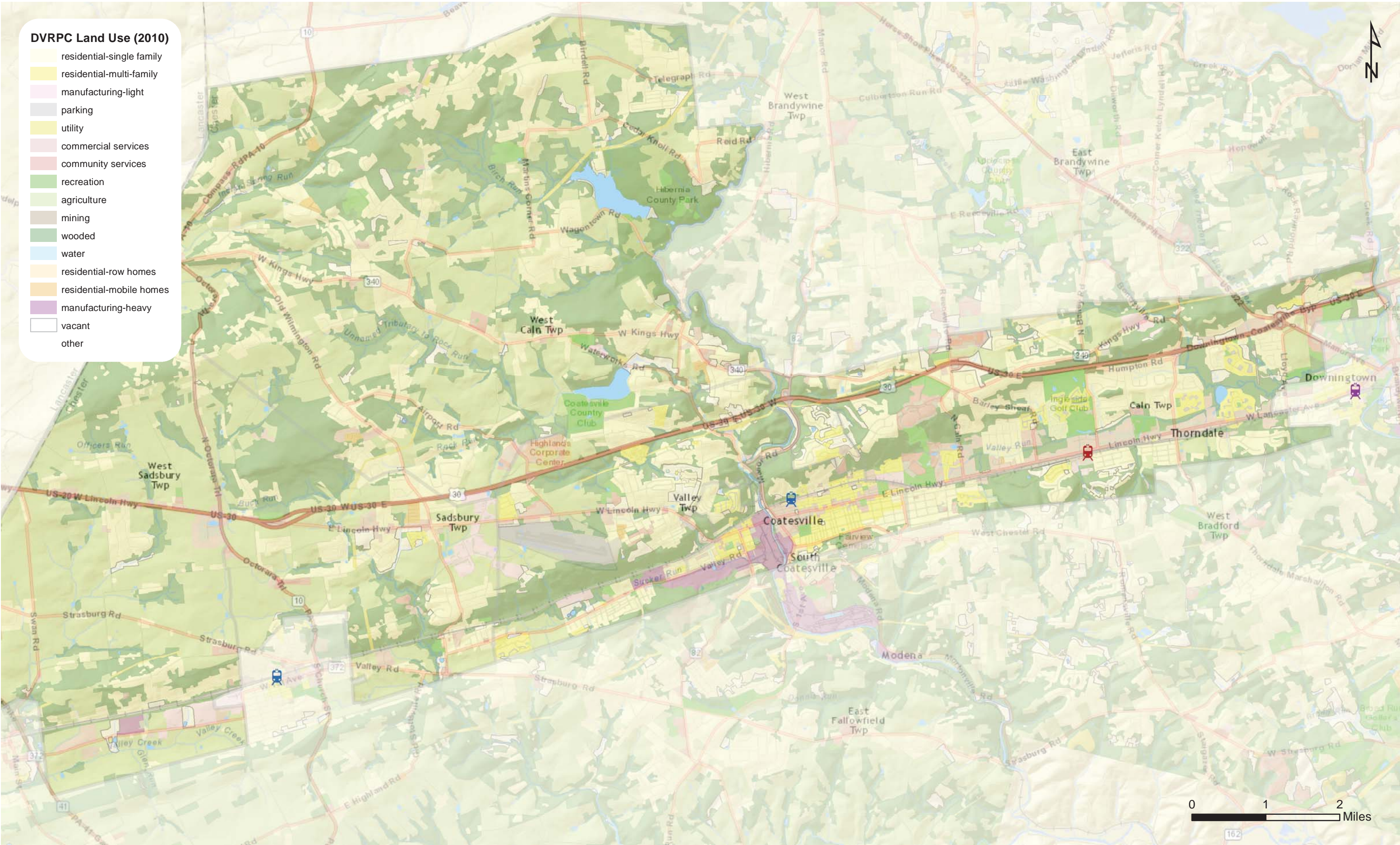
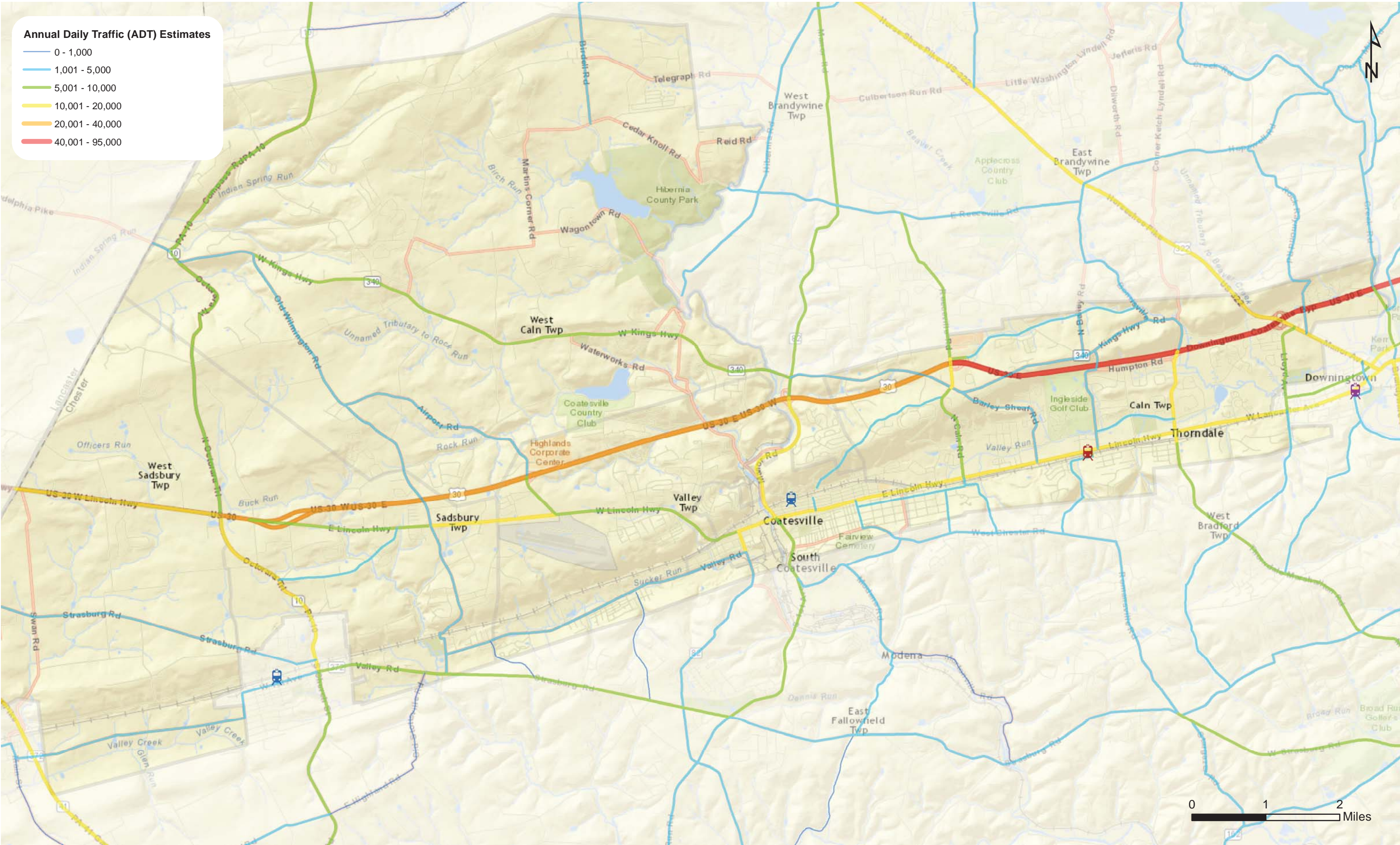


