

Ligonier Valley Trail & Bikeway Feasibility Study

Ligonier, PA

June 2011

Prepared by:

GAI Consultants, Inc.

385 East Waterfront Drive

Homestead, PA 15120-5005

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gai consultants



Prepared for:

Ligonier Township Recreation Board

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Ligonier, PA 15658

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ACKNOWLEDGEMENTS

PROJECT PARTNERS

Ligonier Township, Ligonier Borough & Loyalhanna Watershed Association

PROJECT FUNDED BY

Richard King Mellon Foundation

THE COMMUNITY

Friends of the Ligonier Valley Trail
Public Meeting Attendees

ADVISORY COMMITTEE

Drew Banas – Loyalhanna Watershed Association

Diane Cipa – The Closing Specialists

Sharon Detar, Bob Gangawere, Bill Bright, Cathi Graham
& Elizabeth McCall – Ligonier Township Recreation Board

Richard Flickinger – Law Offices of Flickinger & Barr

Paul Fry & Sam Banales – Ligonier Borough

Barbara Golden

Olga Herbert – Lincoln Highway Heritage Corridor

Michael Kuzemchak – Western Pennsylvania Conservancy

Monty Murty – Trout Unlimited

James Pillsbury, MS, PE – Westmoreland County
Conservation District

Bridget Shirey – Holy Trinity School

Malcom Sias – Westmoreland County Parks & Roads/
Regional Trail Corporation

Tracy Stack – DCNR

Rose Stepnick – Project Manager

Joshua Zakovitch – PennDot District 12



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Introduction



THE LIGONIER BICYCLE CLUB - 1894

Established in 1894, the Ligonier Bicycle Club met weekly at the Echo office to organize races and cycling trips. Popular bike models of this time included "Rapid Traveler", "Eclipse Light Roadster", and "Crescent Scorcher". W.A. Peterson, Helen Miller, W.W. Murdoch, James M. Davis, Horace Hays, D.J. Graham, Gust. Keffer, R.A. Wilt, D.R. Sumstine, Emma Peterson, Jacob Peterson, Burt Morrow, and R.S. Keeler were the charter members of the club.

HISTORY OF THE LVTB

The Ligonier Township Recreation Board was formed in 2001 as an advisory board to the Ligonier Township Supervisors.

In 2002, the Board discussed the concept of putting a hiking/biking trail in Ligonier Township that would benefit the recreation and health of the community. A public survey was conducted, and it received an overwhelming, positive response. Westmoreland County Parks and Recreation was contacted, which informed the Board that there was a lack of trails in eastern Westmoreland County. In fact, the County's trail masterplan did not include the Ligonier Valley.

In 2003, the Board looked at the health benefits of the trail concept and partnered with PATH of the Latrobe Area

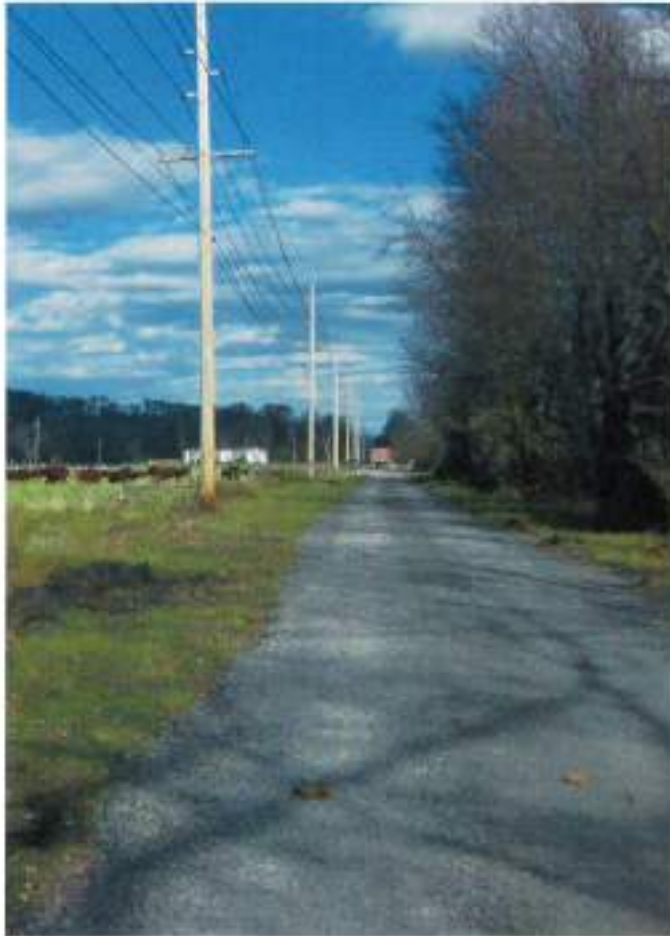
Hospital. By this time, more public interest was being shown by the general community of the Ligonier Valley, since the majority of bikers were packing up their bicycles and heading to other nearby trails in the region. The Board decided that there was a need to develop a trail for health and recreation opportunities, and also to promote the benefits of the Ligonier Valley. In 2004, the process of obtaining funding to conduct a feasibility study began.

