This cost calculator was developed for the Portsmouth Bicycle and Pedestrian Plan to provide **planning-level cost estimates**. While many assumptions may be applicable for other applications, assumptions and cost variables should be adjusted.

Source:

Unit prices were estimated by using:

- New Hampshire Department of Transportation Weighted Average Unit Prices for Projects in Years: 2013 Qtr 4, 2013 Qtr 3, 2013 Qtr 2, 2013 Qtr 1

- City of Portsmouth, Bid Tabulation, Sagamore Avenue Reconstruction Project - Phase 1, dated July 2,

	Facility Unit Cost (per mile)	Calculation	As
Off-Street Facilities	· · · · · ·		
		Action: Reconstruction	on
Shared Street	\$2,190,000.00	Facility Unit Cost = (((5280 feet * 20 feet)/9 feet per yard * \$120/SY + 5280 feet * 2 curbs * \$10/foot + 55 bollards * \$750/bollard * 2 sides + 20 signs * \$250/sign + 200 structures * \$300/structure + \$10,000 + \$100,000) * 1.03) *1.2	Assume roadway width is 20 feet with excavation of raised intersections at each end. Roadway excavation \$10/foot. Assume bollards at 100 foot spacing on ea \$750/bollard. Assume 20 signs per mile at \$250/sign adjusted only at 200 structures/mile at \$300/structure management is \$50,000/mile + \$50,000/mile for polic contingency of 20%.
Pedestrian Street (Temporary Installation)	\$140,000.00	Facility Unit Cost = 66 planters * \$2,000/planter + 20 signs * \$250/sign	Assumes this a temporary closure. Install planters a 10 intersections - 20 additional roadway ends with 2 \$2000/planter and 3 are used at each roadway end \$250/sign.
Pedestrian Street (Permanent Installation)	\$2,190,000.00	Facility Unit Cost = (((5280 feet * 20 feet)/9 feet per yard * \$120/SY + 5280 feet * 2 curbs * \$10/foot + 55 bollards * \$750/bollard * 2 sides + 20 signs * \$250/sign + 200 structures * \$300/structure + \$10,000 + \$100,000) * 1.03) *1.2	Assume roadway width is 20 feet with excavation of raised intersections at each end. Roadway excavatio \$10/foot. Assume bollards at 100 foot spacing on ea \$750/bollard. Assume 20 signs per mile at \$250/sign adjusted only at 200 structures/mile at \$300/structur management is \$50,000/mile + \$50,000/mile for polic contingency of 20%.
Shared Use Path (independent ROW)	\$1,230,000.00	Facility Unit Cost = (((5280 feet * 11 feet)/9 feet per yard * \$35/SY + (1400 trees * \$500/tree) + (5280 feet * 6 feet)/9 feet per yard * \$5/SY + 2 ramps * \$1300/ramp + 5280 feet * 0.33 * \$1.00/foot + 20 signs * \$250/sign + \$10,000 + \$25,000) * 1.03) *1.2	Assume asphalt path is 11 feet wide within 20 foot F area with removal of 1400 trees per mile at \$500/tre materials is \$5/SY. Assume per mile there are 2 AD Assumes a dashed center line. Assumes \$1.00/LF are installed (includes regulatory and/or warning sig installation.Assume erosion control is \$10,000/mile. 3% of the total cost and a contingency of 20%.
Bicycle Lane - Reconstruction	\$590,000.00	Facility Unit Cost = (((5280 feet * 10 feet)/9 feet per yard * \$35/SY + 20 ramps * \$1300/ramp * 2 sides + 5280 feet * 2 curbs * \$10/feet + \$1.00/foot * 5280 feet * 1 line * 2 sides + \$330/symbol * 30 symbols/mi * 2 sides + \$250/sign * 10 signs/mi * 2 sides + 20 structures * \$300/structure * 2 sides + 4 units * \$4000/unit * 2 sides + \$10,000 + \$25,000) * 1.03) *1.2	Assume total of 10 feet is reconstructed for bicycle I per mile there are 20 ADA ramps at \$1300/ramp for \$10/foot on both sides. Assumes 1 bicycle lane line sides of the road. \$330 per bike and arrow symbol if 6" thermo from NHDOT. Assume 10 signs per mile of structures need to be adjusted only at 20 structures/ Assume drainage structures that need to be change control is \$10,000/mile and traffic management is \$2 a contingency of 20%.
Cycle Track - Reconstruction/Road Diet	\$710,000.00	Facility Unit Cost = (((5280 feet * 15 feet)/9 feet per yard * \$35/SY + 20 ramps * \$1300/ramp + 5280 feet * 2 curbs * \$10/feet + \$330/symbol * 30 symbols/mi * 2 sides + \$250/sign * 10 signs/mi * 2 sides + 20 structures * \$300/structure * 2 sides + 4 units * \$4000/unit * 2 sides + \$10,000 + \$25,000) * 1.03) *1.2	Assume total of 15 feet is reconstructed for cycle tra per mile there are 20 ADA ramps at \$1300/ramp. As Assumes 30 bike and arrow symbols per mile are ac symbol includes the materials and installation. Assu \$250/sign. Assume drainage structures need to be a drainages that need to be changed in type is 4 units and traffic management is \$25,000/mile. Assume materials

