

INTRODUCTION

JMT, on behalf of PennDOT, is seeking concurrence from FHWA on the dismissal of alternatives from further study for the Eisenhower Drive Extension project in York and Adams Counties. The alternative currently being considered for dismissal is the Transportation System Management (TSM) alternative.

This narrative provides the following.

- General project background
- Summary of methodology used to evaluate the initial alignment alternatives and the current alignment alternatives
- Explanation of the alternatives being carried forward
- Summary of the evaluation of resources, including agricultural resources, aquatic resources, property impacts, environmental justice, cultural resources, Section 4(f), hazardous waste, and public opinion
- Statement of conclusions

Based on the evaluation process, and as described below, it is our recommendation to dismiss the TSM Alternative from further study.

PROJECT BACKGROUND

The proposed Eisenhower Drive Extension Project is located in York and Adams counties, and was first identified in the Hanover Area Transportation Planning Study in the spring of 1997. This study established a Recommended Transportation Improvements Program which included several key projects aimed to address the transportation needs in the area. While the study is over 20 years old, the anticipated regional development is consistent with the current development and the transportation issues remain valid.

Within the project study area, Eisenhower Drive, SR 0094 (Carlisle Street), and SR 0116 (Hanover Road, West Elm Street, Main Street, 3rd Street) are the main traffic corridors which provide an east/west connection through McSherrystown and Hanover boroughs and Conewago and Penn townships. Most of the current roadway system within the area functions at unacceptable levels of service, has crash rates higher than the statewide average for similar roadways and crash histories that include pedestrians and fatalities, and hinders east/west mobility in the area. As a result, PennDOT identified the project needs as:

- Traffic congestion results in poor levels of service
- Poor traffic safety along Hanover Road and Carlisle Street
- Limited mobility and poor roadway connectivity/linkages

The primary purpose of the project is to facilitate safe and efficient multimodal travel within the project study area to meet both current and future transportation needs of the area. Anticipated transportation improvements will reduce congestion and accommodate for planned growth throughout this portion of the region, including a reduction in impacts of truck and commuter traffic within the study area. The secondary purpose of this project is to provide a functional and modern roadway that maximizes current design criteria

and promotes and enhances multi-modal connections and transportation alternatives within and surrounding the study area. See the Project Need and Purpose Memorandum for more information.

To address the transportation issues within the project study area, PennDOT initiated the Eisenhower Drive Extension Project to develop transportation solutions that would address the need and purpose for a transportation project.

METHODOLOGY

To identify potential transportation solutions, JMT initiated a conceptual alternatives analysis by considering a variety of alternatives including new alignment and partial new alignment alternatives, as well as a TSM alternative which considers improvements to the existing roadway network in order to address the project needs. The conceptual alternatives considered a No-Build Alternative, TSM Alternative (identified as Alternative 1), and six build alternatives (new and partial new alignments identified as Alternatives 2-7.) developed within the study area. In addition, JMT developed three sub-alignments options (A, B, and C) to address the tie-in location for a new alignment at the western end of the project.

The alternatives development process for the Eisenhower Drive Extension Project included the following steps:

1. Conduct agency and public involvement
2. Identify concepts or components of concepts that will not address needs
3. Examine impacts of possible solutions on natural, socioeconomic, cultural resources, and agricultural resources
4. Evaluate engineering suitability
5. Evaluate traffic and safety considerations
6. Estimate costs of possible solutions
7. Analyze public/municipal input, impacts, costs, and engineering factors and determine which solutions, or components of solutions, are reasonable for more detailed engineering and environmental analyses

JMT evaluated the eight conceptual alternatives following the steps listed above. Several alternatives were dismissed between 2017 and January 2019. Alternatives 2, 6, 7 and Sub-alternative A were dismissed in 2017 because they did not meet the project purpose and need, and Alternatives 3, 4, and Sub-alternative B were dismissed in January of 2019 due to excessive impacts to project area resources in comparison to Alternative 5C.

The No-Build, TSM, and Alternative 5C were advanced for further investigation. After the dismissal of Alternatives 3, 4, and B, JMT continued development of the alternatives being carried forward for detailed development and analysis, a process that included additional data gathering, field studies, and were reviewed extensively with the impacted municipalities and York and Adams Counties. The No-Build, TSM, and Alternative 5C, and were presented to the public through an open house plans display conducted on May 9, 2019.

ANALYSIS OF ALTERNATIVES BEING CARRIED FORWARD

The remainder of this memorandum provides a summary of the impacts anticipated on the remaining alternatives which include the No-Build Alternative, the TSM Alternative and build alignment alternative, Alternative 5C, and justification for the recommendation that the TSM Alternative be dismissed from further study. Figure 1 displays the TSM Alternative and Alternative 5C.

ALTERNATIVE DESCRIPTION

No-Build Alternative

The No Build alternative would consist of taking no action to improve the traffic or roadway system in the community.

