

MAG Active Transportation Plan

Planning-Level Unit Costs



These unit costs are intended to be used for planning purposes only. They are based on bids and actual project costs in the MAG region in 2018/2019.

FACILITY	UNIT COST	ASSUMPTIONS
BICYCLE FACILITIES AND TREATMENTS		
Bike boulevard	\$350,000 per mile	<ol style="list-style-type: none"> 1) Assumes one new signal per mile, 2) Assumes pavement already exists; 3) Does not include pavement marking removal or retrofit of existing lane positioning; 4) Does not include curb modification, stormwater, landscaping, ROW work, or signal improvements; and 5) Includes sign assemblies (25/mile at \$300 each) and lane markings (50/mile at \$300 each).
Bike lanes	\$55,000 per mile	<ol style="list-style-type: none"> 1) Include bicycle facility improvements on both sides of the street; 2) Assumes pavement already exists; 3) Does not include pavement marking for on-street parking; 4) Does not include pavement marking removal or retrofit of existing lane positioning; 5) Does not include signal head realignment for any lane shifting; 6) Does not include curb modification, stormwater, landscaping, ROW work, or signal improvements; 7) Assumes new bike lanes are constructed outside of existing motor vehicle lanes;
Bike lanes, widening required*	\$3,500,000 per mile	<ol style="list-style-type: none"> 1) Assumes bicycle facility improvements on both sides of the street; 2) Assumes all costs and assumptions for bike lanes above; 3) Adds costs to widen both sides of roadway (\$3,500,000), which include curb removal and reconstruction, additional pavement, reconstruction of drainage facilities, some utility modification; and 4) Does not include ROW costs.
Buffered bike lanes, no widening required	\$95,000 per mile	<ol style="list-style-type: none"> 1) Assumes bicycle facility improvements on both sides of the street; 2) Assumes all costs and assumptions for bike lanes above; 3) Adds an additional striped line for each directional bike lane (buffer) and diagonal hatched lines
2-way Separated bike lane (paint and post separation)	\$520,000 per mile	<ol style="list-style-type: none"> 1) Assumes one signal modification per mile; 2) Assumes all costs and assumptions for buffered bike lanes; 3) Adds flexible delineator posts every 40 feet
1-Way Separated bike lane (paint and post separation)	\$330,000 per mile	<ol style="list-style-type: none"> 1) Assumes bicycle facility improvements on both sides of the street; 2) Assumes all costs and assumptions for buffered bike lanes; 3) Adds flexible delineator posts every 40 feet and a unit cost of \$150 per delineator
1-Way Separated bike lane (curb median separation)	\$500,000 per mile	<ol style="list-style-type: none"> 1) Assumes bicycle facility improvements on both sides of the street; 2) Does not include pavement marking removal or retrofit of existing lane positioning; 3) Does not include signal head realignment for any lane shifting; 4) Does not include landscaping, ROW work, or signal improvements; 5) Assumes new bike lanes are constructed outside of existing motor vehicle lane
Separated bike lane, widening required (street or sidewalk level)*	\$3,500,000 per mile	<ol style="list-style-type: none"> 1) Assumes reconstructed curb, drainage reconstruction, pavement markings, signing, some utility adjustments, 2) Does not include right-of-way acquisition
Off-street paved shared use path (concrete)	\$2,500,000 per mile	<ol style="list-style-type: none"> 1) 12-ft wide 2) Includes excavation, subgrade preparation, gravel sub-base, asphalt concrete pavement, pavement markings, signing, drainage, basic amenities, and landscaping; and 3) Excludes lighting, signalized crossings, and significant utility work, 4) excludes right-of-way acquisition
Off-street paved shared use path (asphalt)	\$1,500,000 per mile	<ol style="list-style-type: none"> 1) 12-ft wide 2) Includes excavation, subgrade preparation, gravel sub-base, asphalt concrete pavement, pavement markings, signing, drainage, basic amenities, and landscaping; and 3) Excludes lighting, signalized crossings, and significant utility work, 4) excludes right-of-way acquisition
Upgrade shared use path surface (from gravel to asphalt)	\$500,000 per mile	<ol style="list-style-type: none"> 1) Assumes existing unpaved path is already well suited for bicycle traffic in width and curvature
Underpass*	\$1,500,000 per crossing	<ol style="list-style-type: none"> 1) Does not include ROW acquisition, does not include portions of the shared use path that are not directly relevant to the underpass,
Overpass*	\$3,500,000 per crossing	<ol style="list-style-type: none"> 1) Assumes a pedestrian bridge over a grade-separated freeway. Improvements include the structure, path surface, and connections to infrastructure on either side; and 2) Does not include ROW acquisition or elevators.
Green pavement markings	\$45 sq. ft.	<ol style="list-style-type: none"> 1) Assumes Methyl Methacrylate (MMA)
Bike box	\$8,500 each	<ol style="list-style-type: none"> 1) Assumes green pavement markings, bike stencils, stop bar, and includes materials and construction.
Two-stage turn box	\$1,300 each	<ol style="list-style-type: none"> 1) Assumes green pavement markings, bike stencils, and includes materials and construction.