sumptions

f 12 inches and a non-asphalt surface including the cost of 2 ion and materials is \$120/SY. Assume curbing to be R&R at ach side of the road (approx 55 bollards per mile) at n. Assume utilities and drainage structures need to be re. Assume erosion control is \$10,000/mile and traffic ice. Assume mobilization is 3% of the total cost and a

at entry points. Assume 2 roadway ends and approximately 20 foot wide entries per mile. Assume per planter a cost of (approximately 66 planters). Assume 20 signs per mile at

f 12 inches and a non-asphalt surface including the cost of 2 ion and materials is \$120/SY. Assume curbing to be R&R at ach side of the road (approx 55 bollards per mile) at n. Assume utilities and drainage structures need to be re. Assume erosion control is \$10,000/mile and traffic ice. Assume mobilization is 3% of the total cost and a

ROW. Excavation and materials is \$35/SY. Assume wooded ee. Loam and seed for a 3 foot clear zone excavation and DA ramps at \$1300/ramp. Assume no curb modifications. for thermo from NHDOT. Typically up to 20 signs per mile gns). Assumes \$250/sign including materials, post, and Assume \$25,000/mile for landscape. Assume mobilization is

lanes. Roadway excavation and materials is \$35/SY. Assume r each side of the roadway. Assume curbing to be R&R at and 30 bike and arrow symbols per mile are added on both includes the materials and installation. Assume \$1.00/LF for on each side of the roadway at \$250/sign. Assume drainage /mile at \$300/structure for both sides of the roadway. ed in type is 4 units/mile at \$4000/unit. Assume erosion 25,000/mile. Assume mobilization is 3% of the total cost and

acks. Roadway excavation and materials is \$35/SY. Assume ssume curbing to be R&R at \$10/foot on both sides. dded on both sides of the road. \$330 per bike and arrow ime 10 signs per mile on each side of the roadway at adjusted only at 20 structures/mile at \$300/structure. Assume s/mile at \$4000/unit. Assume erosion control is \$10,000/mile iobilization is 3% of the total cost and a contingency of 20%.