TSM Alternative

Beginning at the existing Eisenhower Drive and Carlisle Street intersection (located at the eastern edge of the project area), the TSM Alternative travels south along Carlisle Street intersecting W. Elm Avenue and continues south on Carlisle Street to the intersection of 3rd and Carlisle Street. The alternative also travels west on W. Elm Avenue until Hanover Road. The TSM Alternative includes intersection improvements such as, installation of new traffic signals, revising existing signal timing, construction of additional through lanes, left-turn lanes and channelized right-turn lanes. These improvements are geared to improve motorized and non-motorized safety and levels of service, reduce congestion and accommodate for planned growth, promote and enhance multi-modal connections, and reduce impacts of truck and commuter traffic within the study area. See Figure 1, TSM and 5C Alignment Alternatives, and Figure 2, TSM Intersection Details.

Alternative 5C

Beginning at the existing terminus of Eisenhower Drive, Alternative 5C would travel west over the CSX rail line and quickly turn southbound to travel along the eastern edge of the Sheaffer property. It would turn westbound and extend along the property line between the Sheaffer property and the Clark America (Clarks Shoe) property. Alternative 5C would continue westbound, crossing Oxford Avenue, Church Street, and Plum Creek along the southern edge of the Smith farm, adjacent to residential neighborhoods to the south. After crossing Plum Creek, Alternative 5C would continue westbound and intersect with Centennial Road near the existing Centennial Road and Sunday Drive intersection. Alternative 5C would then utilize a short stretch of the existing Sunday Drive before continuing westbound on a new alignment and ultimately tying into Hanover Road to the east of the existing structure crossing the South Branch Conewago Creek. See Figure 1, TSM and 5C Alignment Alternatives.

ALTERNATIVE IMPACTS

As part of the alternative's analysis, JMT assessed impacts associated with aquatic resources, agricultural resources, cultural resources, hazardous materials, community resources, and property impacts. In addition, JMT sought feedback from municipal and county leaders and input from the general public for each of the alternatives.

The No-Build alternative would essentially have no impacts on any project area resources. Table 1, Alternatives Impact Matrix, illustrates that both the TSM Alternative and Alternative 5C would impact cultural resources, Section 4(f) resources, hazardous residual waste, and result in property impacts to varying degrees. The TSM Alternative would also impact environmental justice populations, while Alternative 5C would impact agricultural and aquatic resources. Therefore, the basis for our alternative dismissal recommendations include discussions of the impacts of the following resources:

- agriculture
- aquatics (streams and wetlands)
- property impacts,
- environmental justice populations,
- cultural,
- Section 4(f),
- hazardous residual waste, and
- public opinion.

Agricultural Resources

JMT identified agricultural resources in the project area through background data, secondary sources from county and state databases, and project area field views. We are currently conducting an agricultural assessment of the study area. Agricultural resources identified, to date, include agricultural security areas and preserved farmland (farm parcels currently enrolled in the Adams County Agricultural Land Preservation Program).

Six (6) farm parcels within the project study area are designated as Agricultural Security Areas. This includes all of the farms west of Oxford Avenue. In addition, a majority of the Smith Farm, which is divided by Church Street, is protected by the Adams County Agricultural Land Preservation Program. The only portion of the Smith Farm not included in the program is a 120'-wide corridor of land located along the southern edge of the property. See Figure 3, Agricultural and Aquatic Resources.

Table 1 shows that the TSM and No-Build Alternatives would have no impacts on project area agricultural resources. Alternative 5C would impact four properties that are active farmland and/or zoned agricultural and would have 11.1 acres of impacts to farmland designated as Agricultural Security Areas (ASA) but would not bisect any farms designated as ASA. Alternative 5C would have minimal impacts (1.4 acres) to preserved farmland as a result of temporary grading; however, this could be refined in final design to

reduce and minimize impacts. The recommendation to dismiss the TSM alternative is not based on agricultural resource impacts.

Aquatic Resources

JMT identified aquatic resources in the project area through background data and project area field views. Field investigations in the project area resulted in the identification of 16 watercourses including Plum Creek, and unnamed tributaries to Plum Creek, the South Branch Conewago Creek, and Slagle Run; and the identification and delineation of 17 palustrine wetlands totaling approximately 26.01 acres within the project area. See Figure 3, Agricultural and Aquatic Resources.

Table 1 shows that the TSM and No-Build Alternatives would have no impacts on project area aquatic resources. Alternative 5C would result in approximately 1.2 acres of wetland impacts and four (4) stream crossings. The recommendation to dismiss the TSM alternative is not based on aquatic resource impacts.

Cultural Resources

JMT reviewed the Area of Potential Effect (APE) for the TSM Alternative and found that the alternative has no archaeological potential. Areas of potential ground disturbance for the TSM Alternative are either within the existing ROW or are heavily developed and have undergone considerable anthropogenic modification in the second half of the 20th century. JMT conducted Phase I and Phase II archaeological investigations along the entire Alternative 5C alignment between 2017 and 2019 and identified a portion of a previously recorded Native American open-habitation site. Archaeologists did not encounter any features but did find tertiary flakes, one biface, and one projectile point base, though not enough to shed substantial light on the site occupation. The portion of the site identified for the project does not contribute to the previously recorded site, and no additional archaeological investigation is warranted for the project as it is currently designed.

