

3. Action

This chapter outlines various implementation tools that will assist the Town as they identify and prioritize projects, develop budgets, and monitor and evaluate progress in improving the Town's bicycle and pedestrian system.

PROJECT PRIORITIZATION PROCESS

This Plan strives to create a safe and cohesive network of bicycle and pedestrian facilities. Much of the network is in place, yet many other corridors need to be completed and/or improved. All potential projects however do not have the same level of importance in completing the system. The following criteria, derived from the General Plan's goals and policies and refined to reflect citizen, [Planning Commission and Town Council](#) -comments, will help to evaluate potential projects and determine the implementation sequence. Since not all criteria have the same level of importance, the public was asked at public meetings and through an on-line survey to rank order the criteria. The responses created the weight. For instance, three times as many people ranked 'Improve Safety' as the highest priority criteria than those that ranked '[Piggy Back With Other Already Planned Projects](#)[Address Multiple Modes](#)' as the highest priority criteria, giving Safety a weight of three. Each potential project can be scored using this prioritization process. [Each Improvement Category is scored by multiplying the weight times the criteria score \(0-2\) to derive the total points per Improvement Category.](#) The projects with the highest score should have the highest implementation priority.

Cost was not used as an evaluation criteria based upon the idea that a project should first be evaluated on its merits. It will ultimately be a Council decision to decide if the project expenditure is worth the benefits it will provide. For instance, the Council could decide to fund one more expensive project rather than two lesser expensive projects because the overall benefit to the Town.

Figure __: Weighted Project Evaluation Criteria

Weight	Improvement Categories and Criteria	Point Range
3	<i>Improve Safety</i> 0. Project involves no existing or potential safety problem. 1. Project prevents a potential problem. 2. Project corrects an existing problem.	0-6
3	<i>Piggy Back With Other Already Planned Projects</i> 0. No nearby planned Town of PV, cities of Scottsdale or Phoenix CIP or private projects could be amended to include this project (with Town funds). 1. At least one nearby planned private project could be negotiated to include this project (with Town funds). 2. At least one nearby Town of PV or cities of Scottsdale or Phoenix CIP project could be amended to include this project (with Town Funds).	0-6
2	<i>Address Disruptive and Aggressive Behavior</i> 0. Project does not attempt to lessen disruptive and aggressive behavior by	0-4

	<u>bicyclists or drivers.</u> 1. <u>Project attempts to lessen disruptive and aggressive behavior by bicyclists OR drivers.</u> 2. <u>Project attempts to lessen disruptive and aggressive behavior by both bicyclists and drivers.</u>	
2	<i>Close a Gap</i> 0. Project does not close a gap. 1. Project closes a gap providing up to 1 mile of usable and continuous bike or pedestrian corridor. 2. Project closes a gap providing greater than 1 mile of usable and continuous bike or pedestrian corridor.	0-4
2	<i>Link to Destinations</i> 0. Project provides little to no improved access to destinations such as <u>Town Hall</u> , schools, parks, shopping/eating areas, resorts, Echo Canyon, Cholla Trail, Trail 100/Christensen Trail at Tatum into Phoenix Mountains Preserve, Arizona Canal, Indian Bend Wash. 1. Project somewhat or indirectly improves access to at least one destination. 2. Project provides direct access to one or more destinations.	0-4
2	<i>Address Disruptive and/or Aggressive Behavior</i> 0. Project does not attempt to lessen disruptive and/or aggressive behavior by bicyclists or drivers. 1. Project attempts to lessen disruptive and/or aggressive behavior by bicyclists OR drivers. 2. Project attempts to lessen disruptive and/or aggressive behavior by both bicyclists and drivers.	0-4
1	<i>Focus on Heavy Use Corridors</i> 0. Project along a corridor with low existing or potential use. 1. Project is along a corridor with moderate existing or potential use. 2. Project is along a corridor with heavy existing or potential use.	0-12
1	<i>Piggy Back With Other Already Planned Projects</i> 0. No nearby planned Town of PV, cities of Scottsdale or Phoenix CIP or private projects could be amended to include this project (with Town funds). 1. At least one nearby planned private project could be negotiated to include this project (with Town funds). 2. At least one nearby Town of PV or cities of Scottsdale or Phoenix CIP project could be amended to include this project (with Town Funds).	0-1
1	<i>Address Multiple Modes</i> 0. Project improves one mode: bicycle OR pedestrian facility. 1. Project improves two modes: bicycle OR pedestrian facility with a connection to transit, OR a bicycle AND pedestrian facility <u>vehicular OR transit.</u> 2. Project improves 3 modes: bicycle AND pedestrian facility connecting to with	0-12