	Facility Unit Cost (per mile)	Calculation	As
Side-Path, 1 Side - Reconstruction/Road Diet	\$640,000.00	Facility Unit Cost = (((5280 feet * 17 feet)/9 feet per yard * \$35/SY * 1 side + 20 ramps * \$1300/ramp * 1 side + 5280 feet * 1 curbs * \$10/feet + 5280 feet * 0.33 * \$1.00/foot + 10 signs * \$250/sign * 1 side + 20 structures * \$300/structure + 4 units * \$4000/unit * 1 side + \$10,000 + \$25,000 + \$25,000) * 1.03) *1.2	Assume roadway width is 17 feet on one side of the per mile there are 20 ADA ramps at \$1300/ramp for \$10/foot for one side of the road. Assumes a dashe side of the road. Assume drainage structures need to one side of the road. Assume drainages that need to of the road. Assume erosion control is \$10,000/mile Assume mobilization is 3% of the total cost and a co
Side-Path, 2 Sides - Reconstruction/Road Diet	\$1,200,000.00	Facility Unit Cost = (((5280 feet * 17 feet)/9 feet per yard * \$35/SY * 2 sides + 20 ramps * \$1300/ramp * 2 sides + 5280 feet * 2 curbs * \$10/feet + 5280 feet * 0.33 * \$1.00/foot * 2 sides + 10 signs * \$250/sign * 2 sides + 20 structures * \$300/structure * 2 sides + 4 units * \$4000/unit * 2 sides + \$10,000 + \$25,000 + \$25,000) * 1.03) *1.2	Assume roadway width is 17 feet on both sides of th Assume per mile there are 20 ADA ramps at \$1300/ at \$10/foot for both sides of the road. Assumes a da both sides of the road. Assume drainage structures \$300/structure for both sides of the road. Assume dr \$4000/unit for both sides of the road. Assume erosic \$25,000/mile + \$25,000/mile. Assume mobilization is
Add Sidewalk, One Side - Cement Concrete Sidewalk	\$520,000.00	Facility Unit Cost = (((5280 feet * 8 feet)/9 feet per yard * \$60/SY + 20 ramps * \$1300/ramp + 5280 feet * 1 curbs * \$10/feet + 20 structures * \$300/structure + 4 units * \$4000/unit + \$10,000 + \$25,000) * 1.03) *1.2	Assume additional sidewalk is 6 feet plus 2 feet for i Assume per mile there are 20 ADA ramps at \$1300/ R&R at \$10/foot for one side. Assume drainage stru \$300/structure. Assume drainages that need to be c control is \$10,000/mile and traffic management is \$2 a contingency of 20%.
Add Sidewalk, Two Sides - Cement Concrete Sidewalk	\$990,000.00	Facility Unit Cost = (((5280 feet * 8 feet)/9 feet per yard * \$60/SY * 2 sides + 20 ramps * \$1300/ramp * 2 sides + 5280 feet * 2 curbs * \$10/feet + 20 structures * \$300/structure * 2 sides + 4 units * \$4000/unit * 2 sides + \$10,000 + \$25,000) * 1.03) *1.2	Assume additional sidewalk is 6 feet plus 2 feet for i excavation and materials is \$60/SY. Assume per mil the roadway. Assume curbing to be R&R at \$10/foot adjusted only at 20 structures/mile at \$300/structure in type is 4 units/mile at \$4000/unit on both sides. As management is \$25,000/mile. Assume mobilization is
Add Sidewalk, One Side - Brick Sidewalk	\$870,000.00	Facility Unit Cost = (((5280 feet * 8 feet)/9 feet per yard * \$120/SY + 20 ramps * \$1300/ramp + 5280 feet * 1 curbs * \$10/feet + 20 structures * \$300/structure + 4 units * \$4000/unit + \$10,000 + \$25,000) * 1.03) *1.2	Assume additional sidewalk is 6 feet plus 2 feet for i Assume per mile there are 20 ADA ramps at \$1300/ R&R at \$10/foot for one side. Assume drainage stru \$300/structure. Assume drainages that need to be c control is \$10,000/mile and traffic management is \$2 a contingency of 20%.
Add Sidewalk, Two Sides - Brick Sidewalk	\$1,690,000.00	Facility Unit Cost = (((5280 feet * 8 feet)/9 feet per yard * \$120/SY * 2 sides + 20 ramps * \$1300/ramp * 2 sides + 5280 feet * 2 curbs * \$10/feet + 20 structures * \$300/structure * 2 sides + 4 units * \$4000/unit * 2 sides + \$10,000 + \$25,000) * 1.03) *1.2	Assume additional sidewalk is 6 feet plus 2 feet for i excavation and materials is \$120/SY. Assume per m the roadway. Assume curbing to be R&R at \$10/foot adjusted only at 20 structures/mile at \$300/structure in type is 4 units/mile at \$4000/unit on both sides. As management is \$25,000/mile. Assume mobilization is

sumptions

e road. Roadway excavation and materials is \$35/SY. Assume e each side of the road. Assume curbing to be R&R at ed center line. Assume 10 signs per mile at \$250/sign for one to be adjusted only at 20 structures/mile at \$300/structure for o be changed in type is 4 units/mile at \$4000/unit for one side and traffic management is \$25,000/mile + \$25,000/mile. pontingency of 20%.

he road. Roadway excavation and materials is \$35/SY. /ramp for each side of the road. Assume curbing to be R&R ashed center line. Assume 10 signs per mile at \$250/sign for need to be adjusted only at 20 structures/mile at rainages that need to be changed in type is 4 units/mile at on control is \$10,000/mile and traffic management is is 3% of the total cost and a contingency of 20%.

installation. Sidewalk excavation and materials is \$60/SY. /ramp on one side of the roadway. Assume curbing to be inclures need to be adjusted only at 20 structures/mile at changed in type is 4 units/mile at \$4000/unit. Assume erosion 25,000/mile. Assume mobilization is 3% of the total cost and

installation on both sides of the roadway. Sidewalk le there are 20 ADA ramps at \$1300/ramp on both sides of t for both sides. Assume drainage structures need to be on both sides. Assume drainages that need to be changed ssume erosion control is \$10,000/mile and traffic is 3% of the total cost and a contingency of 20%.