JMT identified above-ground cultural resources through a reconnaissance survey of the entire study area and an intensive-level determination of eligibility study for properties that had potential for significance. As a result of these studies, JMT identified ten historic resources in the study area that are listed or eligible for listing in the National Register of Historic Places (NRHP). One would be directly and adversely impacted by the TSM Alignment (Hanover Historic District) while three would be directly, but not adversely impacted by Alternative 5C (Devine Chapel Farm, Henry Hostetter Farm, and Poist Chapel Farm). See Figure 4, Cultural Resources.

The TSM Alternative has the potential to directly impact the Hanover Historic District. Within the historic district, the improvements consist of widening Carlisle Street and the intersection of Carlisle Street and Stock Street to add capacity and accommodate additional turning lanes. This has the potential to displace between 14 and 22 contributing properties along Carlisle Street between the northern edge of the historic district and 3rd Street. The contributing properties are a mix of dense, residential and mixed-use, 19th- and early 20th-century buildings. This would change the physical composition and nearly all aspects of integrity in this portion of the historic district.

Alternative 5C has the potential to directly impact three historic farms, but the impact would be to a relatively small percentage of agricultural land; no buildings would be affected by the alignment. To build the new alignment, the alternative would require ROW along the southern borders of each property. The alignment would be at the edges of each property, adjacent to 20th-century residential developments where the historic agrarian setting has already been compromised. The buildings comprising the farmsteads are all located several hundred feet from the alignments and the farms would continue to be operational during and after construction. The project would not diminish setting, feeling, or association of the historic resources.

Although Alternative 5C would affect more historic resources than the TSM Alternative, the TSM Alternative would result in a much greater impact to a historic resource (Hanover Historic District), through the demolition of numerous contributing properties, than Alternative 5C would have on the three historic farms. Our recommendation to dismiss the TSM Alternative is influenced by the impacts to historic resources caused by the TSM Alternative when compared to Alternative 5C.

Section 4(f)

The TSM Alternative overlaps with one Section 4(f) historic property while the Alternative 5C overlaps with three Section 4(f) properties. According to Section 4(f), FHWA must either determine that project impacts are *de minimis* or undertake an Individual Section 4(f) Evaluation. For Section 4(f) historic properties, a *de minimis* impacts are only possible if the Section 106 outcome is a finding of *no effect* or *no adverse effect*. Based on a preliminary Determination of Effect Report, submitted in August 2019, JMT anticipates that Alternative 5C would likely result in no adverse effect to historic farms and would therefore result in *de minimis* 4(f) impacts. The TSM Alternative would result in a finding of *adverse effect*, thus triggering the need for an Individual Section 4(f) Evaluation.

In a Section 4(f) analysis, FHWA must select the alternative that would result in *de minimis* impacts if the other alternative would result in a greater use. Based on the anticipated outcome of Section 106, Alternative 5C would likely result in *de minimis* 4(f) impacts while the TSM Alternative would have a greater use. Furthermore, the TSM Alternative would likely result in more substantial social and economic impacts, disruption to established communities, and disproportionate impacts to protected populations – factors that are considered when determining whether an alternative is prudent. There are no feasible and prudent avoidance alternatives, so FHWA must select the alternative that exhibits least overall harm to the Section 4(f) property.

JMT refined the Alternative 5C alignment to minimize impacts to the Hostetter Farm. Impacts to the Devine Chapel Farm and Poist Chapel Farm are limited to the 120-foot corridor on the edges of the properties and would be further minimized in final design to the extent possible within the anticipated right-of-way. Regardless of the Section 106 determination of effect finding, based on the impacts of both alternatives, JMT anticipates that Alternative 5C would result in *de minimis* 4(f) impacts and would have less overall harm to Section 4(f) property. Our recommendation to dismiss the TSM Alternative is

influenced by the anticipated outcome of the Section 4(f) analysis, which would be to select Alternative 5C as the alternative that results in *de minimis* 4(f) impacts.

Property Impacts

Properties in the project area include residential, agricultural, commercial, and industrial properties. The majority of properties along the TSM Alternative are commercial and residential properties, while the majority of the properties along Alternative 5C are agricultural and residential.

The No-Build alternative would result in no property impacts. As seen in Table 1, the TSM Alternative would result in far more impacts than Alternative 5C. The TSM would result in 130 property impacts including 44 displacements (total takes) and 86 property impacts in the form of strip takes, whereas Alternative 5C would result in 35 property impacts including six (6) displacements (total takes), and 29 property impacts (partial takes).

Based off a preliminary visual assessment of the project area, of the 44 displacements associated with the TSM Alternative, approximately 18 are businesses, nine (9) are single family units, and 17 are multifamily units ranging in size from 2-16 units. Overall, the TSM Alternative would have the potential to displace approximately 18 businesses, and approximately 78 residential units.