	vehicular OR transit.	
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PERFORMANCE MEASURES

Different from Implementation Measures, Performance Measures promote informed decision-making by relating community goals to measuring and evaluating the effects of bicycle and pedestrian investments whether they are projects or policies. The following measures were selected for their appropriateness for Paradise Valley from an exhaustive list of measures developed by the Federal Highway Administration in their 'Guidebook for Developing Pedestrian and Bicycle Performance Measures'. They have been edited and refined to reflect the specific characteristics and needs of Paradise Valley. Implementing these measures will take staff and financial resources that may currently be limited.

Adherence to Accessibility Laws

The U.S. Department of Justice (USDOJ) adopted regulations (28 CFR Part 35) that require public entities to evaluate their current services, policies, and practices, and to develop a transition plan (for entities that employ 50 or more persons) or a program access plan to make any structural changes needed to achieve program accessibility. Pedestrian access to the public right of way is a service provided by public entities, and therefore, a public entity's self-evaluation and transition plan or program access plan must include how barriers to pedestrian access by persons with disabilities will be addressed. For many agencies, making such structural changes requires a multi-year effort. Public entities should track and report to the public their progress toward achieving compliance with accessibility standards for the public right-of-way. Some common measures include:

- Percent of total street crossings that meet accessibility standards (e.g. curb ramps, crosswalk grade and cross slope, and no median barriers).
- Percent of total sidewalk miles that meet accessibility standards (e.g. slopes, obstructions, protruding objects, changes in levels, etc.).
- Percent of total pedestrian signals that have Accessible Pedestrian Signal (APS) technology.
- Percent of total bus stops that are connected to streets, sidewalks or pedestrian paths by an accessible route and that have accessible boarding and alighting areas.
- Percent of total shared use paths that are accessible.

Adherence to Traffic Laws

Enforcement may be one of the most important elements in getting drivers, pedestrians and bicyclists to behave safely. Transportation agencies should work closely with law enforcement to identify dangerous behaviors and locations that may require enforcement efforts to improve safety. Evaluating the behavior of transportation system users (including pedestrians, bicyclists and motorists) as a proxy for safety can be measured by:

- Number of observed violations. Targeted behaviors can include:
 - Motorists: failure to yield to pedestrians or bicyclists, turning (left, right or right turn on red), driving under the influence, driving distracted, speeding, running a red light/sign, passing a bicyclist too closely (aggressive, negligent or reckless driving).

- Bicyclists: failure to yield to pedestrians, running a red light/sign, wrong- way riding, failure to use front light, riding more than 2 abreast, ~~traveling faster than the posted speed,~~ traveling faster than the posted speed limit.
- Pedestrians: darting or walking into traffic; crossing in an area other than a marked or unmarked crosswalk, crossing against crossing signal.
- Number and types of citations issued, including written warnings. (See examples above.) Citations and formal activity is only a small measure of actual motorists, pedestrian and bicyclist behavior at any one location.
- Tracking trend data, including observations and enforcement efforts over months and years. Use consistent methodologies for observations (i.e. time of day, locations, weather, etc.). For citations, consider comparing formal operations to one another verses everyday enforcement efforts.

Facility Maintenance

To develop and maintain a complete pedestrian and bicycle network, an up-to-date facility inventory with the presence and condition of sidewalks and bicycle facilities is necessary. Typically, this inventory will be stored in a geospatial database which can be updated and tracked over time.