installation. Sidewalk excavation and materials is \$120/SY. /ramp on one side of the roadway. Assume curbing to be inclures need to be adjusted only at 20 structures/mile at changed in type is 4 units/mile at \$4000/unit. Assume erosion 25,000/mile. Assume mobilization is 3% of the total cost and

installation on both sides of the roadway. Sidewalk nile there are 20 ADA ramps at \$1300/ramp on both sides of t for both sides. Assume drainage structures need to be on both sides. Assume drainages that need to be changed ssume erosion control is \$10,000/mile and traffic is 3% of the total cost and a contingency of 20%.

	Facility Unit Cost (per mile)	Calculation	Ass
Reconstruct Sidewalk, One Side - Cement Concrete Sidewalk	\$410,000.00	Facility Unit Cost = (((5280 feet * 6 feet)/9 feet per yard * \$60/SY + 20 ramps * \$1300/ramp + 5280 feet * 1 curbs * \$10/feet + \$10,000 + \$25,000) * 1.03) *1.2	Assume sidewalk is 6 feet. Sidewalk excavation and ramps at \$1300/ramp on one side of the roadway. As no drainage modifications. Assume erosion control is Assume mobilization is 3% of the total cost and a co
Reconstruct Sidewalk, Two Sides - Cement Concrete Sidewalk	\$770,000.00	Facility Unit Cost = (((5280 feet * 6 feet)/9 feet per yard * \$60/SY * 2 sides + 20 ramps * \$1300/ramp * 2 sides + 5280 feet * 2 curbs * \$10/feet + \$10,000 + \$25,000) * 1.03) *1.2	Assume sidewalk is 6 feet on both sides of the roady per mile there are 4 ADA ramps at \$1300/ramp on b \$10/foot for both sides. Assume no drainage modific management is \$25,000/mile. Assume mobilization i
Reconstruct Sidewalk, One Side - Brick Sidewalk	\$670,000.00	Facility Unit Cost = (((5280 feet * 6 feet)/9 feet per yard * \$120/SY + 20 ramps * \$1300/ramp + 5280 feet * 1 curbs * \$10/feet + \$10,000 + \$25,000) * 1.03) *1.2	Assume sidewalk is 6 feet. Sidewalk excavation and ramps at \$1300/ramp on one side of the roadway. As no drainage modifications. Assume erosion control is Assume mobilization is 3% of the total cost and a co
Reconstruct Sidewalk, Two Sides - Brick Sidewalk	\$1,290,000.00	Facility Unit Cost = (((5280 feet * 6 feet)/9 feet per yard * \$120/SY * 2 sides + 20 ramps * \$1300/ramp * 2 sides + 5280 feet * 2 curbs * \$10/feet + \$10,000 + \$25,000) * 1.03) *1.2	Assume sidewalk is 6 feet on both sides of the roadw per mile there are 20 ADA ramps at \$1300/ramp on \$10/foot for both sides. Assumes no drainage modifi management is \$25,000/mile. Assume mobilization i
Widen Sidewalk, One Side - Cement Concrete Sidewalk	\$580,000.00	Facility Unit Cost = (((5280 feet * 10 feet)/9 feet per yard * \$60/SY + 20 ramps * \$1300/ramp + 5280 feet * 1 curbs * \$10/feet + \$10,000 + \$25,000) * 1.03) *1.2	Assume new sidewalk is 10 feet. Sidewalk excavation ADA ramps at \$1300/ramp on one side of the roadw Assume no drainage modifications. Assume erosion \$25,000/mile. Assume mobilization is 3% of the total
Widen Sidewalk, Two Sides - Cement Concrete Sidewalk	\$1,110,000.00	Facility Unit Cost = (((5280 feet * 10 feet)/9 feet per yard * \$60/SY * 2 sides + 20 ramps * \$1300/ramp * 2 sides + 5280 feet * 2 curbs * \$10/feet + \$10,000 + \$25,000) * 1.03) *1.2	Assume new sidewalk is 10 feet on both sides of the Assume per mile there are 20 ADA ramps at \$1300/ R&R at \$10/foot for both sides. Assume no drainage traffic management is \$25,000/mile. Assume mobiliz
Widen Sidewalk, One Side - Brick Sidewalk	\$1,020,000.00	Facility Unit Cost = (((5280 feet * 10 feet)/9 feet per yard * \$120/SY + 20 ramps * \$1300/ramp + 5280 feet * 1 curbs * \$10/feet + \$10,000 + \$25,000) * 1.03) *1.2	Assume new sidewalk is 10 feet. Sidewalk excavation ADA ramps at \$1300/ramp on one side of the roadw Assumes no drainage modifications. Assume erosion \$25,000/mile. Assume mobilization is 3% of the total
Widen Sidewalk, Two Sides - Brick Sidewalk	\$1,980,000.00	Facility Unit Cost = (((5280 feet * 10 feet)/9 feet per yard * \$120/SY * 2 sides + 20 ramps * \$1300/ramp * 2 sides + 5280 feet * 2 curbs * \$10/feet + \$10,000 + \$25,000) * 1.03) *1.2	Assume new sidewalk is 10 feet on both sides of the Assume per mile there are 20 ADA ramps at \$1300/ R&R at \$10/foot for both sides. Assumes no drainag traffic management is \$25,000/mile. Assume mobiliz