A qualitative replacement housing analysis was completed by looking at available housing within the project area and close vicinity of the project area. Based on that review, while replacement housing is available for single family residential units, it appears to be lacking in multi-family and rental units. Therefore, it is unlikely that the displaced residential units and businesses would find similar, suitable housing within the project area or surrounding community as a result of the TSM Alternative. Also, as a result of the TSM Alternative, it is likely that the tax base for the project area would decrease due to the number of takes in comparison to Alternative 5C.

The TSM Alternative would result in three times the amount of property impacts than Alternative 5C, and seven times as many total takes than Alternative 5C. In addition, and as a result of the property impacts, the TSM Alternative would also have a far greater impact on the overall community and tax base. The magnitude of property impacts as a result of the TSM Alternative in comparison to Alternative 5C supports the recommendation to dismiss the TSM Alternative.

Environmental Justice Populations

Within the Eisenhower Drive Extension project there is an environmental justice population, including 34-percent low income population and 12-percent minority population. A review of minority and low-income data by block groups within the project area indicated that minority population was 10-percent or below in the Adams County block groups. Minority populations were notably higher, up to 32 percent, in York County, with the highest percentages in Hanover Borough. Low income populations throughout the project area block groups ranged from a low of 7 percent to a high of 79 percent in Hanover Borough. Low income populations were highest in the southeast portion of the project area surrounding Carlisle Street within Hanover Borough.

The No-Build Alternative would not impact environmental justice populations. During construction of Alternative 5C, temporary impacts from lane closures, detours, and increased noise, vibration, and air quality impacts are anticipated, but the impacts associated with the construction of Alternative 5C would not take place within the vicinity of environmental justice populations.

The TSM Alternative, particularly in the vicinity of the improvements along 3rd Street and Carlisle Street, and Stock Street and Carlisle Street would have the same potential temporary impacts as Alternative 5C, but these impacts would partially occur within an environmental justice population. In addition, permanent impacts to environmental justice populations may occur as a result of displacements within environmental justice areas.

The TSM Alternative would likely result in disproportionately high and adverse effects to environmental justice populations, especially when compared to Alternative 5C, thus supporting the recommendation to dismiss the TSM Alternative.

Hazardous Residual Waste

Dawood Engineering, Inc. (Dawood) and McCormick Taylor, Inc. (MT), with oversight and supervision from JMT, utilized an investigation of past and present land use, field investigations, and review of existing recorded information to identify and evaluate recognizable environmental conditions within the project study area.

The findings from the review of potential waste sites along Alternative 5C indicate that there are seventeen properties that have the potential for environmental concern. Of these seventeen properties, five were recommended to be evaluated for subsurface conditions as part of a Phase II/III investigation based on present and historic use of the properties. In addition, it is anticipated that there will be at least one (1) displacement of properties that either handle hazardous materials or are waste generators.

The findings from the review of potential waste sites that could be affected by constructing the TSM Alternative indicate approximately 22 properties that have the potential for environmental concern. Of these 22 properties, it is anticipated that there will be at least nine (9) displacements of properties that either handle hazardous materials or are waste generators. These properties include USA Gas (fueling station), Gonde Fuel (fueling station), Turkey Hill (fueling station), Eline's Auto Sales, Clearview Car Wash, The Palms dry-cleaning, Exclusive Hair Salon and Spa, MinuteMan Press printing, and Auto Body Intensive Care.

JMT believes that the magnitude of impact to properties with potential waste sites along the TSM Alternative (when compared to Alternative 5C) supports the recommendation that the TSM Alternative be dismissed from further study.

Public Input

PennDOT presented the No-Build Alternative, the TSM Alternative, and Alternative 5C to the public at an open house, which was held on May 9, 2019. PennDOT and the consultant team provided the public with an opportunity to complete a project survey that solicited their input and concerns for the alternatives. In

addition to the public open house, the project website (www.eisenhowerdriveextension.com) also allows for the solicitation of input on the alternatives. Below is a summary of results from the public response from both the open house held on May 9, 2019, and additional input received through the project website.