Agencies that have a detailed database will be able to prioritize facility improvements based on need. "Maintenance" of facilities can be subjective depending on local, regional, and State codes and requirements; however, FHWA does maintain several guidebooks that provide additional information including 'A Guide for Maintaining Pedestrian Facilities for Enhanced Safety' and 'Designing Sidewalks and Trails for Access.'

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Emerging Technologies and Trends

Mobile crowdsourcing applications documenting maintenance issues; remote surveying technology such as Lidar.

Miles/Number of Pedestrian and Bicycle Facilities

"Miles of bicycle or pedestrian facilities" is a simple measure describing the total mileage of the network within a jurisdiction. Calculating this measure generally requires an inventory of the facilities. However, if a full inventory is not feasible, jurisdictions can track miles of bicycle or pedestrian facilities added annually within their boundaries or on their transportation facilities. Reporting miles added annually and number of improved crossings added annually allows for tracking progress over time. ~~The 'existing facilities' maps and corresponding table provides the Town with a starting baseline.~~ The 'existing facilities' maps and corresponding table within this plan provides the Town with a starting baseline.

Pedestrian facilities are defined by [the](#) American Association of State Highway and Transportation Officials (AASHTO) as "sidewalks, trails, curb ramps, grade separated crossings, wide shoulders and other technology, design features, and strategies intended to encourage pedestrian travel. Bicycle facilities are defined as improvements and provisions to accommodate or encourage bicycling, including parking and storage facilities, and shared roadways not specifically designed for bicycle use. Miles of bicycle or pedestrian facilities can be reported as:

- Total miles of bicycle facilities
- Miles of bicycle facilities added
- Total miles of sidewalks
- Miles of sidewalks added
- Total miles of ~~R-Recreational~~ paths
- Miles of ~~shared-use~~ Recreational paths added

A baseline list of facility types to track may include:

- Sidewalk
- Buffered Bike Lane
- Trail
- ~~Shared Use~~ Recreational Path
- Enhanced crossing/intersection
- Other (such as shared lane marking and paved shoulder)

Bicycle/Pedestrian Counts

Pedestrian and bicyclist volumes can be used in a number of ways including establishing baselines and measuring use, evaluating before-and-after projects data ~~on projects~~, multimodal modeling, ~~and~~ project prioritization and safety analyses. Depending on data goals, pedestrian and bicyclist volumes can be collected in a number of ways, from short duration counts that are collected by a person over a few hours or the course of a day, to longer duration counts collected by automated equipment.

NCHRP Report 797: Guidebook on Pedestrian and Bicycle Volume Data Collection provides guidance on collecting volume data using manual count methods and automated counters.

Emerging Technologies and Trends

Mobile crowdsourcing applications collecting data on pedestrian and bicycle volume such as the Strava Global Heatmaps recently made available by the Maricopa Association of Governments for the entire Phoenix region.

Crashes

Crash data is useful for identifying the number and severity of crashes, where crashes occur, the circumstances surrounding each crash, who is involved in crashes, and the conditions and time of day that crashes occur. By understanding common crash types and locations, agencies can determine the appropriate countermeasures and prioritize projects to improve safety. Additionally, the number of crashes can be tracked over time to track progress towards meeting safety goals. Crash data is often used along with volume data and facility type data to determine crash rates and identify crash hotspots. Some of the common measures used to evaluate the safety of the transportation system based on crash history are:

- Number of bicycle-involved and/or pedestrian-involved crashes over 5 years.
- Number of fatal or serious injuries of bicyclists and/or pedestrians over 5 years.
- Crashes per volume of bicyclists and/or pedestrians over 5 years (crash rates).

Emerging Technologies and Trends

Mobile smartphone applications collecting data on crashes, near misses, location, circumstances, etc.

WOULD WE ALSO CONSIDER ADDING:

Access to Community Destinations

Connectivity Index

Network Completeness