sumptions

materials is \$60/SY. Assume per mile there are 20 ADA ssume curbing to be R&R at \$10/foot for one side. Assume s \$10,000/mile and traffic management is \$25,000/mile. ntingency of 20%.

way. Sidewalk excavation and materials is \$60/SY. Assume oth sides of the roadway. Assume curbing to be R&R at ations. Assume erosion control is \$10,000/mile and traffic s 3% of the total cost and a contingency of 20%.

materials is \$120/SY. Assume per mile there are 20 ADA ssume curbing to be R&R at \$10/foot for one side. Assumes s \$10,000/mile and traffic management is \$25,000/mile. ntingency of 20%.

way. Sidewalk excavation and materials is \$120/SY. Assume both sides of the roadway. Assume curbing to be R&R at cations. Assume erosion control is \$10,000/mile and traffic s 3% of the total cost and a contingency of 20%.

on and materials is \$60/SY. Assume per mile there are 20 ay. Assume curbing to be R&R at \$10/foot for one side. control is \$10,000/mile and traffic management is l cost and a contingency of 20%.

roadway. Sidewalk excavation and materials is \$60/SY. ramp on both sides of the roadway. Assume curbing to be modifications. Assume erosion control is \$10,000/mile and ation is 3% of the total cost and a contingency of 20%.

on and materials is \$120/SY. Assume per mile there are 20 ray. Assume curbing to be R&R at \$10/foot for one side. In control is \$10,000/mile and traffic management is l cost and a contingency of 20%.

roadway. Sidewalk excavation and materials is \$120/SY. ramp on both sides of the roadway. Assume curbing to be e modifications. Assume erosion control is \$10,000/mile and ation is 3% of the total cost and a contingency of 20%.