The original goal of the Board was to develop a trail from Weller Field to Wilpen, the Loyalhanna Gorge, Fort Palmer, New Florence, and beyond.

This feasibility study is the culmination of a six-year effort to plan a trail network in the Ligonier Valley. For the development of the trail, it is only the beginning.



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VISION

A community project that continues a County, State, and National awareness of the need for public outdoor recreation while promoting "open space", health benefits, economic enhancement, environmental and historical education and preservation.

GOALS

To develop a Feasibility Study for Phase Two of the Ligonier Valley Trail & Bikeway to guide future design improvements and grant funding initiatives. This study will dramatically expand the existing Phase One trail network in all directions and connect residents and visitors to regional recreational, commercial, historical, and cultural amenities.

PROCESS

- prepare base mapping to study potential trail alignments
- evaluate existing conditions and constraints
- identify a primary route for the trail, and alternate routings
- identify property acquisition for the trail right-of-way
- prepare planning level cost estimates, and construction schedules
- determine regulatory approvals and permits



Above: Phase One of the Ligonier Valley Trail & Bikeway
Below: Public meeting held on December 6, 2010

PUBLIC INVOLVEMENT

As part of the process, a public meeting was held at the Ligonier Township Municipal Building in Ligonier on Monday, December 6, 2010.

The evening was kicked off by David Kahley, CEO of the Progress Fund, who talked about the economic benefit of trail towns along the Great Allegheny Passage. He was followed by Todd Brant, Landscape Architecture Manager of GAI Consultants, who presented the preliminary findings of the feasibility study. The group engaged in a lively discussion following the presentations. Feedback from the community has been incorporated into this final report.



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PROJECT STUDY AREA

The scope of this study is for Phase Two of the Ligonier Valley Trail & Bikeway. It builds upon Phase One, a half-mile section of shared-use trail constructed from the north shore of Mill Creek at Weller Field, north along a dedicated easement to the intersection with People Road. This section of trail was built in fall 2010. The project study area is organized in the following five sections:

- **North Section** – From the Phase One trail intersection at Peoples Road and ending at the Ligonier Township Municipal Building.
- **Town Section** – The limits of Ligonier Borough.
- **West Section** – From Ligonier Borough (intersection of West Main Street and Springer Road), along the Old Lincoln Highway Corridor paralleling Route 30, to Idlewild Park.

- **East Section** – From Ligonier Borough (intersection of Bell Street and East Main Street), along the Old Lincoln Highway Corridor paralleling Route 30, to the intersection with Route 381.
- **South Section** – From Ligonier Borough (intersection of Loyalhanna Street and South Market Street), along Route 711, to the Southern Alleghenies Museum of Art on Boucher Lane.

In addition to Phase Two, future expansion and conceptual routings to the Ligonier Valley Railroad Museum/Loyalhanna Gorge (west), Laughlintown (east), and Linn Run State Park (south) are also included. This would potentially be Phase Three of the Ligonier Valley Trail & Bikeway.



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SECTION A:
Project Context &
Corridor Analysis





CONTEXT

The Ligonier Valley is located in Westmoreland County nestled in the mountains of the Laurel Highlands. The Valley is comprised of the Borough of Ligonier and Ligonier Township. The Township entirely surrounds, but does not include the Borough. Their combined population is roughly 8,700 according to the 2000 census.

Nearby municipalities include Latrobe and Youngstown about ten miles to the northwest, Wilpen to the northeast approximately four miles, Laughlinton three miles to the southeast, and Rector about five miles to the south.

