

Transportation Capital Improvement Plan

West Bradford Township, Chester County, PA

DRAFT

Prepared by



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West Bradford Township

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Transportation Capital Improvement Plan

This section summarizes West Bradford Township's *Transportation Capital Improvement Plan* directly resulting from the *Roadway Sufficiency Analysis*. In accordance with Act 209, the following requirements were met:

1. The *Roadway Sufficiency Analysis* was adopted by the Township Board of Supervisors by resolution on _____.
2. Public notice of a public hearing on the *Transportation Capital Improvement Plan* was published two successive weeks, between seven and thirty days from the date of the hearing, in the *Daily Local* on _____.
3. The *Transportation Capital Improvement Plan* was available for public inspection at the Township building at least ten working days prior to the hearing.
4. The public hearing was held on _____ to receive comments on the *Transportation Capital Improvement Plan*.

Following the public hearing, the *Transportation Capital Improvement Plan* was adopted by the Township Board of Supervisors by resolution on _____.

The *Transportation Capital Improvement Plan* consists of three sections, which are described below, and includes the *Existing Transportation Capital Improvement Plan*, the *Future Pass-Through Transportation Capital Improvement Plan*, and the *Future Development Transportation Improvement Plan*.

Opinions of Cost for Capital Improvements

Preliminary opinions of costs for the identified capital improvements were developed based on readily available information from aerial images and field visits. Opinions of construction costs reflect estimates for material quantities and costs for construction items derived from recently bid construction projects and past project experience, as well as estimates for mobilization, maintenance and protection of traffic, erosion and sediment control, and drainage.

Additionally, the total project cost opinions include the following components:

- Engineering (12% of construction costs)
- Right-of-Way Acquisition
- Utilities Contingency (10% of construction costs)
- Construction Inspection (10% - 15% of construction costs)

Existing Transportation Capital Improvement Plan

The Existing Transportation Capital Improvement Plan is summarized in **Table 11**, and details the improvements necessary to achieve the preferred levels of service under existing traffic conditions. Table 11 also provides a cost allocation of the improvements indicating the portions of the total cost for which the Township and PennDOT are responsible, which is based on roadway ownership. **The total cost of the Existing Transportation Capital Improvement Plan is approximately \$2,140,000 for the Southern TSA.** The anticipated completion year for each of the improvements is also included in Table 11.

Future Pass-Through Transportation Capital Improvement Plan

The Future Pass-Through Transportation Capital Improvement Plan is summarized in **Tables 12A and 12B** and detail the improvements necessary to achieve the preferred levels of service under future 2030 pass-through conditions. Tables 12A and 12B also provide a cost allocation of the improvements indicating the portions of the total cost for which the Township and PennDOT are responsible, which is based on roadway ownership. **The total cost of the Future Pass-through Transportation Capital Improvement Plan is approximately \$1,971,000 for the Western TSA and approximately \$7,000,450 for the Southern TSA.** The anticipated completion year for each of the improvements is also included in Tables 12A and 12B

Future Development Transportation Capital Improvement Plan

The Future Development Transportation Capital Improvement Plan is summarized in **Tables 13A and 13B** and detail the improvements necessary to achieve the preferred levels of service under future 2030 development traffic conditions. Tables 13A and 13B also provides a cost allocation of the improvements indicating the portions of the total cost for which PennDOT and future development are responsible. The costs for improvements that are not attributable to new development and are not eligible to be funded by impact fees are identified as Other Costs. Potential funding sources for Other Costs, include federal, state, and local funding sources, such as liquid fuels or tax revenue. **The total cost of the Future Development Transportation Capital Improvement Plan is approximately \$994,000 for the Western TSA, with \$815,500 allocated to Development and approximately \$18,436,000 for the Southern TSA, with \$8,906,250 allocated to Development.** The anticipated completion year for each of the improvements is also included in Tables 13 A and 13B.

Impact Fee

The impact fee calculations for development improvements are summarized in **Table 14** for each transportation service area.