	Facility Unit Cost (per mile)	Calculation	As
On-Street Facilities	Acti	on: Add Striping and Markings: Add Striping and N	larkings, 2 Lanes; Remove Parking
Bike Lane, One Side - Parking Both Sides	\$ 23,000.00	Facility Unit Cost = \$1.00/foot * 5280 feet * 2 lines + \$330/symbol * 30 symbols/mi + \$250/sign * 10 signs/mi * 1 side	Assumes 2 bicycle lane lines and 30 bike and arrow create the bicycle lane. \$330 per bike and arrow sy \$1.00/LF for thermo from NHDOT. Typically up to 1 (includes regulatory and/or warning signs). Assume
Four Foot Bike Lane, Both Sides - No Parking Bike Lane, Both Sides - No Parking	\$ 35,000.00	Facility Unit Cost = \$1.00/foot * 5280 feet * 1 lines * 2 sides + \$330/symbol * 30 symbols/mi * 2 sides + \$250/sign * 10 signs/mi * 2 sides	Assumes 1 bicycle lane line and 30 bike and arrow create the bicycle lanes. \$330 per bike and arrow s \$1.00/LF for thermo from NHDOT. Typically up to 1 (includes regulatory and/or warning signs). Assume
Bike Lane, Both Sides - Parking One Side	\$ 41,000.00	Facility Unit Cost = \$1.00/foot * 5280 feet * 3 lines + \$330/symbol * 30 symbols/mi * 2 sides + \$250/sign * 10 signs/mi * 2 sides	Assumes 1 bicycle lane line and 30 bike and arrow bicycle lane lines and 30 bike and arrow symbols pe bike and arrow symbol includes the materials and ir Typically up to 10 signs per mile are installed on ea signs). Assumes \$250/sign including materials, pos
Bike Lane, Both Sides - Parking Both Sides	\$ 46,000.00	Facility Unit Cost = \$1.00/foot * 5280 feet * 2 lines * 2 sides + \$330/symbol * 30 symbols/mi * 2 sides + \$250/sign * 10 signs/mi * 2 sides	Assumes 2 bicycle lane lines and 30 bike and arrow create the bicycle lanes. \$330 per bike and arrow s \$1.00/LF for 6" thermo from NHDOT. Typically up to lanes (includes regulatory and/or warning signs). As
Buffered Bike Lane, Both Sides - Parking Both Sides	\$ 61,000.00	Facility Unit Cost = \$1.00/foot * 5280 feet * 3 lines * 2 sides + \$1.00/foot * 5280 * 0.4 * 2 sides + \$330/symbol * 30 symbols/mi * 2 sides + \$250/sign * 10 signs/mi * 2 sides	Assumes 3 bicycle lane lines and 30 bike and arrow Assumes a 6" diagonal stripe every 10 feet within a symbol includes the materials and installation. Assu signs per mile are installed on each side for bicycle \$250/sign including materials, post, and installation.
Buffered Bike Lane, Both Sides - Parking One Side	\$ 55,000.00	Facility Unit Cost = \$1.00/foot * 5280 feet * 3 lines + \$1.00/foot * 5280 feet * 2 lines + \$1.00/foot * 5280 * 0.4 * 2 sides + \$330/symbol * 30 symbols/mi * 2 sides + \$250/sign * 10 signs/mi * 2 sides	Assumes 3 bicycle lane lines and 30 bike and arrow to parking and 2 bicycle lane lines and 30 bike and 6" diagonal stripe every 10 feet within a 3' buffer zo the materials and installation. Assume \$1.00/LF for installed on each side for bicycle lanes (includes reg materials, post, and installation.
Contraflow Bike Lane	\$ 34,000.00	Facility Unit Cost = \$1.00/foot * 5280 feet * 2 lines + \$330/symbol * 30 symbols/mi + \$330/symbol * 30 symbols/mi + \$250/sign * 10 signs/mi + \$250/sign * 5 signs/mi	Assumes double yellow centerline and 30 bike and a contraflow bike lane and 30 shared lane markings per bike and arrow or shared lane marking symbol i 6" thermo from NHDOT. Typically up to 10 signs pe lanes (includes regulatory and/or warning signs) and signs) are installed for each shared lane marking tra- installation.

sumptions

w symbols per mile are added on one side of the roadway to ymbol includes the materials and installation. Assumes 0 signs per mile are installed on one side for the bicycle lane es \$250/sign including materials, post, and installation.

symbols per mile are added to both sides of the roadway to symbol includes the materials and installation. Assumes 0 signs per mile are installed on each side for bicycle lanes es \$250/sign including materials, post, and installation.

symbols per mile are added to one side of the roadway and 2 er mile are added to the side with on-street parking. \$330 per installation. Assumes \$1.00/LF for thermo from NHDOT. Inch side for bicycle lanes (includes regulatory and/or warning it, and installation.

w symbols per mile are added on both sides of the roadway to symbol includes the materials and installation. Assume to 10 signs per mile are installed on each side for bicycle ssumes \$250/sign including materials, post, and installation.

v symbols per mile are added on both sides of the road. 3' buffer zone on both sides. \$330 per bike and arrow ume \$1.00/LF for 6" thermo from NHDOT. Typically up to 10 lanes (includes regulatory and/or warning signs). Assumes

v symbols per mile are added to one side of the road adjacent arrow symbols per mile on one side of the road. Assumes a ne on both sides. \$330 per bike and arrow symbol includes 6" thermo from NHDOT. Typically up to 10 signs per mile are gulatory and/or warning signs). Assumes \$250/sign including

arrow symbols per mile are added to one side of the road for s symbols per mile are added for the shared travel lane. \$330 includes the materials and installation. Assume \$1.00/LF for er mile are installed on one side for the contraflow bicycle ad up to 5 signs per mile (including regulatory and/or warning avel lane. Assumes \$250/sign including materials, post, and