## APPENDIX A—REFERENCE MAPS

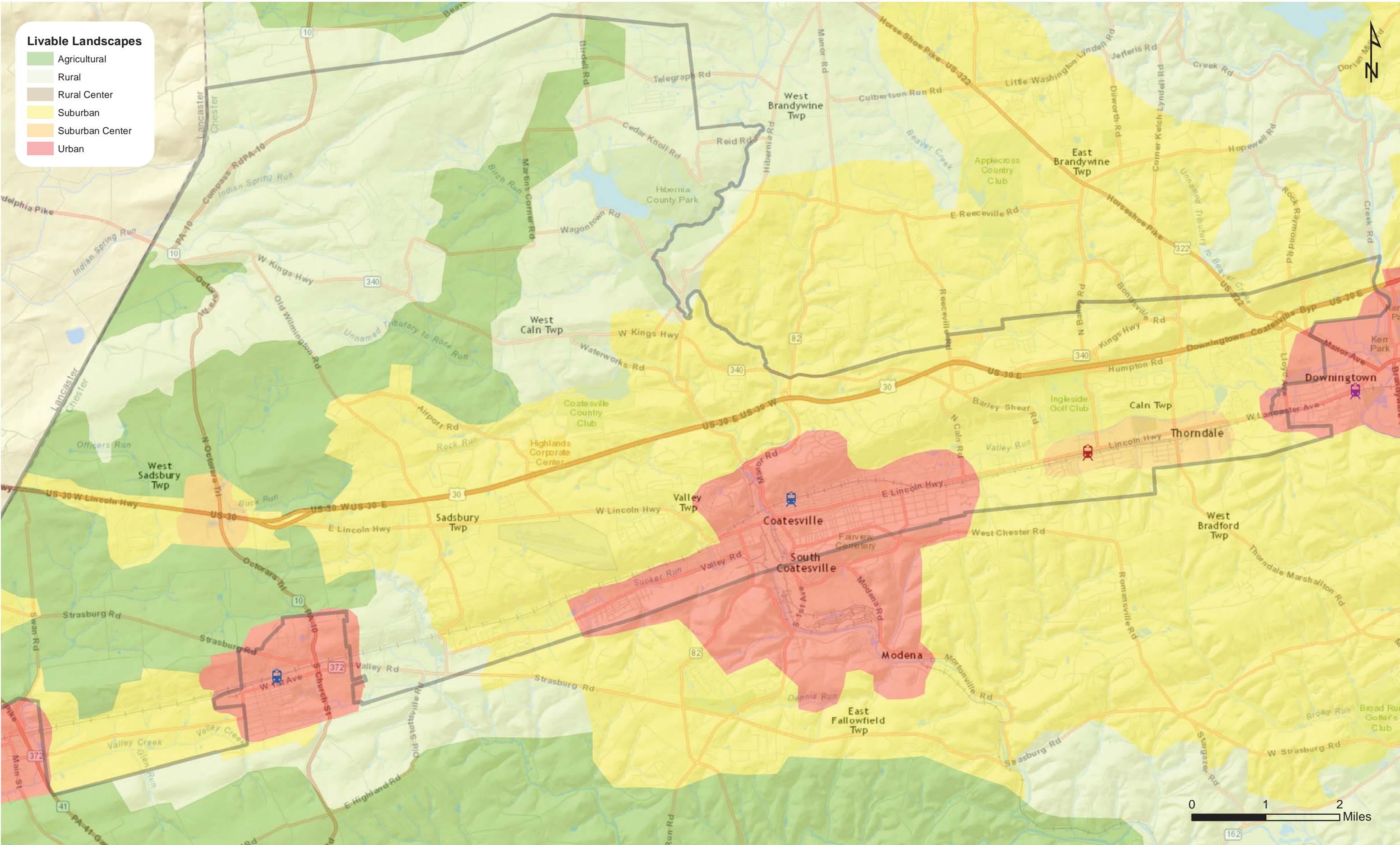




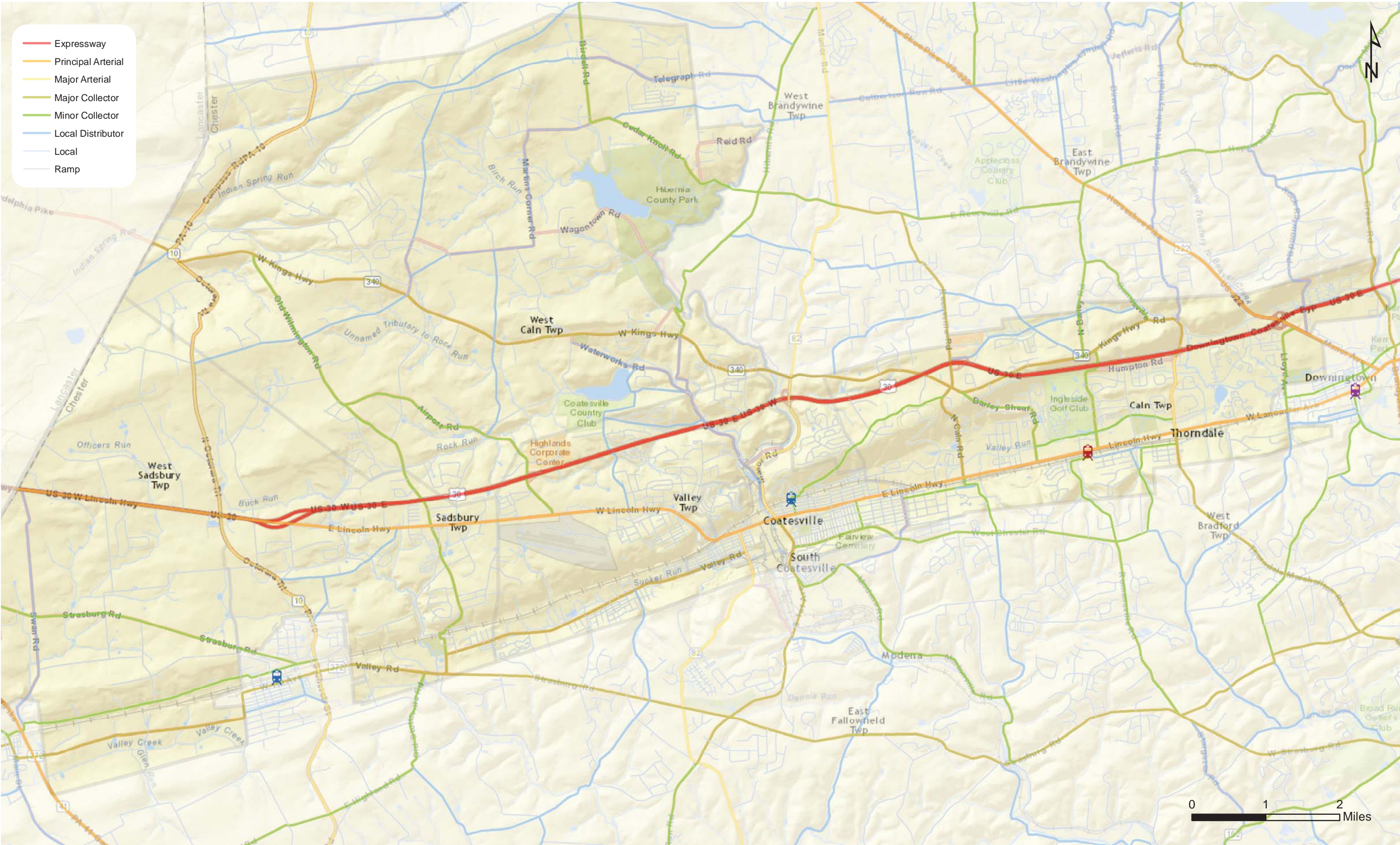




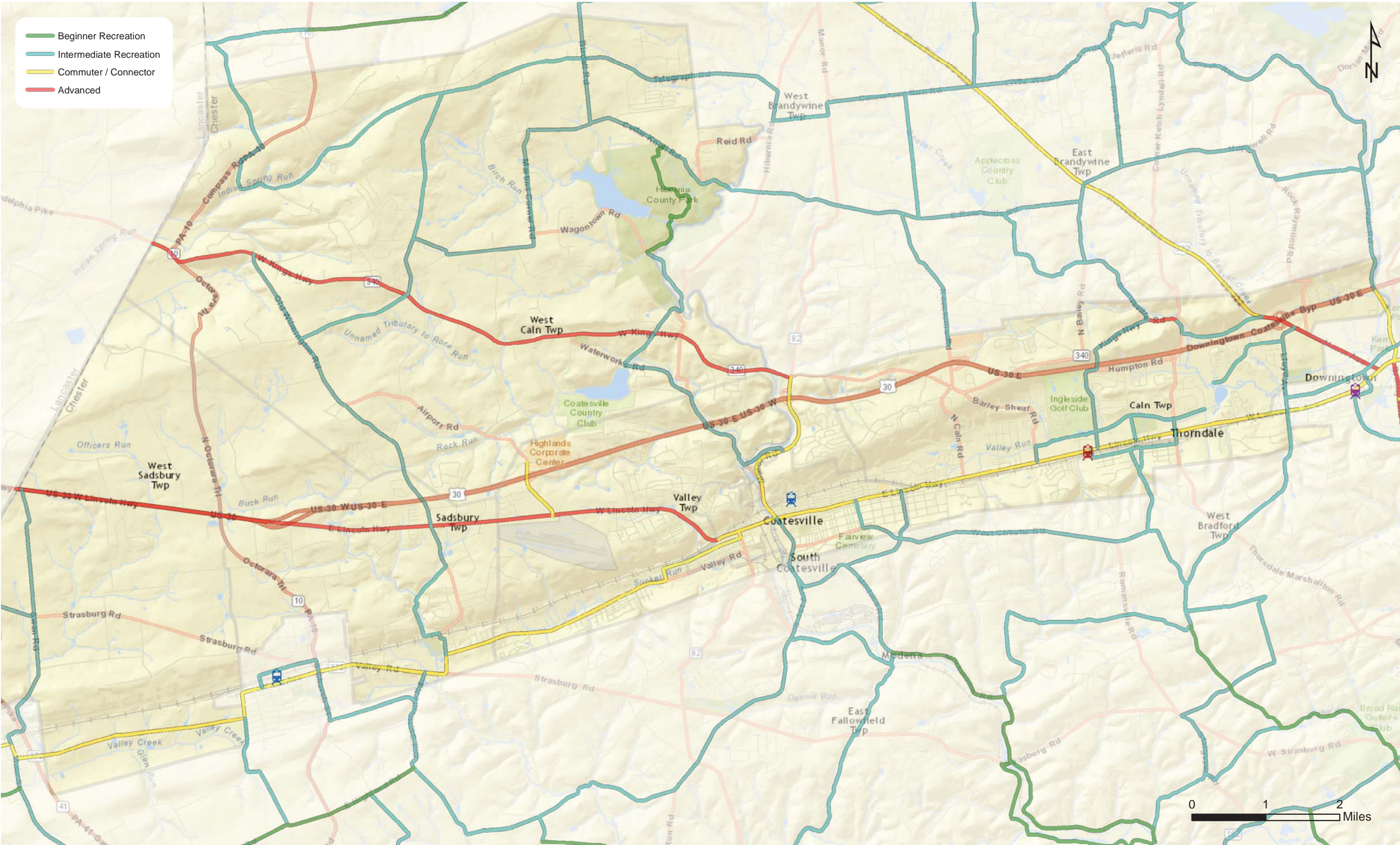




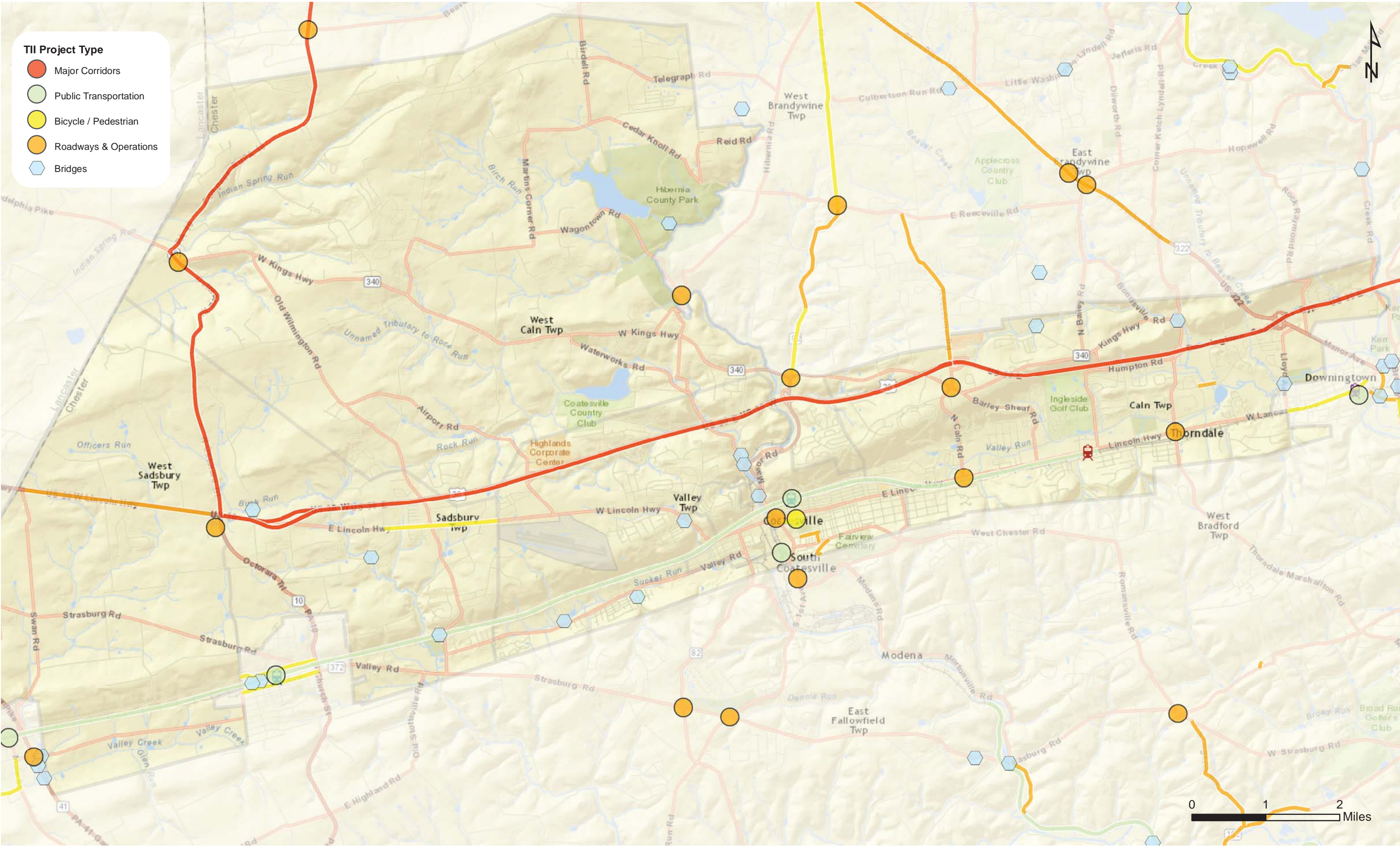








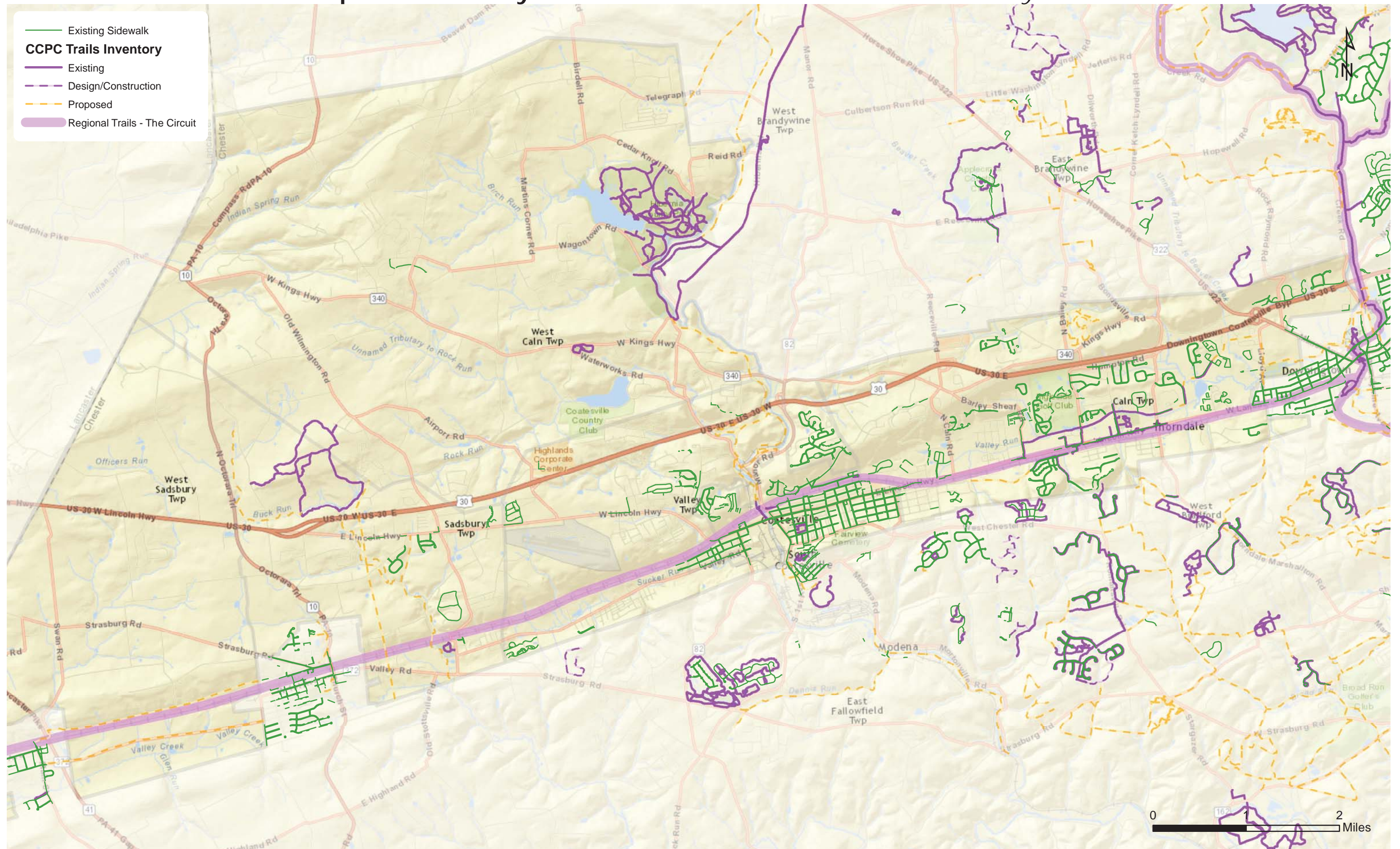