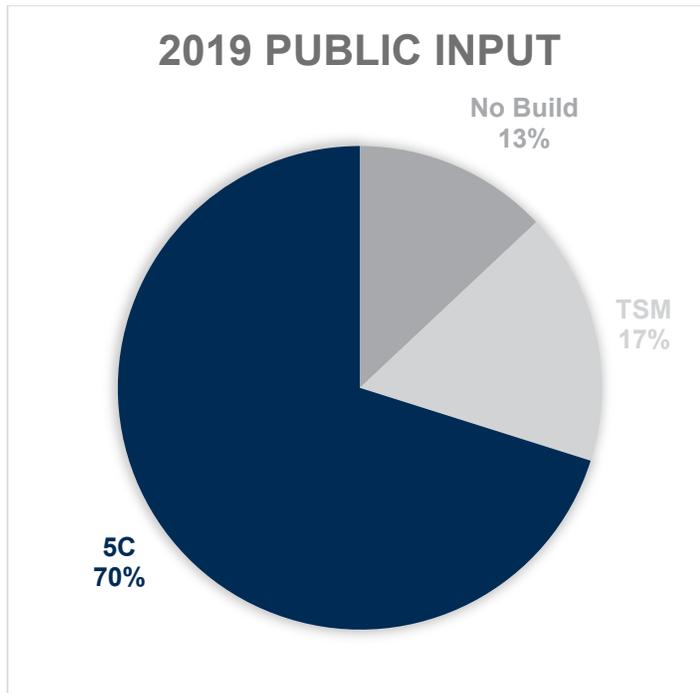


Figure 5. Public Outreach Results (Spring/Summer 2019)

The primary contributors who provided responses reside in either Conewago Township or Hanover Borough, which are the two municipalities most directly impacted by the TSM and Build alternatives.

In addition to the public outreach efforts conducted during the public open house and through the project website, coordination has been on-going over the past few years with municipal and county staff and elected officials. This has primarily included Conewago and Penn Townships, McSherrystown and Hanover Boroughs, and Adams County. Others who were also included in the updates were Oxford, Union, and Mt. Pleasant Township, as well as York County. JMT and PennDOT used these meetings to provide project updates and gather thoughts and opinions from municipal and county leaders related to the preliminary alignment alternatives. While there are localized concerns pertaining to the details of Alternative 5C, there is a general preference amongst this group supporting Alternative 5C over the TSM Alternative because of the anticipated number of property displacements and the loss of tax base. Specifically, Hanover Borough passed Resolution 1257 on July 24, 2019 and Penn Township passed Resolution 939 on August 19, 2019, both publicly opposing the TSM Alternative and supporting Alternative 5C.

CONCLUSION

Based on the detailed resource evaluations and input from the local community, JMT, on behalf of PennDOT, recommends dismissing the TSM Alternative from further studies.

JMT provides the following justification for dismissing the alternative:

- The TSM Alternative would result in:
 - An anticipated Section 106 adverse impact to the Hanover Historic District
 - unavoidable impacts to a Section 4(f) resource
 - impacts to the community through property impacts, environmental justice population impacts, and tax base impacts, and
 - potential to encounter a greater amount of hazardous residual waste

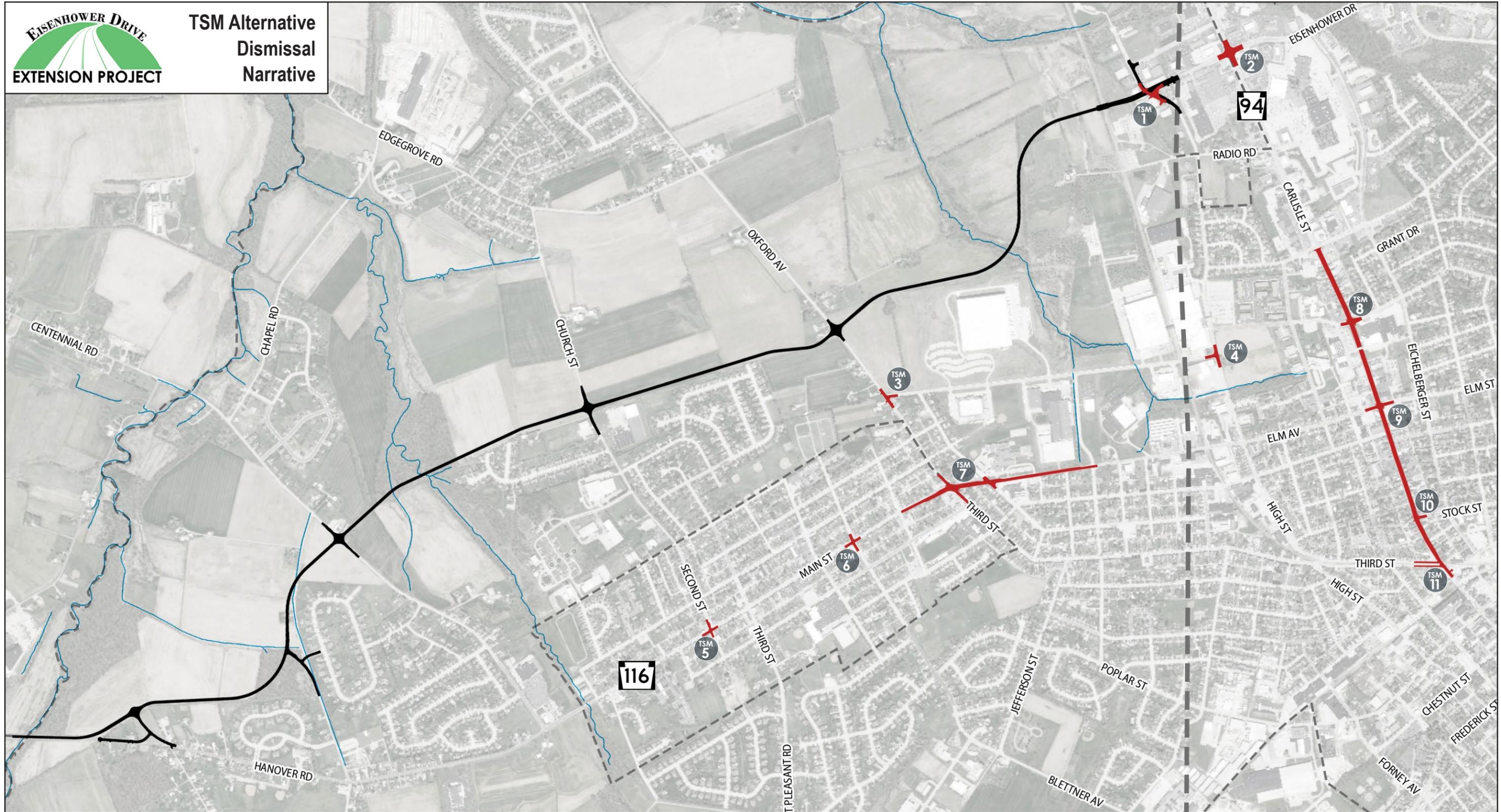
While Alternative 5C would also result in impacts to cultural resources, Section 4(f) resources, properties, and hazardous residual waste sites, in addition to agriculture and aquatic resources; the magnitude of the impacts as a result of the TSM Alternative, in comparison to Alternative 5C, are far greater. In addition, there is evidence of public opposition to the TSM Alternative based on feedback received from public involvement activities and feedback solicited via the project website. The source of opposition is the anticipated number of property displacements as a result of the TSM Alternative in comparison to the much fewer displacements associated with Alternative 5C.

