	750	2
5. NTH-AT2-1902	State Route 41 (El Camino Real to San Gabriel Rd.) Complete Streets Improvements	625	5

Works Cited

American Public Transportation Association. (2017). Who Rides Public Transportation. Retrieved February 24, 2023, from https://www.apta.com/wp-content/uploads/Resources/resources/reportsandpublications/Documents/APTA-Who-Rides-Public-Transportation-2017.pdf

American Society of Landscape Architects. (2017). Designing Walkable Urban Thoroughfares: A Context Sensitive Approach: An ITE Recommended Practice. John Wiley & Sons.

Cha, P. (2022). Health Care Access among California's Farmworkers. Retrieved March 22, 2023, from https://www.ppic.org/publication/health-care-access-among-californias-farmworkers/

Gehl, J. (2011, January 1). *Life between buildings*. Island Press. Retrieved October 14, 2022, from https://islandpress.org/books/life-between-buildings

Guide Dogs. (n.d.). Cities Unlocked. Retrieved January 28, 2023, from https://www.guidedogs.org.uk/cities-unlocked/

Litman, T. (2023). Evaluating Transportation Equity Guidance for Incorporating Distributional Impacts in Transport Planning. Retrieved June 5, 2023, from https://www.vtpi.org/equity.pdf

Barajas, J. (2011). Biking where Black: Connecting transportation planning and infrastructure to disproportionate policing. Retrieved June 5, 2023, from https://doi.org/10.1016/j.trd.2021.103027

Tight, M. (2016). Sustainable urban transport – the role of walking and cycling. Retrieved June 5, 2023, from https://www.icevirtuallibrary.com/doi/10.1680/jensu.15.00065

National Association of City Transportation Officials. (2016). Urban Bikeway Design Guide, Second Edition. Retrieved February 12, 2023, from https://nacto.org/publication/urban-bikeway-design-guide/

Ogilvie, F., Panter, J., Guell, C., Jones, A., & Mackett, R. (2016). Evaluating the travel, physical activity and carbon impacts of a 'natural experiment' in the provision of new walking and cycling infrastructure: methods for the core module of the iConnect study. Journal of Transport & Health, 3(2), 215-226., from https://bmjopen.bmj.com/content/2/1/e000694

Oregon Department of Transportation. (2012). Portland Bicycle Plan for 2030. Retrieved January 30, 2023, from https://www.portland.gov/sites/default/files/2020-04/portland_bicycle_plan_for_2030_as-adopted.pdf

SLOCOG. (2021). Active Transportation Plan. Retrieved June 5, 2023, from https://slocogatp.org/wp-content/uploads/2021/05/SLOCOG-ATP-Draft-5-20-21-Optimized-150ppi.pdf

SLOCOG. (2022). Transportation Efficiency Analysis. Retrieved June 5, 2023, from https://storymaps.arcgis.com/stories/a3133a5bf8ca449e974a7cdaff7bc4fe

SLOCOG. (2023). Regional Transportation Plan, Retrieved June 5, 2023, from https://slocog.org/programs/regional-planning/2023-rtp

Urban Land Institute. (2016). Active Transportation and Real Estate: The Next Frontier. Retrieved February 2, 2023, from http://uli.org/wp-content/uploads/ULI-Documents/Active-Transportation-and-Real-Estate-The-Next-Frontier.pdf

Avila-Palencia, I. et. al (2017). The relationship between bicycle commuting and perceived stress: a cross-sectional study. Retrieved June 5, 2023, from https://pubmed.ncbi.nlm.nih.gov/28645948/

Urban Institute. (2020). The Unequal Commute. Retrieved March 22, 2023, from https://www.urban.org/features/unequal-commute

US Department of Transportation. (n.d.). Active Transportation and Demand Management. Retrieved January 15, 2023, from https://www.transportation.gov/mission/health/active-transportation

Walk With a Doc. (2023). Retrieved March 22, 2023, from https://walkwithadoc.org/

Warburton, D. E., Nicol, C. W., & Bredin, S. S. (2006). Health benefits of physical activity: the evidence. CMAJ: Canadian Medical Association Journal. Retrieved January 15, 2023, from https://doi.org/10.1503/cmaj.051351

World Health Organization (WHO). (2022). Physical activity and health. Retrieved February 1, 2023, from https://www.who.int/news-room/fact-sheets/detail/physical-activity