Table 14. Transportation Impact Fee by Service Area

Transportation Service Area	Development Capital Improvement Cost¹	New Development Trips	Impact Fee^{2,3}
Western TSA	\$826,761	916	\$903
Southern TSA	\$8,919,576	1761	\$5,065

(1) – Inclusive of the cost to prepare of the *Roadway Sufficiency Analysis (RSA)* that is attributable to development.

(2) – To be assessed on a per new weekday afternoon peak hour trip basis.

(3) – Development capital improvement costs divided by new development trips (rounded down to nearest dollar).

Table 11. Existing Transportation Capital Improvement Plan

-- Southern Transportation Service Area --

Int. No.	Intersection	Recommended Capacity Improvements	Total Project Cost	Allocated Funding			Construction Completion
				PennDOT Costs	Others Costs	Township Costs	
23	U.S. Route 322 and Hall Road	Widen westbound U.S. Route 322 for a separate left-turn lane. Install a traffic signal.	\$1,936,000	\$645,333	\$0	\$1,290,667	2030
31	West Strasburg Road and Telegraph Road	Ban the through and left-turn movements along northbound and southbound Telegraph Road. Remove the eastbound and westbound West Strasburg Road stop signs.	\$54,000	\$20,250	\$0	\$33,750	2030
32	West Strasburg Road and Marshallton-Thorndale Road	Install a traffic signal.	\$150,000	\$75,000	\$0	\$75,000	2030
Totals			\$2,140,000	\$740,583	\$0	\$1,399,417	

Table 12A. Pass-Through Transportation Capital Improvement Plan

-- Western Transportation Service Area --

Int. No.	Intersection	Recommended Capacity Improvements	Total Project Cost	Allocated Funding			Construction Completion
				PennDOT Costs	Others Costs	Township Costs	
4	Marshallton-Thorndale Road and Poorhouse Road	Widen northbound and southbound Marshallton-Thorndale Road for separate left-turn lanes. Modify traffic signal timings.	\$616,000	\$154,000	\$0	\$462,000	2030
13	West Strasburg Road and Romansville Road/Shadyside Road/Stargazer Road	Widen westbound West Strasburg Road for a separate right-turn lane. Widen the roundabout for two lanes within the roundabout for westbound traffic.	\$1,205,000	\$482,000	\$0	\$723,000	2030
18	West Strasburg Road and Lieds Road	Install a traffic signal.	\$150,000	\$37,500	\$0	\$112,500	2030
Totals			\$1,971,000	\$673,500	\$0	\$1,297,500	

Table 12B. Pass-Through Transportation Capital Improvement Plan

-- Southern Transportation Service Area --

Int. No.	Intersection	Recommended Capacity Improvements	Total Project Cost	Allocated Funding			Construction Completion
				PennDOT Costs	Others Costs	Township Costs	
21	Marshallton-Thorndale Road and Shadyside Road	Widen northbound and southbound Marshallton-Thorndale Road for separate left-turn lanes. Modify traffic signal timings.	\$529,450	\$132,363	\$0	\$397,087	2030
22	U.S. Route 322 and Shadyside Road	Widen eastbound U.S. Route 322 for a separate right-turn lane. Modify traffic signal timings.	\$203,000	\$67,667	\$0	\$135,333	2030
25	U.S. Route 322 and Sugars Bridge Road	Widen westbound U.S. Route 322 for a second through lane. Modify traffic signal timings.	\$3,668,000	\$1,834,000	\$0	\$1,834,000	2030
32	West Strasburg Road and Marshallton-Thorndale Road	Widen southbound Marshallton-Thorndale Road for a separate right-turn lane. Modify traffic signal timings.	\$265,000	\$132,500	\$0	\$132,500	2030
33	West Strasburg Road and Northbrook Road	Install a single lane roundabout.	\$2,309,000	\$1,154,500	\$0	\$1,154,500	2030
34	West Strasburg Road and Sugars Bridge Road	Ban the southbound Sugars Bridge Road left-turn movement.	\$26,000	\$13,000	\$0	\$13,000	2030
Totals			\$7,000,450	\$3,334,030	\$0	\$3,666,420	

