Pedestrian and Bicycle Information Center

Costs for Pedestrian and Bicyclist Infrastructure Improvements

Summary of Study

Improving pedestrian and bicycling facilities is recommended for encouraging more physical activity and to prevent chronic diseases. There are many types of facilities available, and cost is a common concern. Costs for pedestrian and bicycle safety infrastructure vary greatly, which complicates decision making in communities. A recent paper and database provide estimates of infrastructure costs from states and cities across the country. A better understanding of pedestrian and bicycle infrastructure costs will hopefully inspire more funding and enhancement of facilities to encourage more people to walk and bike and do so more safely. The table on the following page is a sample of the larger database that provides cost estimates and cost ranges for a variety of pedestrian and bicycle treatments. **As costs can vary widely from state to state and site to site, depending on many factors, the cost information should be used only for estimating purposes and not necessarily for determining actual bid prices for a specific infrastructure project.**

Source

Bushell, Max; Poole, Bryan; Rodriguez, Daniel; Zegeer, Charles. (July, 2013). *Costs for Pedestrian and Bicyclist Infrastructure Improvements: A Resource for Researchers, Engineers, Planners and the General Public.*
www.walkinginfo.org/download/PedBikeCosts.pdf

Methodology

Bid-letting summaries, price indices and targeted searches were used to acquire 1,747 observations of infrastructure costs from 40 states across the US, mostly from Department of Transportation websites. Costs are updated to 2012 US Dollar equivalents, and include labor, materials, mobilization costs and contractor profits. Extreme outliers were eliminated, as well as costs that did not appear to include complete cost information. Treatments were eliminated if they had less than four observations. In total, costs for 77 facilities were identified. The costs are presented with a median and average price, the minimum/maximum cost, the cost unit, and the number of sources (with the number of observations in parentheses). Costs between $10 and $100 are rounded to the nearest dollar, while costs greater than $100 are rounded to the nearest ten dollar unit. As costs were acquired from various sources, they often varied between states and also depending on the quantity purchased. Generally, the costs per unit (square yard, linear foot, each, etc.) variance depended on the size of the order, with larger quantities usually leading to lower per unit costs.

Why Bicycle and Pedestrian Infrastructure is Needed

Recent socio-economic and cultural trends point to higher demands for walkable and bikeable communities, yet many cities still lack adequate facilities for safe walking and biking. Creating a walkable and bikeable community starts with the built environment: having destinations close to each other; siting schools, parks, and public spaces appropriately; allowing mixed-use developments; having sufficient densities to support transit; creating commercial districts that people can access by bicycle, foot and wheelchair; etc. Most walking trips are less than .5 mi (0.8 km), so having a compact environment is essential. Similarly, while half of all household trips are three miles or less, fewer than 2 percent of those trips are made by bicycle.

The connection between land-use planning and transportation planning is critical to safely and effectively accommodate trips by foot and bicycle. Studies have shown that facilities such as separated paths, bike boxes, sidewalks and benches are associated with enhanced safety and/or more active travel. Through the design or redesign of environments to make walking and biking safer or more pleasant, planners and engineers can help people of all ages get the exercise they need to live longer, healthier lives. Additionally, building a new roadway can cost tens of millions of dollars to construct, with many of the pedestrian and bicycle infrastructure projects extremely low-cost in comparison. The infrastructure costs summarized in this document are intended to aide and encourage improvements to the built environment and better accommodate pedestrians and bicyclists.

Pedestrian and Bicycle Infrastructure Costs in the US: A Sample of Cost Information

Infrastructure Facility	Median	Average	Minimum	Maximum	Cost Unit	Number of Sources (Observations)
Bicycle Locker	$2,140	$2,090	$1,280	$2,680	Each	4 (5)
Bicycle Lane	$89,470	$133,170	$5,360	$536,680	Mile	6 (6)
Bicycle Rack	$540	$660	$64	$3,610	Each	19 (21)
Concrete Sidewalk	$27	$32	$2.09	$410	Linear Foot	46 (164)
Curb and Gutter	$20	$21	$1.05	$120	Linear Foot	16 (108)
Curb Extension/ Choker/ Bulb-Out	$10,150	$13,000	$1,070	$41,170	Each	19(28)
Flashing Beacon	$5,170	$10,010	$360	$59,100	Each	16 (25)
High Visibility Crosswalk	$3,070	$2,540	$600	$5,710	Each	4(4)
Multi-Use Trail - Paved	$261,000	$481,140	$64,710	$4,288,520	Mile	11 (42)
Multi-Use Trail - Unpaved	$83,870	$121,390	$29,520	$412,720	Mile	3 (7)
Pedestrian Crossing	$310	$360	$240	$1,240	Each	4 (6)
Pedestrian Hybrid Beacon	$51,460	$57,680	$21,440	$128,660	Each	9 (9)
Pedestrian Rail	$95	$100	$7.20	$690	Linear Foot	29 (83)
Pedestrian Signal	$980	$1,480	$130	$10,000	Each	22 (33)
Raised Crosswalk	$7,110	$8,170	$1,290	$30,880	Each	14 (14)
Rapid Rectangular Flashing Beacon	$14,160	$22,250	$4,520	$52,310	Each	3 (4)
Shared Lane/Bicycle Marking	$160	$180	$22	$600	Each	15 (39)
Signed Bicycle Route	$27,240	$25,070	$5,360	$64,330	Mile	3 (6)
Speed Bump	$1,670	$1,550	$540	$2,300	Each	4 (4)
Speed Hump	$2,130	$2,640	$690	$6,860	Each	14 (14)
Speed Table	$2,090	$2,400	$2,000	$4,180	Each	5 (5)
Speed Trailer	$9,480	$9,510	$7,000	$12,410	Each	6 (6)
Stop/Yield Signs	$220	$300	$210	$560	Each	4 (4)
Streetlight	$3,600	$4,880	$310	$13,900	Each	12 (17)
Striped Crosswalk	$340	$770	$110	$2,090	Each	8 (8)
Wheelchair Ramp	$740	$810	$89	$3,600	Each	16 (31)

Definitions of infrastructure types and additional costs available in the full version of the paper. Download the full document at: www.walkinginfo.org/download/PedBikeCosts.pdf.

About the Resource

The paper and database were created by the University of North Carolina at Chapel Hill's Highway Safety Research Center (HSRC). The HSRC has been a leading research institute that has helped shape the field of transportation safety. The Center's mission is to improve the safety, security, access, and efficiency of all surface transportation modes through a balanced, interdisciplinary program of research, evaluation and information dissemination.

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