FACILITY	UNIT COST	ASSUMPTIONS
PEDESTRIAN FACILITIES		
Sidewalk (attached or detached from existing curb)	\$1,000,000 per mile	1) Assumes sidewalk improvements on both sides of the street, 2) no right-of-way acquisition
Lighting, roadway	\$350,000 per mile	1) Assumes 60 streetlights per mile (includes median lighting, single side lighting, or both side lighting); 2) Includes street light poles installed by direct bury or by concrete foundation; 3) Includes luminaire, conduit, poles, pull boxes, and foundation; and 4) Assumes power company owns conductor.
Lighting, pedestrian scale	\$420,000 per mile	1) Includes either 175 bollard-style light poles or 75 overhead path light poles; and 2) Includes luminaire, conduit, poles, bull boxes, and foundations.
Streetlight, roadway	\$5,000 each	1) Includes street light poles installed by direct bury or by concrete foundation; 2) Includes luminaire, conduit, poles, pull boxes, and foundation; and 3) Assumes power company owns conductor.
Wayfinding sign	\$300 each	1) Includes the entire sign assembly (signs, post, foundation), and installation.
Curb ramp	\$3,500 each	1) Includes various curb ramp designs - cost based on a radial, dual curb ramp; 2) Current ADA design with truncated dome tactile strips; and 3) Does not include removal of existing curb.
Curb extension	\$25,000 each corner	1) Includes dual-directional pedestrian curb ramps on each corner; and 2) Includes reconstruction of curb/gutter .
Bus bulb out	\$50,000 each	1) Includes reconstructed curb and gutter, expanded concrete sidewalk area, basic bus stop amenities, and minor utility relocation; and 2) Does not include structural reconstruction of the motor vehicle lane(s).
Pedestrian crossing island	\$40,000 each	1) Includes a raised median island, pedestrian curb ramps, tactile warning strips, pavement markings, and signs; and 2) Does not include significant utility work, RRFB, lighting, or landscaping.
High-visibility marked crosswalk	\$3,000 each	1) High-visibility crosswalk markings assume use of wider stripes used transversely across the crosswalk area; and 2) Does not include signs, lighting, or advance YEILD/STOP markings.
Raised crossing	\$35,000 each	1) Includes a ramped speed table, tactile warning strips, high-visibility crosswalk markings, lane markings, approach arrows, and warning signs; and 2) Does not include lighting.
SIGNALS		
Retrofit existing signal with countdown heads	\$10,000 each	1) Assumes a four-legged intersection with 8 pedestrian signal indications.
New traffic signal	\$300,000 each	1) Assumes a four-legged intersection; 2) Includes standard items such as curb ramps, internally illuminated street light signs, video detection, emergency vehicle pre-emption, traffic signal poles/foundations/mast arms, signal heads and pedestrian signal indications, pedestrian push buttons, signal controller and cabinet, power pedestal, pull boxes, conduit and conductors, and all other associated signal equipment; and 3) Does not include ROW acquisition or significant utility work.
New midblock pedestrian or bicycle signal	\$200,000 each	1) Includes the signal equipment and assumptions listed above, but is simplified due the midblock/two-approach nature of the crossing.
Pedestrian Hybrid Beacon (HAWK)	\$150,000 each	1) Includes two signal poles/foundations/mast arms, PHB signal indications, pedestrian signal indications, pedestrian push buttons, crosswalk pavement markings, signs, lighting mast arms on each signal pole (with luminaire), conductor, conduit, and pull boxes; and 2) Does not include ROW acquisition, significant utility work, or significant roadside improvements.
BikeHAWK	\$200,000 each	1) Includes the costs and assumptions for the PHB (HAWK); 2) Includes additional features, like an adjacent green bike lane crossing adjacent to the pedestrian crosswalk, flexible delineator posts on the bike lane approaches, additional signs, and easily accessible bicyclist push buttons; 3) The additional features (beyond the PHB) are estimated to cost approximately \$50,000.
RRFB (Two beacons, one on each approach)	\$30,000 each	1) Includes two RRFB assemblies (foundation, poles, beacons, and signs); 2) RRFB units are assumed to be solar-powered; and 3) Does not include pedestrian curb ramps, pavement markings, or advance warning signs.
RRFB (Four beacons, one on each approach and two within median)	\$55,000 each	1) Includes four RRFB assemblies (signs and beacons) located on three foundations/poles 2) Assumes 1 assembly on each roadway approach and 2 RRFB/sign assemblies within the median that share the same foundation/pole; 3) RRFB units are assumed to be solar-powered; and 4) Does not include a pedestrian refuge island, pedestrian curb ramps, pavement markings, or advance warning signs.
TOUCAN	\$630,000 each	1) Includes median construction on bike approaches, bollards, signals, signs, pedestrian/bicyclist signal indications, push buttons, and other associated signal equipment.

* Varies significantly based on site conditions. All pavement striping and legend markings assumed to be thermoplastic. Maintenance of traffic, mobilization, contingency costs are included in unit costs. Maintenance costs are not included for any items.