# Route 30 Multimodal Transportation Study

## *Bicycle and Pedestrian Facilities*

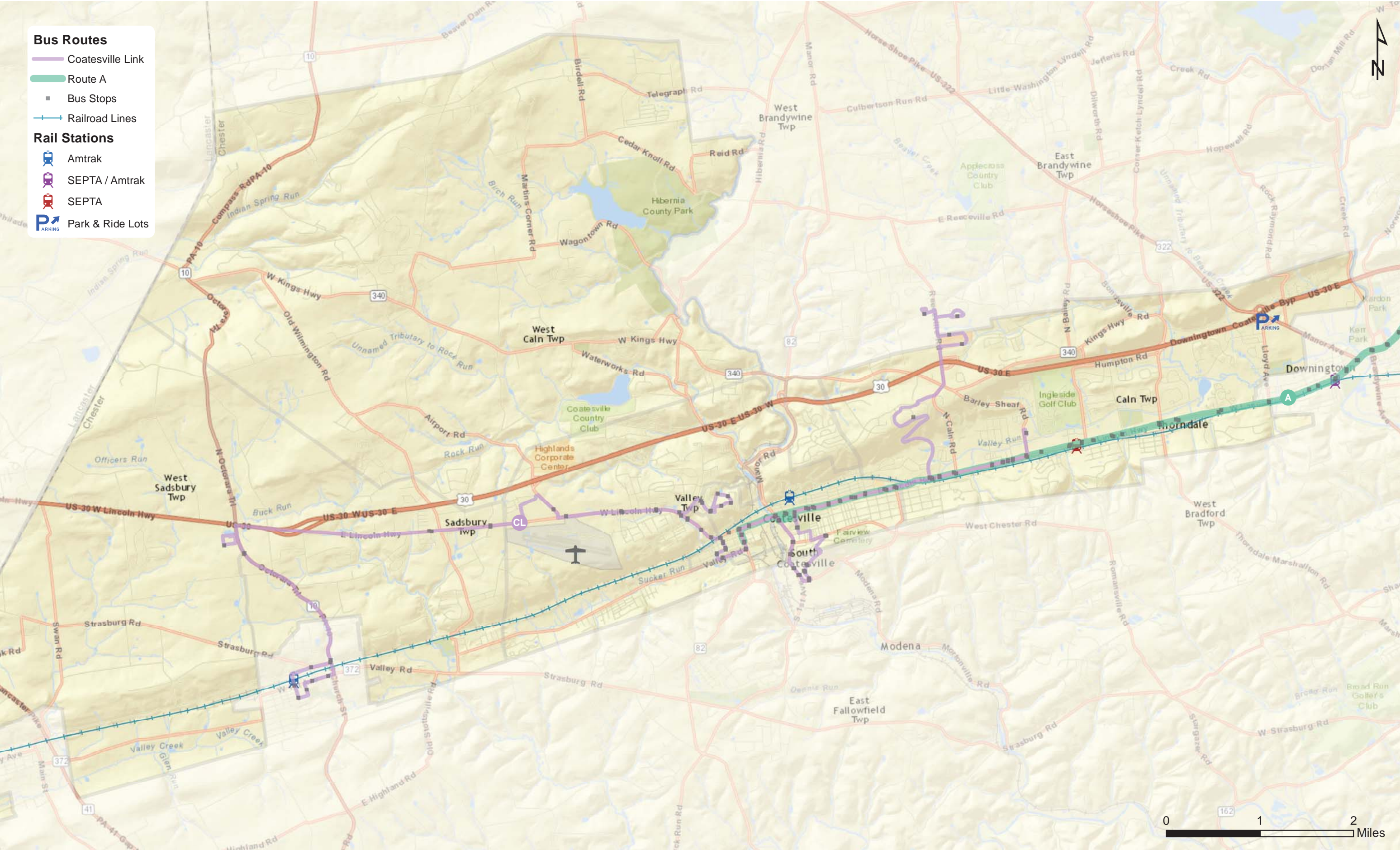


Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, GIS User Community, DVRPC, Chester County