As a result, JMT on behalf of PennDOT, is seeking concurrence from the FHWA that the Transportation System Management, (TSM), alternative be dismissed from further studies.

Table 1 – Alternatives Impact Matrix – August 2019

	0 (No Build)	1 (TSM)	5C
Aquatic Resource Impacts			
Wetlands (Acres)	0.0	0.0	1.2
Streams (# of Crossings)	0.0	0.0	4
Agricultural Resource Impacts			
General Description	The No-Build alternative would avoid all direct impacts to agricultural resources.	The TSM alternative would avoid direct impacts to agricultural resources.	Alternative 5C does not bisect any active farmlands/properties zoned agricultural but does impact 4 properties that are active farmlands and/or zoned agricultural. This alternative has minimal impact on Preserved Farmland.
Preserved Farmland (Acres)	0.0	0.0	1.4*
Agricultural Security Areas (Acres)	0.0	0.0	11.1
Cultural Resource Impacts			
General Description	The No-Build alternative would avoid impacting all Historic Resources	The TSM would displace between 14 and 22 properties listed as contributing elements to the Hanover Historic District.	Alt. 5C would impact three Historic Resources (farms) but would not bisect any of the resources and not impact any structures on these farms.
Aboveground Historic Structures (Resources/Acres)	The No-Build alternative would avoid impacting all Above Ground Historic Structures	71 Resources / 4.45 Acres (Listed) 1 Resource / 0.25 Acres (Recommended)	3 Resources / 9.2 Acres (Eligible) 1 Resource / 6.9 Acres (Recommended)
Hazardous Waste	The No-Build alternative would avoid impacting all hazardous materials.	The TSM alternative impacts 22 properties of potential environmental concern. Of the 22 properties, nine are full displacements. Further evaluation (in the form of a Phase II/III evaluation, would be recommended for these 9 properties.	Alt. 5C impacts four sites identified as High Risk and one identified as Medium Risk. Each of these five sites are recommended for further evaluation thru completion of a Phase I ESA. Three of the four High Risk sites were directly impacted by Miller Chemical fire/spill.
Displacements	0	44 Displacements Majority of displacement are the result of widening of SR 0094 to 5 lanes. 86 Impacts	6 Displacements 29 Impacts
Public Opinion			
Municipal / County Leaders	-	Not supported by the municipalities or counties; primarily due to the impacts / displacements required along SR 0094.	Each of the municipalities and counties were all supportive of Alternative 5C. Specifically, Hanover Borough (7/24/19) and Penn Township (8/19/19) passed resolutions stating support of Alternative 5C.
Public Open House Response	Not heavily supported by the general public. Received 14% of the support based on feedback at the May 2019 Open House and input received through the project website.	Not heavily supported by the general public. Received 17% of the votes for the the preferred alternative.	Received 70% of the support based on feedback at the May 2019 Open House and input received through the project website.
Project Cost (Million \$)			
Construction / Right-of-Way / Total	\$0 \$0 \$0	\$11-13 \$14-16 \$25-29	\$29-31 \$9-10 \$38-42

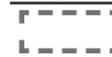
* Preserved Farmland Impacts are a result of temporary grading impacts. The goal for these alternatives, if selected, would be adjust the alignment/grading to result in zero impacts to Preserved Farmlands.