	Faci (lity Unit Cost per mile)	Calculation	As
Climbing Lane - No Parking	\$	29,000.00	Facility Unit Cost = \$1.00/foot * 5280 feet * 1 line + \$330/symbol * 30 symbols/mi * 1 side + \$330/symbol * 30 symbols/mi + \$250/sign * 10 signs/mi + \$250/sign * 5 signs/mi	Assumes 1 bicycle lane line and 30 bike and arrow s lane and 30 shared lane markings symbols per mile arrow or shared lane marking symbol includes the m from NHDOT. Typically up to 10 signs per mile are in and/or warning signs) and up to 5 signs per mile (ind each shared lane marking travel lane. Assumes \$25
Shared Lane Markings, One Side	\$	11,000.00	Facility Unit Cost = \$330/symbol * 30 symbols/mi + \$250/signs * 5 signs/mi * 1 side	Assumes a symbol will be spaced every 30 feet on o symbol includes the materials and installation. Typic warning signs) are installed for each shared lane ma post, and installation.
Shared Lane Markings, Both Sides	\$	22,000.00	Facility Unit Cost = \$330/symbol * 30 symbols/mi * 2 sides + \$250/signs * 5 signs/mi * 2 sides	Assumes a symbol will be spaced every 30 feet on be symbol includes the materials and installation. Typic warning signs) are installed for each shared lane may post, and installation.
Signed Route	\$	13,000.00	Facility Unit Cost = \$250/sign * 25 signs/mi * 2 sides	Assumes that approximately 25 signs (including region on each side of the roadway. Assumes \$250/sign including
Two-Way Cycle Track, One Side	\$	127,000.00	Facility Unit Cost = \$1.00/foot * 5280 feet * 2 lines + \$1.00/foot * 0.33 * 5280 feet + \$330/symbol * 60 symbols + \$1.00/foot * 5280 * 0.7 + \$50/flexpost * 264 posts/mile + \$6/SF * 20 * 24 feet * 12 feet + \$330/symbol * 20 driveways * 6 symbols + \$250/signs * 15 signs/mi	Assumes 2 lane lines, a dashed centerline and 60 b road. Assumes a 6" diagonal stripe every 10 feet wi includes the materials and installation. Assumes a 2 flexpost includes the materials and installation. Assu or driveways and estimated at 20 intersections or dr color is 12 feet wide and 24 feet long. Assumes six s are installed on one side for a cycle track (includes r \$250/sign including materials, post, and installation.
Cycle Track, Both Sides	\$	153,000.00	Facility Unit Cost = \$1.00/foot * 5280 feet * 2 lines * 2 sides + \$330/symbol * 30 symbols * 2 sides + \$1.00/foot * 5280 * 0.4 * 2 sides + \$50/flexpost * 264 posts/mile * 2 sides + \$6/SF * 20 * 24 feet * 6 feet * 2 sides + \$330/symbol * 20 driveways * 3 symbols * 2 sides + \$250/signs * 15 signs/mi * 2 sides	Assumes 2 lane lines and 30 bike and arrow symbol 6" diagonal stripe every 10 feet within a 3' buffer zor the materials and installation. Assumes a 20 foot flez includes the materials and installation. Assumes gre driveways and estimated at 20 intersections or drive is 6 feet wide and 24 feet long. Assumes three symb installed on one side for a cycle track (includes regu \$250/sign including materials, post, and installation.

sumptions

symbols per mile are added to one side of the road for a bike a are added for the shared travel lane. \$330 per bike and naterials and installation. Assume \$1.00/LF for 6" thermo installed on one side for the bicycle lanes (includes regulatory cluding regulatory and/or warning signs) are installed for 50/sign including materials, post, and installation.

one side of the roadway. \$330 per shared lane marking cally up to 5 signs per mile (including regulatory and/or arking travel lane. Assumes \$250/sign including materials,

both sides of the roadway. \$330 per shared lane marking cally up to 5 signs per mile (including regulatory and/or arking travel lanes. Assumes \$250/sign including materials,

ulatory, warning, and wayfinding signs) will be used per mile cluding materials, post, and installation.

bike and arrow symbols per mile are added on one side of the rithin a 5' buffer zone. \$330 per bike and arrow symbol 20 foot flexpost spacing or approx 264 per mile. \$50 per umes green surface color at a cost of \$6/SF for intersections riveways per mile. Assumes the area for the green surface symbols for every driveway. Typically up to 15 signs per mile regulatory, warning, and/or wayfinding signs). Assumes

ols per mile are added on both sides of the road. Assumes a ne on both sides. \$330 per bike and arrow symbol includes expost spacing or approx 264 per mile. \$50 per flexpost een surface color at a cost of \$6/SF for intersections or eways per mile. Assumes the area for the green surface color bols for every driveway. Typically up to 15 signs per mile are ulatory, warning, and/or wayfinding signs). Assumes