# Route 30 Multimodal Transportation Study

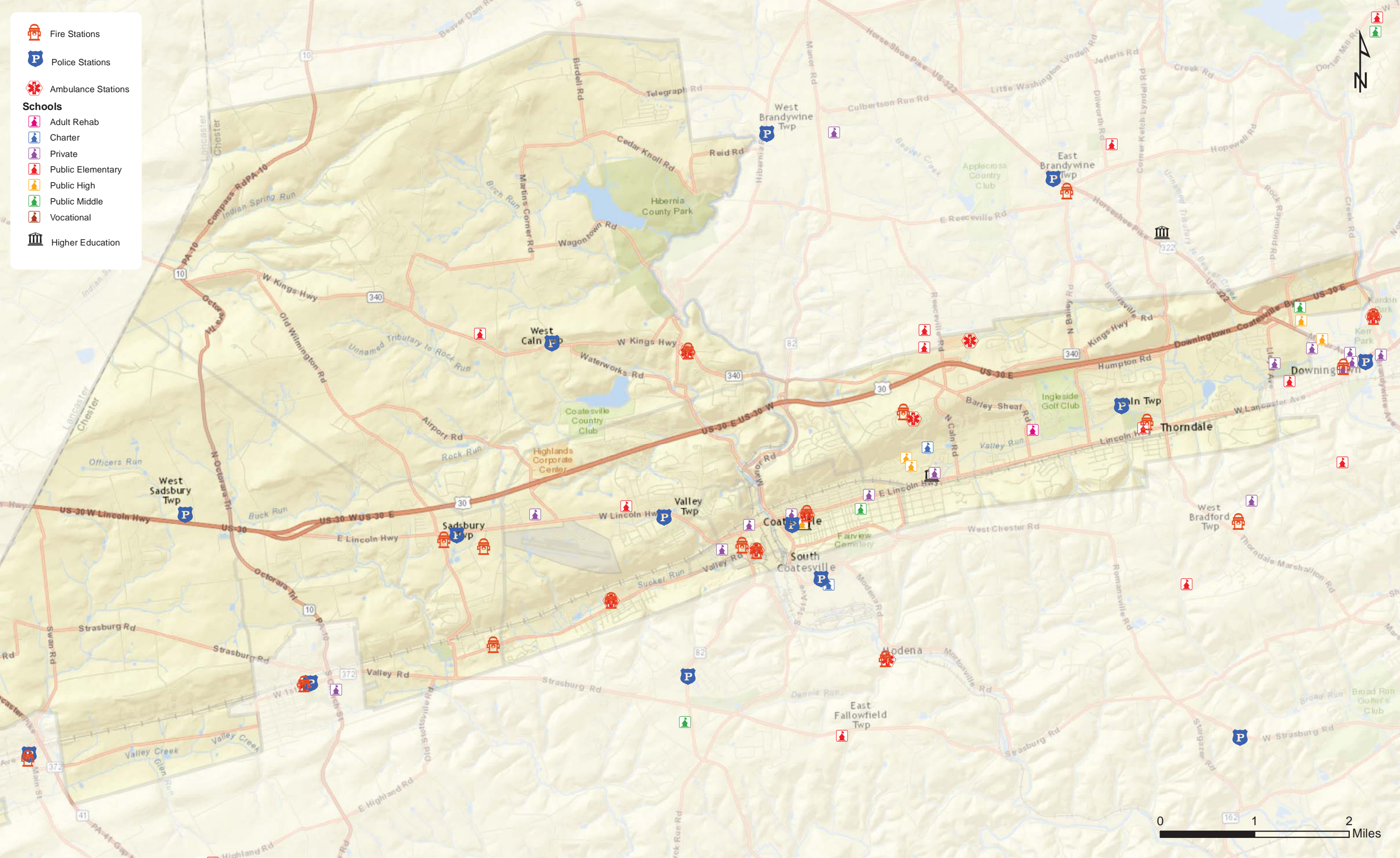
## Public Transportation Facilities





Route 30 Multimodal Transportation Study

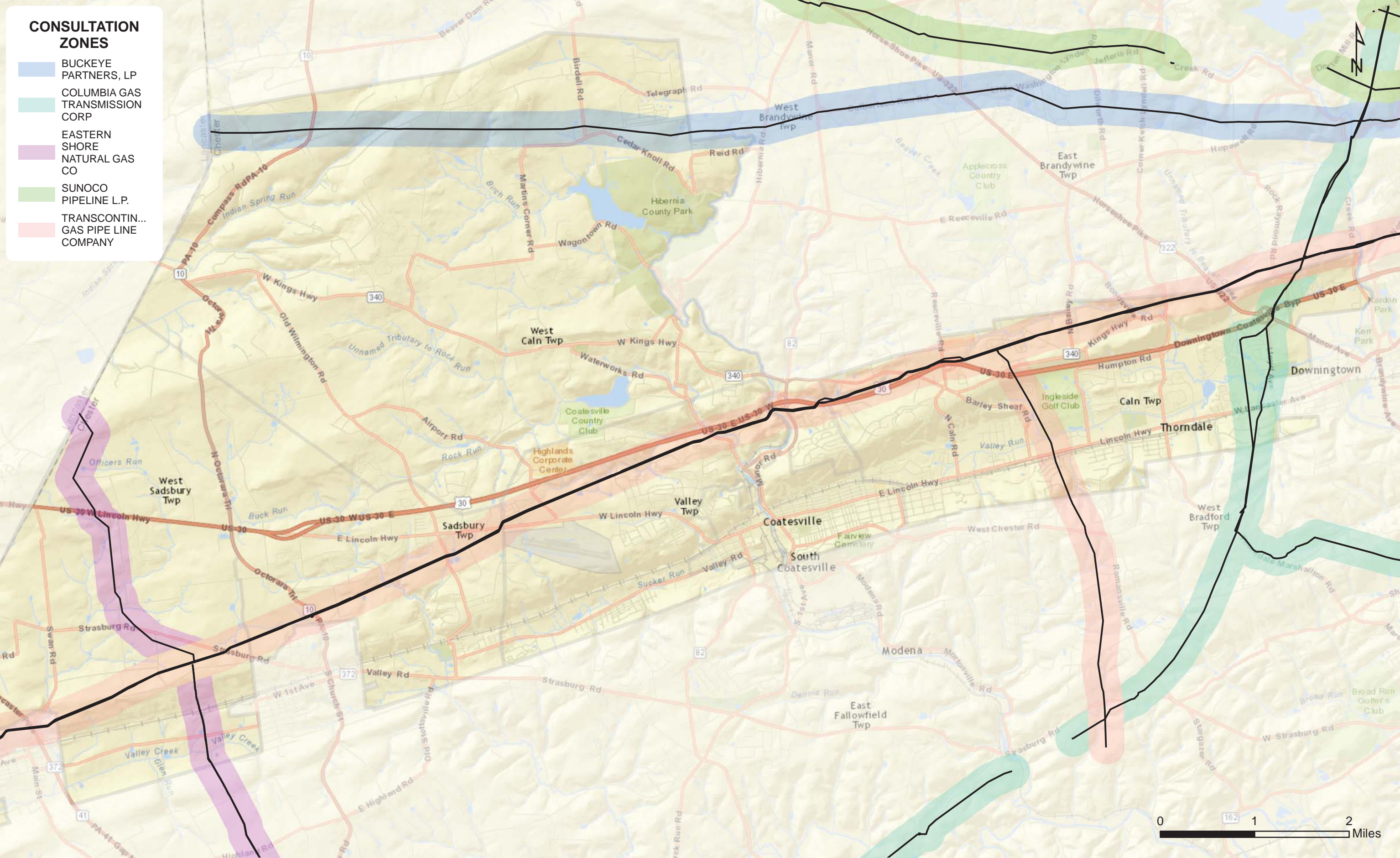
Community Facilities





Route 30 Multimodal Transportation Study

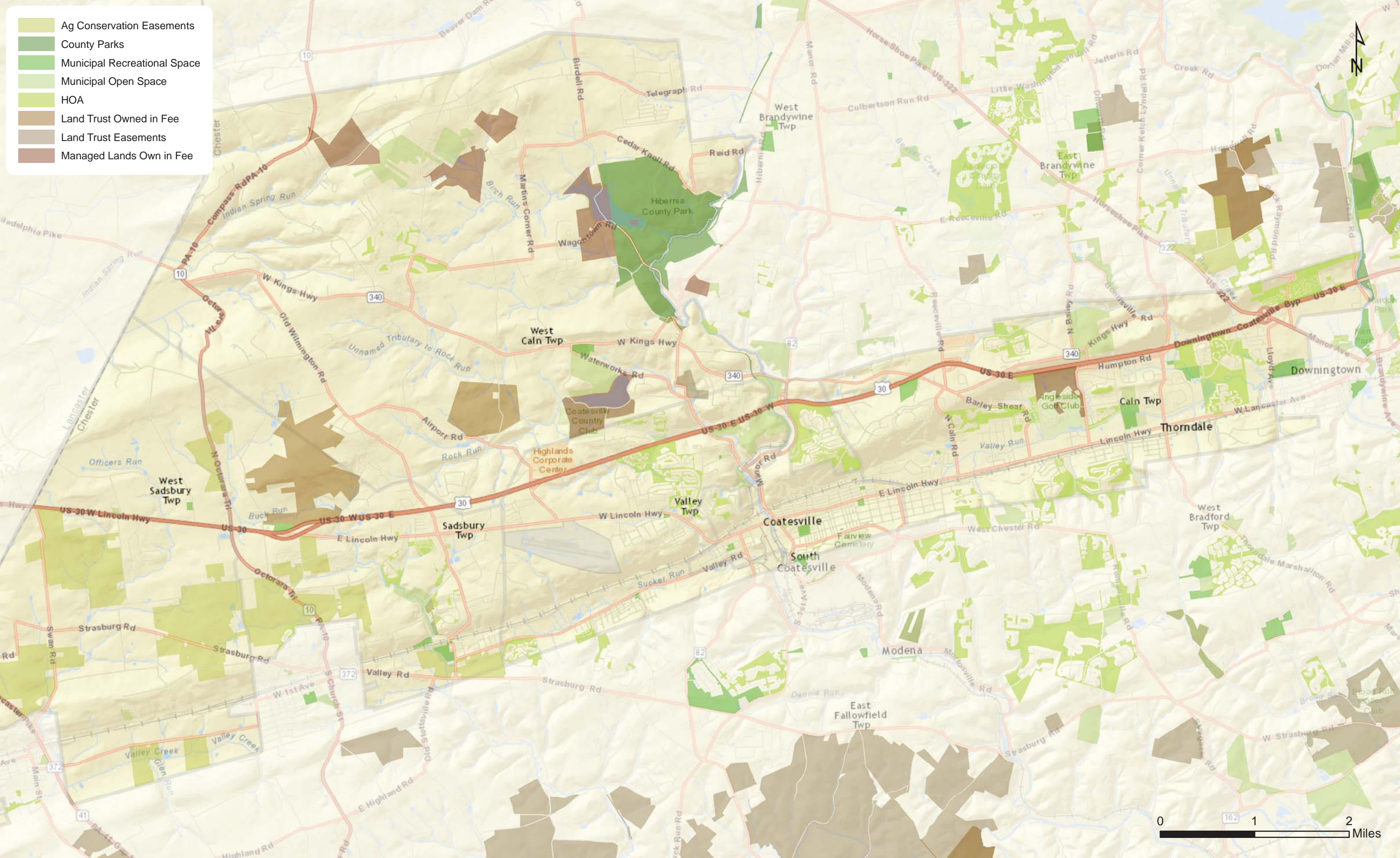
Pipeline Transmission Zones





# Route 30 Multimodal Transportation Study

*Protected Open Space*





# Route 30 Multimodal Transportation Study

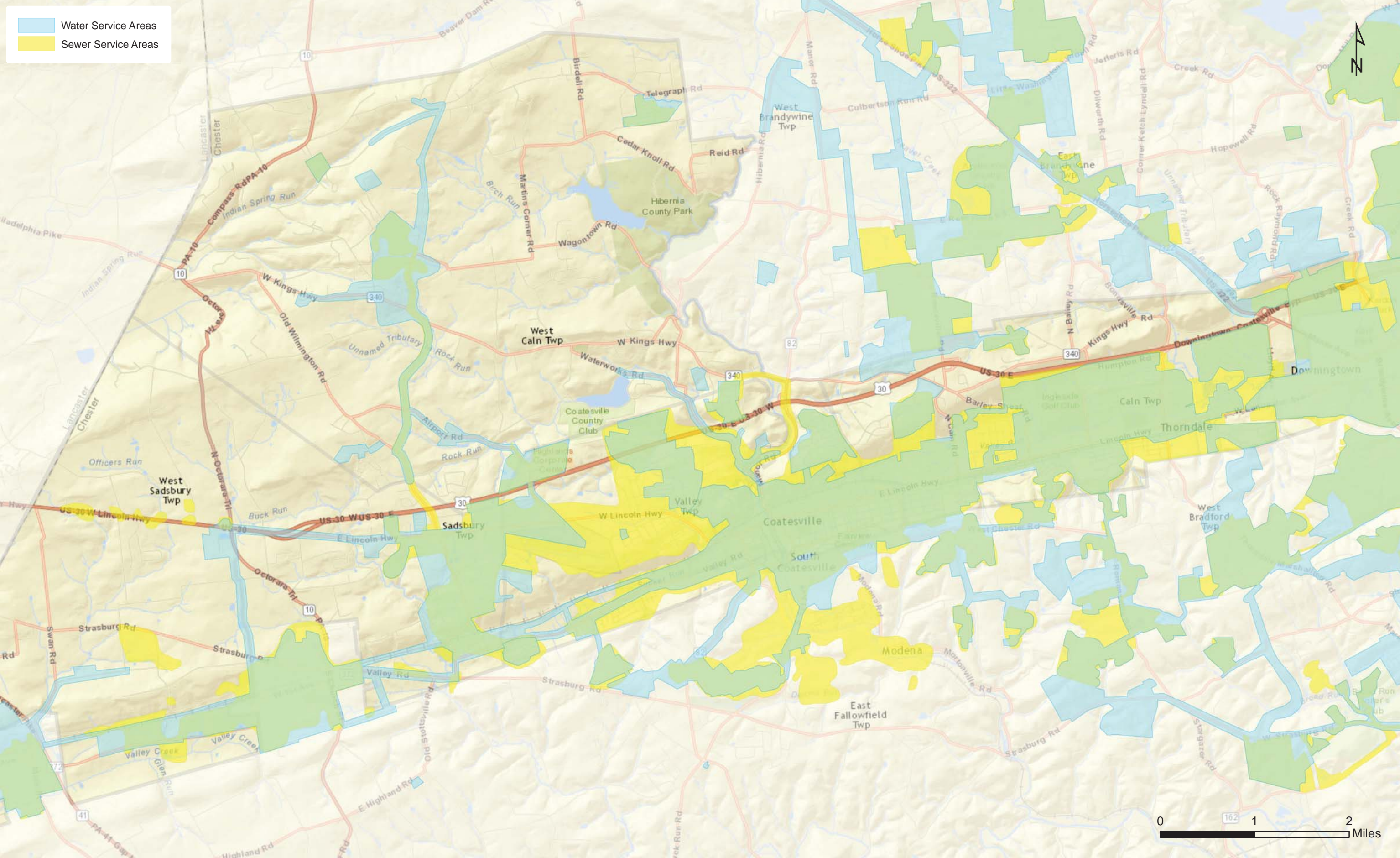
Steep Slopes





# Route 30 Multimodal Transportation Study

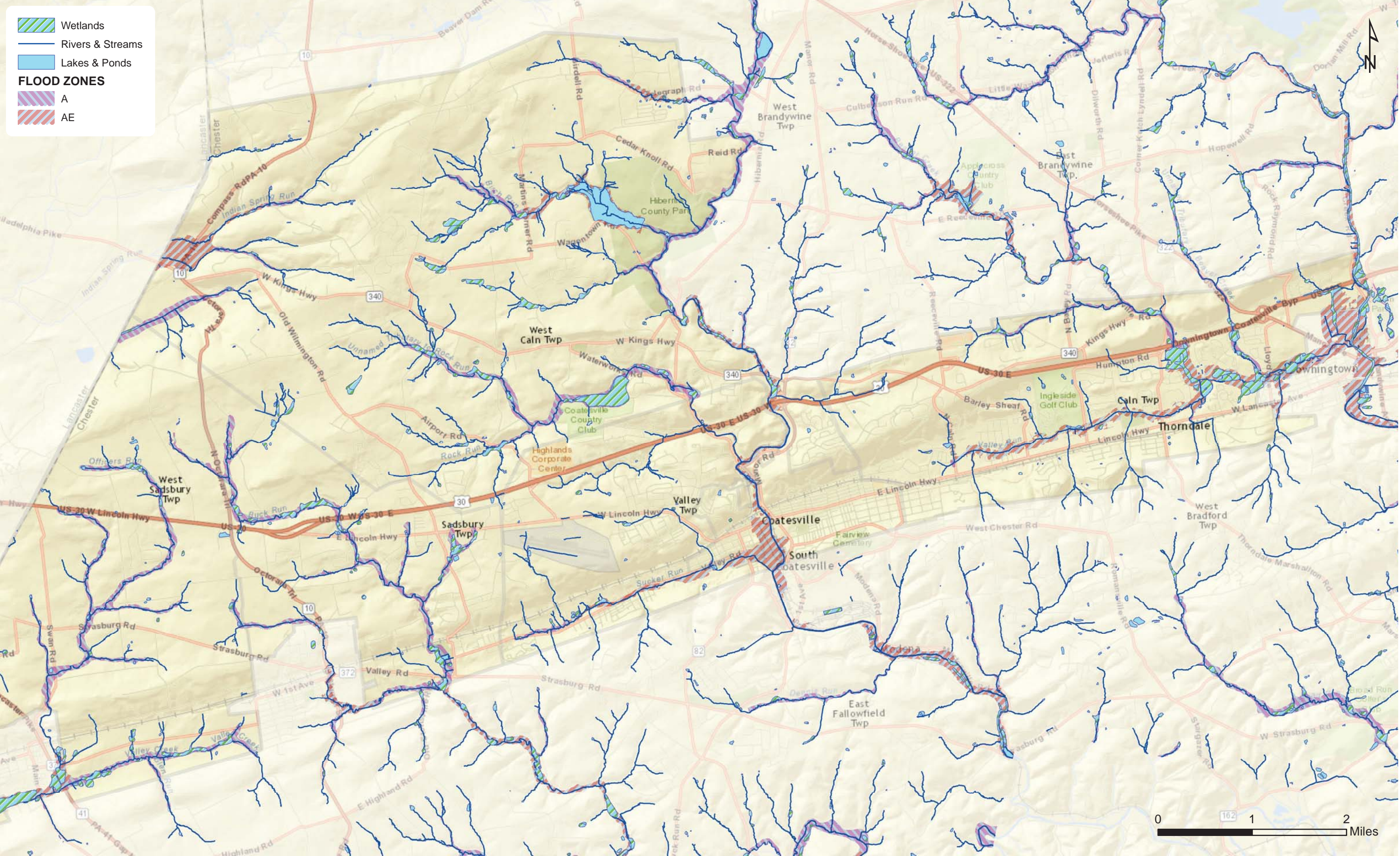
# Water and Sewer Sewer Services





# Route 30 Multimodal Transportation Study

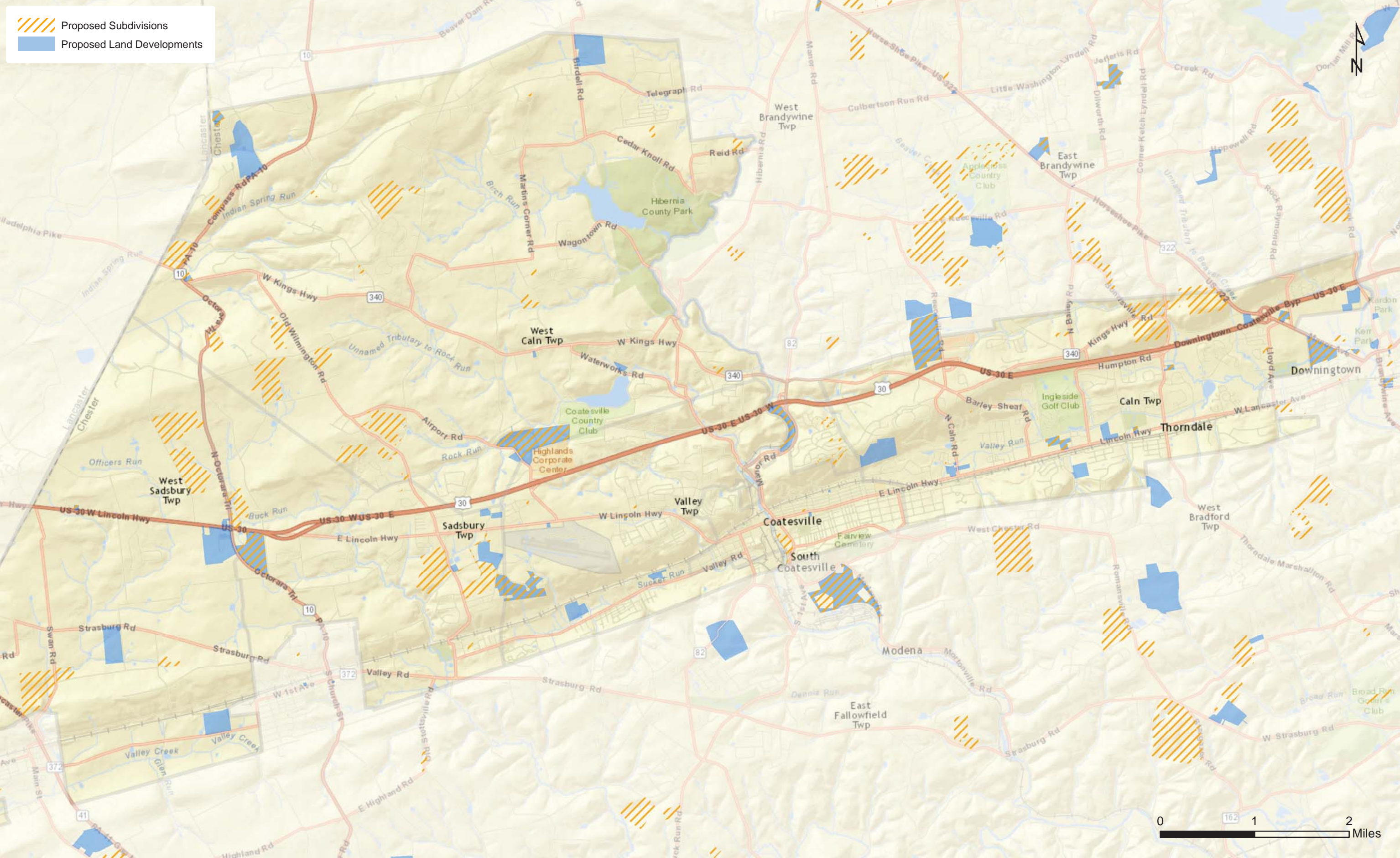
# Water Resources





Route 30 Multimodal Transportation Study

Subdivision & Land Development Activity (2010 - Present)





## APPENDIX B—SUMMARY OF STAKEHOLDER INTERVIEW



Summary of Stakeholder Interviews (Eight interviews completed as of 8/17/15)

What is your favorite place in the study area and why?	<ul style="list-style-type: none"><li>- Restaurants: Harry’s, Victory</li><li>- Coatesville Historic District</li><li>- Marriott (meeting space)</li><li>- Caln Township</li><li>- Parks: Sadsbury Woods Preserve</li><li>- Scenic, rural traditions, history of the area</li><li>- Christmas Tree Farm/Corn Maze</li><li>- Winery (Black Walnut Winery in Sadsburyville) and collection of artists nearby</li></ul>