Table 13A. Development Transportation Capital Improvement Plan

-- Western Transportation Service Area --

Int. No.	Intersection	Recommended Capacity Improvements	Total Project Cost	Allocated Funding			Construction Completion
				PennDOT Costs	Others Costs	Development Costs	
4	Marshallton-Thorndale Road and Poorhouse Road	Widen eastbound and westbound Poorhouse Road for separate left-turn lanes. Modify traffic signal timings.	\$714,000	\$178,500	\$0	\$535,500	2030
5	Broad Run Road and Poorhouse Road	Install stop signs on the northbound and southbound Broad Run Road approaches. Widen westbound Poorhouse Road for a separate left-turn lane.	\$280,000	\$0	\$0	\$280,000	2016
Totals			\$994,000	\$178,500	\$0	\$815,500	

Table 13B. Development Transportation Capital Improvement Plan

-- Southern Transportation Service Area --

Int. No.	Intersection	Recommended Capacity Improvements	Total Project Cost	Allocated Funding			Construction Completion
				PennDOT Costs	Others Costs	Development Costs	
21	Marshallton-Thorndale Road and Shadyside Road	Widen westbound Shadyside Road for a separate right-turn lane. Modify traffic signal timings.	\$170,000	\$42,500	\$0	\$127,500	2030
22	U.S. Route 322 and Shadyside Road	Widen eastbound U.S. Route 322 for a second through lane, and northbound Shadyside Road for a separate left-turn lane. Modify traffic signal timings.	\$3,667,000	\$1,222,333	\$0	\$2,444,667	2030
23	U.S. Route 322 and Hall Road	Widen westbound U.S. Route 322 for a second through lane. Modify traffic signal timings.	\$1,643,000	\$547,667	\$0	\$1,095,333	2030
		Widen eastbound U.S. Route 322 for a second through lane. Modify traffic signal timings.	\$1,092,000	\$0	\$1,092,000	\$0	2030
24	Marshallton-Thorndale Road and Hall Road	Install a traffic signal.	\$150,000	\$37,500	\$0	\$112,500	2030
25	U.S. Route 322 and Sugars Bridge Road	Widen eastbound U.S. Route 322 for a second through lane. Modify traffic signal timings.	\$1,910,000	\$955,000	\$0	\$955,000	2030
		Replace and widen U.S. Route 322 Bridge over East Branch of Brandywine Creek east of Sugars Bridge Road.	\$4,795,000	\$2,397,500	\$1,198,750	\$1,198,750	2030
27	Telegraph Road and Sugars Bridge Road (south)	Widen southbound Sugars Bridge Road for a separate right-turn lane. Install a traffic signal.	\$291,000	\$97,000	\$0	\$194,000	2030
28	Telegraph Road and Marshallton-Thorndale Road	Install a traffic signal.	\$150,000	\$37,500	\$0	\$112,500	2030
30	West Strasburg Road and Broad Run Road	Realign the northern leg of Broad Run Road to intersect West Strasburg Road opposite the southern leg of Broad Run Road. Install a traffic signal.	\$2,952,000	\$738,000	\$0	\$2,214,000	2030
		Widen and resurface the southern leg of Broad Run Road between West Strasburg Road and Telegraph Road.	\$712,000	\$0	\$712,000	\$0	2030
32	West Strasburg Road and Marshallton-Thorndale Road	Widen eastbound West Strasburg Road for a separate left-turn lane, and westbound West Strasburg Road for a separate right-turn lane. Modify traffic signal timings.	\$904,000	\$452,000	\$0	\$452,000	2030
Totals			\$18,436,000	\$6,527,000	\$3,002,750	\$8,906,250	