**PROJECT
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Figure 1:
TSM and 5C Alignment Alternatives

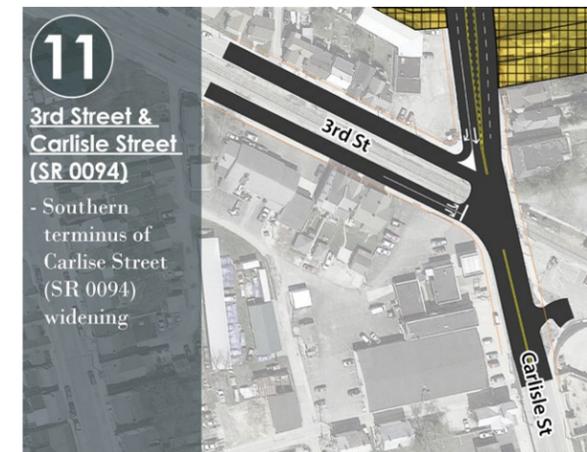
Legend

-  Municipal Boundaries
-  County Boundaries
-  Waterways
-  Alternative 5C
-  TSM Alternative
-  TSM Alternative Intersections - see detailed views on Figure 2



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Figure 2:
TSM Intersection Details

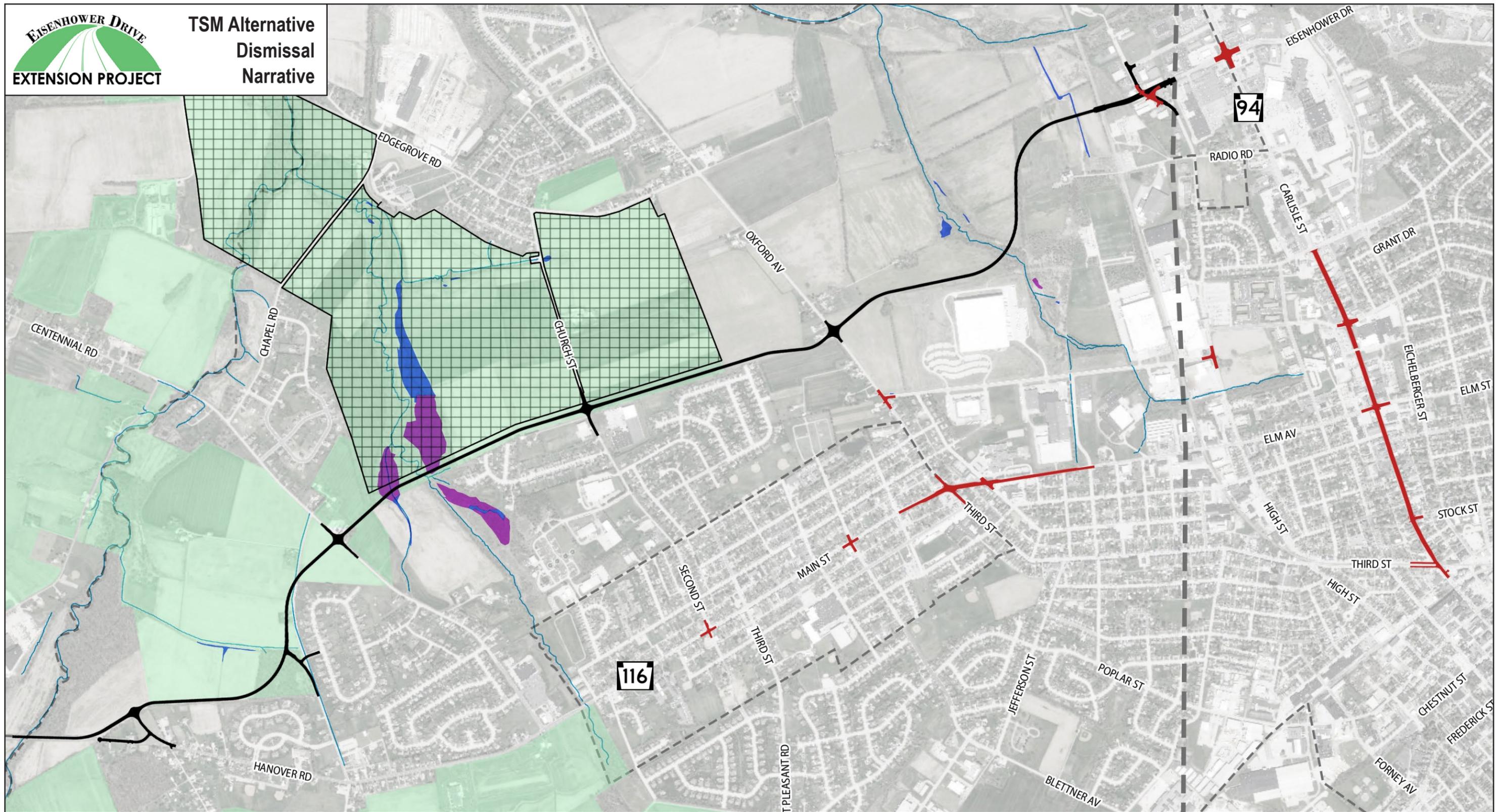
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-  TSM Alternative
-  Potential Displacements