When considering the study area and the Route 30 Corridor (encompassing both Business Route 30 and the US 30 Bypass), what are the top three overall assets or opportunities that come to mind?	<ul style="list-style-type: none"><li>- US 30 Bypass and access to employment centers in West Chester, Exton, Great Valley, and King of Prussia</li><li>- Business Parks: Provide jobs and economic tax base</li><li>- Airport</li><li>- Amtrak and SEPTA train service and stations: Connections to Philadelphia and east coast</li><li>- Available developable land (in the western portion of the study area)</li><li>- Open space</li><li>- Opportunities for recreation: golf courses, parks, playgrounds</li><li>- Walkable communities</li><li>- Brandywine Creek</li><li>- Business 30</li><li>- Iron and Steel Heritage Museum</li></ul>
What is one thing you would change related to land use or transportation in the study area?	<ul style="list-style-type: none"><li>- US 30 Bypass: Dangerous ramps and merge areas and incomplete interchange</li><li>- Coatesville School District</li><li>- Extending SEPTA rail service to Parkesburg</li><li>- Redevelopment of Coatesville Train Station as a transportation hub</li><li>- Add regional bus service to the north and south</li><li>- Expanding trails: Trails are a real asset in other communities, especially for residential development, which in turn attracts retail development. Extending the Chester Valley Trail is a great idea.</li><li>- North-south road connectivity</li><li>- Signage on US 30 Bypass for destinations along Business 30</li><li>- Make it easier to develop multi-family, mixed-use, and higher density projects</li><li>- Need a vibrant town with a Main Street</li></ul>
What are the top three challenges or constraints related to land use, growth, and development/redevelopment?	<ul style="list-style-type: none"><li>- Time and money</li><li>- High tax/low levels of public service</li><li>- Economic disparity between municipalities</li><li>- Lack of supportive infrastructure, particularly in developed areas (i.e. City of Coatesville)</li><li>- Lack of resources in the City of Coatesville</li><li>- Coatesville School District</li><li>- No coordinated plan for public utilities, such as water, sewer, telecommunications</li><li>- Assembling parcels for redevelopment (in eastern portion of the study area)</li><li>- Resistance to higher density developments (with higher building heights)</li></ul>