	Facility Unit Cost (per mile)	Calculation	Assumptions		
Action: Lane Diet, Road Diet					
Grind 1 line	\$ 5,300.00	Grind 1 line = \$1/foot * 5280 feet * 1 line	Assume eradicating 1 lane line. Assumes grinding costs \$1.00/foot		
Grind 2 lines	\$ 10,600.00	Grind 2 lines = \$1/foot * 5280 feet * 2 lines	Assume eradicating 2 lane lines. Assumes grinding costs \$1.00/foot		
Grind 3 lines	\$ 15,900.00	Grind 3 lines = \$1/foot * 5280 feet * 3 lines	Assume eradicating 3 lane lines. Assumes grinding costs \$1.00/foot		
Grind 4 lines	\$ 21,200.00	Grind 4 lines = \$1/foot * 5280 feet * 4 lines	Assume eradicating 4 lane lines. Assumes grinding costs \$1.00/foot		
Grind 5 lines	\$ 26,400.00	Grind 5 lines = \$1/foot * 5280 feet * 5 lines	Assume eradicating 5 lane lines. Assumes grinding costs \$1.00/foot		
		Maintenance Costs			
Replace Signs (on facilities)	\$5,000.00	250*20	Assumes 20 regulatory, warning, wayfinding signs per mile of networ		
Sweep bicycle lanes and other on-road facilities	\$1,000.00		Assumes that spot sweeping after major rain or snow/ice storms and year averages \$1,000 per mile. Total cost depends on the number or are complete and number of major storm events.		
Replace Pavement markings (on-road facilities)	Paint markings generally need to be repainted every 2 to 3 years.				
Climbing lanes	\$52,920.00	Facility Unit Cost = \$0.5 per linear foot * 5280 feet + \$250 per bike and arrow * 30 bike and arrow per mile + \$250 per shared lane marking * 30 shared lane markings per mile	Assumes all markings repainted and only one line attributed to bike I \$250 per marking * 30 markings per mile + \$250 per shared lane mar		
Shared laned markings	\$45,000.00	Facility Unit Cost = \$250 per shared lane marking * 30 shared lane markings per mile * 2 sides	Assumes all markings repainted at \$250 per shared lane marking * 3		
Bicycle lanes	\$55,771.20	Facility Unit Cost = \$0.5 per linear foot * 5280 feet * 2 lines * 2 sides + \$250 per bike and arrow * 30 bike and arrow per mile * 2 sides	Assumes all markings repainted at \$0.5 per linear foot * 5280 feet * 1 markings per mile * 2 sides		
Cycle track	\$6,750.00	Facility Unit Cost = \$250 per bike and arrow symbol * 9 per mile * 2 sides	Assumes bike and arrow symbols repainted per mile*\$250 * 2 sides		
Buffered bike lane	\$77,148.00	Facility Unit Cost = 2 lines*5280*\$0.5* 2 sides)+(1056 LF diagonal lines*2*\$0.5)+(30 bike and arrow per mile*\$250) + .25* 264 flex post bollards per mile*2 sides*\$50	Assumes all markings are repainted at \$0.5 per linear foot*5280*2 lin linear foot +30 bike and arrow per mile*\$250 and 25% of flexible boll		
		Global Assumptions			
1) Costs are generally over-estimated.					
2) Cost estimates do not include design. Design costs, which construction cost. More controversial projects may have hig	n includes construction her design cost.	planning, public process, facility design, and other ba	ckground work required to implement the project, can generally be estir		
3) Cost estimates involving major construction include 20%	contingency costs. No	costs were estimated for ROW easements or environn	nental permitting.		
4) Thermoplastic is assumed for all roadway markings.					

ork at \$250 per sign over a ten year period.

I sweeping of bicycle lanes two times per of on-road Bicycle Facility Network miles that

lane at \$0.5 per linear foot * 5280 feet + arking * 30 shared lane markings per mile

30 shared lane markings per mile * 2 sides

I lines * 2 sides + \$250 per marking * 30

nes+1056 LF diagonal lines*2 sides*\$3 per lard posts are replaced.

imated at 10% to 20% of the facility