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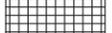




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Figure 3:
Agricultural and Aquatic Resources

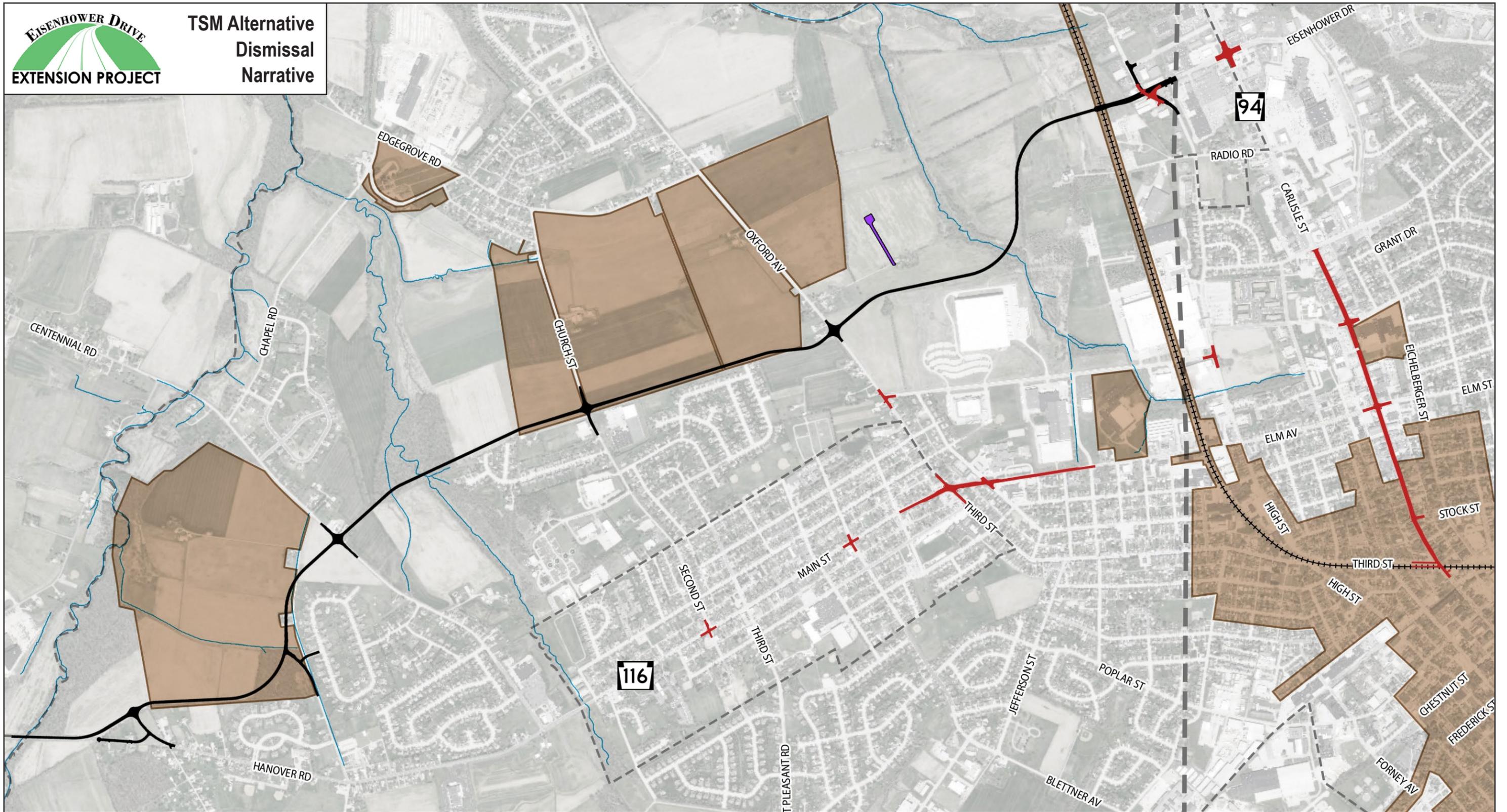
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-  Municipal Boundaries
-  County Boundaries
-  Waterways
-  Alternative 5C
-  TSM Alternative
-  Wetlands PEM
-  Wetlands PFO
-  Agricultural Security Areas
-  Adams County Farmland Preservation Areas



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Figure 4:
Cultural Resource Impacts

Legend

-  Municipal Boundaries
-  County Boundaries
-  Waterways
-  Alternative 5C
-  TSM Alternative
-  Historic Cemetery
-  Historic Resources Listed and Eligible for the National Register of Historic Places



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