	<p><b>Red Tape/Approval Processes/Permitting</b></p> <ul style="list-style-type: none"><li>- Number of municipalities and complexity of municipal approval process</li><li>- Lack of coordination between municipalities on future land use and zoning (i.e. 10 municipalities have 50 zoning districts)</li><li>- Lack of leadership and direction from municipalities, particularly at a staff level. Reliance on municipal engineers/zoning officers for key decisions in the land development process.</li><li>- Meeting stormwater management regulations, especially on small/confined lots</li><li>- PennDOT: Bureaucracy</li></ul>
What are the top three challenges or constraints related to transportation?	<ul style="list-style-type: none"><li>- US 30 Bypass: “Antiquated”; Congestion; Design doesn’t meet current standards or demands; Safety issues at interchange ramps (including PA 82); Confusing interchange configurations (including Reeceville)</li><li>- Convenience of commute to major employment centers, such as Great Valley</li><li>- Time to implement projects</li><li>- Competition between funding roads and transit</li><li>- Poor signage</li><li>- Disconnect between PennDOT and municipalities regarding desired transportation improvements as part of the land development/HOP processes</li><li>- No plan for the future vision and addressing issues that go beyond a specific project</li><li>- Pedestrian amenities, walkability, multi-modal access aren’t a factor for site selection for many auto-oriented retailers</li></ul>
What are the biggest impediments to attracting and/or controlling economic development?	<ul style="list-style-type: none"><li>- Leadership</li><li>- Lack of vision</li><li>- Opposing ideas</li><li>- Competition between municipalities</li><li>- Competition from other regions (and states)</li><li>- Lack of understanding of the relationship between development and preservation of open space</li><li>- Zoning</li><li>- Utilities</li><li>- Quality of school district</li><li>- Business 30: Unattractive and not walkable</li><li>- Tax structure: Property tax as the main source of revenue for municipalities and school districts</li><li>- Available land and land assemblage for areas surrounding train stations</li><li>- For many retailers, a primary factor in site selection is the number of households within a certain area (or radius). Other retailers select sites based on visibility and traffic volumes.</li></ul>
For properties that are owned/managed: <ul style="list-style-type: none"><li>– Are they fully leased or occupied?</li><li>– What are the top three challenges related to leasing/selling the properties?</li></ul>	<ul style="list-style-type: none"><li>- Existing properties (office and commercial) in Thorndale area are leased</li><li>- Existing properties in western portion of the study area are available</li></ul> <p><u>Challenges</u></p> <ul style="list-style-type: none"><li>- Overcoming perceptions of Coatesville</li><li>- Lack of demand and abundant vacancies (particularly in western portion of the study area)</li><li>- Distance to highly desirable areas east of the study area, including employment centers</li><li>- Residential buyers are looking in Lancaster County</li><li>- No demand in Coatesville School District</li></ul>



<p>For development projects:</p> <ul style="list-style-type: none"><li>– What is the type and status of the development?</li><li>– What are the top three challenges related to advancing the development?</li></ul>	<ul style="list-style-type: none"><li>- Pyle Farm is on the market</li><li>- Limited interest in potential light industrial and office development opportunities</li></ul> <p><u>Challenges</u></p> <ul style="list-style-type: none"><li>- Available utilities/infrastructure (particularly sewer)</li></ul>
<p>What can municipalities and other project partners do to promote appropriate growth and development in the study area?</p>	<p><b>Allow for increased density (especially at transportation hubs)</b></p> <ul style="list-style-type: none"><li>- Create walkable communities</li><li>- Ambivalence from leadership towards growth</li></ul> <p><b>Collaboration and Coordination</b></p> <ul style="list-style-type: none"><li>- Focused vision and clear goals</li><li>- Coordinated leadership</li><li>- Partnering and working with the business community</li></ul> <p><b>Streamlining red tape</b></p> <ul style="list-style-type: none"><li>- “Open for Business” mentality</li><li>- Provide guidance to get through approval processes</li></ul> <p><b>Tax incentives</b></p> <ul style="list-style-type: none"><li>- LERTA (10 year tax abatement)</li></ul> <p><b>Promote opportunities and assets</b></p> <ul style="list-style-type: none"><li>- Western Chester County is a “forgotten child”</li><li>- Use technology</li><li>- Market available land and development opportunities</li><li>- Expand regional trail connections</li></ul> <p><b>Be competitive</b></p> <ul style="list-style-type: none"><li>- Be aware and educated, particularly about what other communities in the County are doing</li></ul>
<p>What can municipalities and other project partners do to improve transportation in the study area?</p>	<ul style="list-style-type: none"><li>- Show a unified force to state agencies (including PennDOT), legislators, and County Commissioners</li><li>- Participate in the COG</li><li>- Make transportation a top regional priority</li><li>- Free local bus service</li><li>- Expand trail connections</li><li>- Increase businesses</li></ul>



## APPENDIX C—DETAILED COST ESTIMATES FOR PRIORITY PROJECTS



Item No.	Description	Comment	Unit	Quantity	Unit Cost	Cost
	<b>Standard Items</b>					
1	Clearing and Grubbing	8" depth	LS	1	\$25,000.00	\$25,000.00
2	Class 1 Excavation		CY	809	\$35.00	\$28,315.00
3	Grading (includes topsoil and seeding)		SY	3,159	\$15.00	\$47,385.00
4	Full Depth Bituminous Pavement + Wearing Course (8" Bituminous Base Course & 8" Subbase)		SY	1,989	\$75.00	\$149,175.00
5	Driveway Adjustments		SY	89	\$50.00	\$4,450.00
6	Milling and Bituminous Overlay (including Tack Coat)		SY	245	\$22.00	\$5,390.00
7	Leveling Course		TN	50	\$85.00	\$4,250.00
8	Construction Surveying, Schedule, Equipment Package		LS	1	\$20,000.00	\$20,000.00
9	Pavement Markings & Signs		LS	1	\$7,500.00	\$7,500.00
10	ADA Accessible Curb Ramp		EA		\$6,500.00	\$0.00
11	Traffic Signal Upgrades		LS	1	\$175,000.00	\$175,000.00
12	<b>Subtotal Construction Cost</b>	<b>Items 1 - 11</b>				<b>\$467,000.00</b>
13	Maintenance and Protection of Traffic	Approx. 8% of Item 12				\$38,000.00
14	Mobilization	Approx. 5% of Item 12				\$24,000.00
15	Drainage	Approx.30% of Item 12				\$141,000.00
16	Post Construction Stormwater Management	Approx. 20% of Item 12				\$94,000.00
17	Erosion and Sedimentation Control	5% of Item 12				\$24,000.00
18	Contingency	10% of Items 12 - 17				\$79,000.00
19	<b>Total Construction Cost</b>	<b>Items 12 - 18</b>				<b>\$867,000.00</b>
20	Construction Inspection	15% of Item 19				\$131,000.00
21	<b>Total Construction + Inspection</b>	<b>Items 19 - 20</b>				<b>\$998,000.00</b>
22	Engineering and Permitting	Approx. 25% of Item 19				\$217,000.00
23	Utilities	3 Utility poles to be relocated	LS	1	\$30,000.00	\$30,000.00
24	Right-of-Way		LS	1	\$256,000.00	\$256,000.00
25	<b>Total Project Cost (2016 Dollars)</b>	<b>Items 21 - 24</b>				<b>\$1,501,000.00</b>

NOTES AND ASSUMPTIONS:

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The following costs are rough estimates for budgeting purposes only: Engineering and Permitting, Utility Relocations, and Right of Way. The costs associated with these items will need to be determined through the development of the project.

Estimates of existing and required right of way were developed based on GIS data obtained from Chester County. Existing legal right-of-way lines or property lines have not been independently verified through field survey or deed research. Existing legal rights-of-way and existing property lines, as well as the size and location of any required rights-of-way (temporary or permanent), will need to be determined during the preliminary engineering of the project.

Right-of-way estimates include rough approximations for temporary and permanent easements, but do not include the cost of legal fees associated with right-of-way acquisition process.

The Engineer's Conceptual Opinion of Cost does not include relocating or resetting existing underground utilities within the limits of the project or the provision of any future utilities. Impacts to existing underground utilities will need to be determined during the preliminary engineering of the project through subsurface utility engineering. Due to visible evidence of subsurface utilities within the project area (underground electric, water, sewer, gas and telecommunication) it is recommended (and likely required by law) that utility test pits be performed during the preliminary engineering of the project.

The Engineer's Conceptual Opinion of Cost does not include any environmental remediation (including but not limited to removal and replacement of contaminated soils) or environmental impact mitigation.

Further evaluation of the existing signalized intersections within the project limits is required during the preliminary engineering of the project. This evaluation may result in the identification of other improvements and costs not identified within this Engineer's Conceptual Opinion of Cost.

The contingency and inspection percentages are based on PennDOT Publication 352. Inflation is not included and costs provided are in 2016 dollars.



Item No.	Description	Comment	Unit	Quantity	Unit Cost	Cost
	<b>Standard Items</b>					
1	Clearing and Grubbing		LS	1	\$10,000.00	\$10,000.00
2	Class 1 Excavation		CY	231	\$65.00	\$15,015.00
3	Grading (includes topsoil and seeding)		SY	1,650	\$15.00	\$24,750.00
4	Plain Cement Concrete Curb		LF	1,114	\$30.00	\$33,420.00
5	Sidewalk		SY	834	\$75.00	\$62,512.50
6	Construction Surveying, Schedule, Equipment Package		LS	1	\$7,500.00	\$7,500.00
7	Pavement Markings & Signs		LS	1	\$5,000.00	\$5,000.00
8	ADA Accessible Curb Ramp		EA	10	\$6,500.00	\$65,000.00
9	Traffic Signal Upgrades		LS	1	\$30,000.00	\$30,000.00
10	<b>Subtotal Construction Cost</b>	<b>Items 1 - 9</b>				<b>\$254,000.00</b>
11	Maintenance and Protection of Traffic	Approx. 8% of Item 10				\$21,000.00
12	Mobilization	Approx. 5% of Item 10				\$13,000.00
13	Contingency	10% of Items 10 - 12				\$29,000.00
14	<b>Total Construction Cost</b>	<b>Items 10 - 13</b>				<b>\$317,000.00</b>
15	Construction Inspection	15% of Item 14				\$48,000.00
16	<b>Total Construction + Inspection</b>	<b>Items 14 - 15</b>				<b>\$365,000.00</b>
17	Engineering and Permitting	Approx. 25% of Item 14				\$80,000.00
18	<b>Total Project Cost (2016 Dollars)</b>	<b>Items 16 - 17</b>				<b>\$445,000.00</b>

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Item No.	Description	Comment	Unit	Quantity	Unit Cost	Cost
	<b>Standard Items</b>					
1	Clearing and Grubbing		LS	1	\$25,000.00	\$25,000.00
2	Class 1 Excavation		CY	4,252	\$65.00	\$276,380.00
3	Grading (includes topsoil and seeding)		SY	6,724	\$15.00	\$100,860.00
4	Full Depth Bituminous Pavement + Wearing Course (8" Bituminous Base Course & 8" Subbase)		SY	7,545	\$75.00	\$565,875.00
5	Driveway Adjustments		SY	1,145	\$60.00	\$68,700.00
6	Milling and Bituminous Overlay (including Tack Coat)		SY	20,175	\$25.00	\$504,375.00
7	Leveling Course		TN	200	\$85.00	\$17,000.00
8	Plain Cement Concrete Curb		LF	1,632	\$30.00	\$48,960.00
9	Plain Cement Mountable Curb		LF	204	\$40.00	\$8,160.00
10	Sidewalk		SY	1,553	\$75.00	\$116,475.00
11	Construction Surveying, Schedule, Equipment Package		LS	1	\$25,000.00	\$25,000.00
12	Pavement Markings & Signs		LS	1	\$25,000.00	\$25,000.00
13	ADA Accessible Curb Ramp		EA	18	\$6,500.00	\$117,000.00
14	Traffic Signal Upgrades		LS	1	\$500,000.00	\$500,000.00
			LS			\$0.00
15	<b>Subtotal Construction Cost</b>	<b>Items 1 - 14</b>				<b>\$2,399,000.00</b>
16	Maintenance and Protection of Traffic	Approx. 8% of Item 15				\$192,000.00
17	Mobilization	Approx. 5% of Item 15				\$120,000.00
18	Drainage	Approx.20% of Item 15				\$480,000.00
19	Post Construction Stormwater Management	Approx. 10% of Item 15				\$240,000.00
20	Erosion and Sedimentation Control	5% of Item 15				\$120,000.00
21	Contingency	10% of Items 15 - 20				\$356,000.00
22	<b>Total Construction Cost</b>	<b>Items 15 - 21</b>				<b>\$3,907,000.00</b>
23	Construction Inspection	12% of Item 22				\$469,000.00
24	<b>Total Construction + Inspection</b>	<b>Items 22 - 23</b>				<b>\$4,376,000.00</b>
25	Engineering and Permitting	Approx. 25% of Item 22				\$977,000.00
26	Utilities		LS	1	\$100,000.00	\$100,000.00
27	Right-of-Way		LS	1	\$138,000.00	\$138,000.00
28	<b>Total Project Cost (2016 Dollars)</b>	<b>Items 24 - 27</b>				<b>\$5,591,000.00</b>

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Item No.	Description	Comment	Unit	Quantity	Unit Cost	Cost
	<b>Standard Items</b>					
1	Construction Surveying, Schedule, Equipment Package		LS	1	\$2,500.00	\$2,500.00
2	Pavement Markings & Signs		LS	1	\$25,000.00	\$25,000.00
	<b>Special Items</b>					
3	Gateway sign		LS	1	\$10,000.00	\$10,000.00
4	Rumble Strips		EA LS	4	\$5,000.00	\$20,000.00
5	<b>Subtotal Construction Cost</b>	<b>Items 1 - 4</b>				<b>\$58,000.00</b>
6	Maintenance and Protection of Traffic	Approx. 12% of Item 5				\$7,000.00
7	Mobilization	Approx. 5% of Item 5				\$3,000.00
8	Contingency	10% of Items 5 - 7				\$7,000.00
9	<b>Total Construction Cost</b>	<b>Items 5 - 8</b>				<b>\$75,000.00</b>
10	Construction Inspection	15% of Item 9				\$12,000.00
11	<b>Total Construction + Inspection</b>	<b>Items 9 - 10</b>				<b>\$87,000.00</b>
12	Engineering and Permitting	Approx. 30% of Item 9				\$23,000.00
13	<b>Total Project Cost (2016 Dollars)</b>	<b>Items 11 - 12</b>				<b>\$110,000.00</b>

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Item No.	Description	Comment	Unit	Quantity	Unit Cost	Cost
	<b>Standard Items</b>					
1	Clearing and Grubbing	adjacent to new curb	LS	1	\$2,500.00	\$2,500.00
2	Class 1 Excavation		CY	123	\$65.00	\$7,995.00
3	Full Depth Bituminous Pavement + Wearing Course (8" Bituminous Base Course & 8" Subbase)		SY	104	\$75.00	\$7,800.00
4	Milling and Bituminous Overlay (including Tack Coat)		SY	14,898	\$25.00	\$372,450.00
5	Leveling Course		TN	100	\$85.00	\$8,500.00
6	Plain Cement Concrete Curb		LF	469	\$30.00	\$14,070.00
7	Construction Surveying, Schedule, Equipment Package		LS	1	\$5,000.00	\$5,000.00
8	Pavement Markings & Signs		LS	1	\$25,000.00	\$25,000.00
9	<b>Subtotal Construction Cost</b>	<b>Items 1 - 8</b>				<b>\$444,000.00</b>
10	Maintenance and Protection of Traffic	Approx. 8% of Item 9				\$36,000.00
11	Mobilization	Approx. 5% of Item 9				\$23,000.00
12	Contingency	10% of Items 9 - 11				\$51,000.00
13	<b>Total Construction Cost</b>	<b>Items 9 - 12</b>				<b>\$554,000.00</b>
14	Construction Inspection	15% of Item 13				\$84,000.00
15	<b>Total Construction + Inspection</b>	<b>Items 13 - 14</b>				<b>\$638,000.00</b>
16	Engineering and Permitting	Approx. 15% of Item 13				\$84,000.00
17	<b>Total Project Cost (2016 Dollars)</b>	<b>Items 15 - 16</b>				<b>\$722,000.00</b>

NOTES AND ASSUMPTIONS:

Construction estimates are based on quantities derived from the conceptual plans included in the Route 30 Multimodal Transportation Study and unit prices from recently bid local projects with PennDOT oversight.

The following costs are rough estimates for budgeting purposes only: Engineering and Permitting, Utility Relocations, and Right of Way. The costs associated with these items will need to be determined through the development of the project.

Estimates of existing and required right of way were developed based on GIS data obtained from Chester County. Existing legal right-of-way lines or property lines have not been independently verified through field survey or deed research. Existing legal rights-of-way and existing property lines, as well as the size and location of any required rights-of-way (temporary or permanent), will need to be determined during the preliminary engineering of the project.

Right-of-way estimates include rough approximations for temporary and permanent easements, but do not include the cost of legal fees associated with right-of-way acquisition process.

The Engineer's Conceptual Opinion of Cost does not include relocating or resetting existing underground utilities within the limits of the project or the provision of any future utilities. Impacts to existing underground utilities will need to be determined during the preliminary engineering of the project through subsurface utility engineering. Due to visible evidence of subsurface utilities within the project area (underground electric, water, sewer, gas and telecommunication) it is recommended (and likely required by law) that utility test pits be performed during the preliminary engineering of the project.

The Engineer's Conceptual Opinion of Cost does not include any environmental remediation (including but not limited to removal and replacement of contaminated soils) or environmental impact mitigation.

Further evaluation of the existing signalized intersections within the project limits is required during the preliminary engineering of the project. This evaluation may result in the identification of other improvements and costs not identified within this Engineer's Conceptual Opinion of Cost.

The contingency and inspection percentages are based on PennDOT Publication 352. Inflation is not included and costs provided are in 2016 dollars.



Item No.	Description	Comment	Unit	Quantity	Unit Cost	Cost
	<b>Standard Items</b>					
1	Clearing and Grubbing		LS	1	\$10,000.00	\$10,000.00
2	Grading (includes topsoil and seeding)		SY	2,603	\$15.00	\$39,045.00
3	Full Depth Bituminous Pavement + Wearing Course (8" Bituminous Base Course & 8" Subbase)		SY	821	\$75.00	\$61,575.00
4	Driveway Adjustments		SY	450	\$60.00	\$27,000.00
5	Plain Cement Concrete Curb		LF	3,693	\$30.00	\$110,790.00
6	Plain Cement Mountable Curb		LF	228	\$40.00	\$9,120.00
7	Sidewalk		SY	1,253	\$75.00	\$93,975.00
8	Construction Surveying, Schedule, Equipment Package		LS	1	\$25,000.00	\$25,000.00
9	Pavement Markings & Signs		LS	1	\$15,000.00	\$15,000.00
10	ADA Accessible Curb Ramp		EA	14	\$6,500.00	\$91,000.00
11	Traffic Signal Upgrades		LS	1	\$30,000.00	\$30,000.00
	<b>Special Items</b>					
12	Gateway sign		LS	1	\$10,000.00	\$10,000.00
13	Bus Shelter		Ea	3	\$7,500.00	\$22,500.00
14	<b>Subtotal Construction Cost</b>	<b>Items 1 - 13</b>				<b>\$546,000.00</b>
15	Maintenance and Protection of Traffic	Approx. 10% of Item 14				\$55,000.00
16	Mobilization	Approx. 5% of Item 14				\$28,000.00
17	Drainage	Approx.20% of Item 14				\$110,000.00
18	Post Construction Stormwater Management	Approx. 10% of Item 14				\$55,000.00
19	Erosion and Sedimentation Control	5% of Item 14				\$28,000.00
20	Contingency	10% of Items 14 - 19				\$83,000.00
21	<b>Total Construction Cost</b>	<b>Items 14 - 20</b>				<b>\$905,000.00</b>
22	Construction Inspection	15% of Item 21				\$136,000.00
23	<b>Total Construction + Inspection</b>	<b>Items 21 - 22</b>				<b>\$1,041,000.00</b>
24	Engineering and Permitting	Approx. 25% of Item 21				\$227,000.00
25	Right-of-Way		LS	1	\$96,000.00	\$96,000.00
26	<b>Total Project Cost (2016 Dollars)</b>	<b>Items 23 - 25</b>				<b>\$1,364,000.00</b>

NOTES AND ASSUMPTIONS:

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