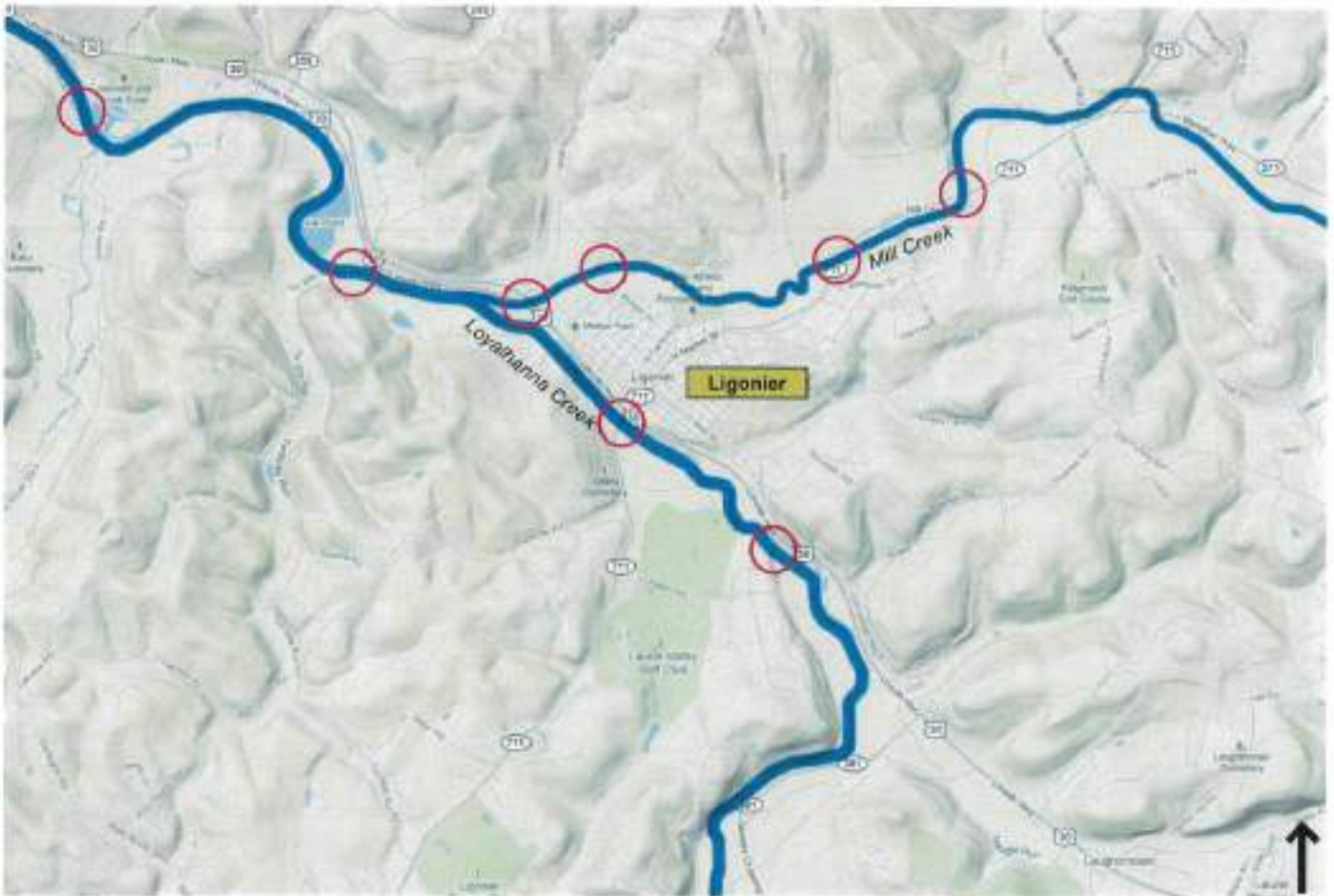
Fort Ligonier was built by British forces in 1758 during the French and Indian War, and the town was later settled in 1817. The Borough was incorporated in 1834 followed by the Township in 1882.



Ligonier, Pennsylvania



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Mill Creek near Weller Field

WATERWAYS

Being situated in a valley, Ligonier is traversed by two significant water bodies. The Loyalhanna Creek adjoins with the Conemaugh River to form the Kiskiminetas River, and flows northwest from Ligonier towards Latrobe. Its flow is regulated by the U.S. Army Corps of Engineers at Latrobe Reservoir. Mill Creek generally flows in a west-southwest direction through the project study area towards its confluence with Loyalhanna Creek about one mile west of Ligonier. Both creeks are popular trout fishing destinations.

Since waterways are also obstructions, it is important to note the bridges spanning them (red circles above). Loyalhanna Creek can be crossed at Peters Road, Route 711, Two Mile Run Road, and Clark Hollow Road. Mill Creek is bridged at Route 30, West Vincent Street, Route 711 at Peoples Road, and Route 711 at Brigade Lane.



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ROADWAYS: OLD LINCOLN HIGHWAY

Conceived and promoted by entrepreneurs, the Lincoln Highway was the first road to span coast-to-coast across the United States. The roadway was completed in 1913, and brought economic prosperity to many towns along its length.

The Old Lincoln Highway parallels today's Route 30 through the valley. The historic alignment can be experienced from about 300 feet west of the Route 30/381 intersection, along East and West Main Street in Ligonier Borough, to about 600 feet east of the Route 30/259 intersection.

The Lincoln Highway Heritage Corridor (LHHC) owns a parcel at the Route 30/259 intersection west of Ligonier.



View of Old Lincoln Highway through Ligonier



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Route 711 North near Ligonier Camp & Conference Center

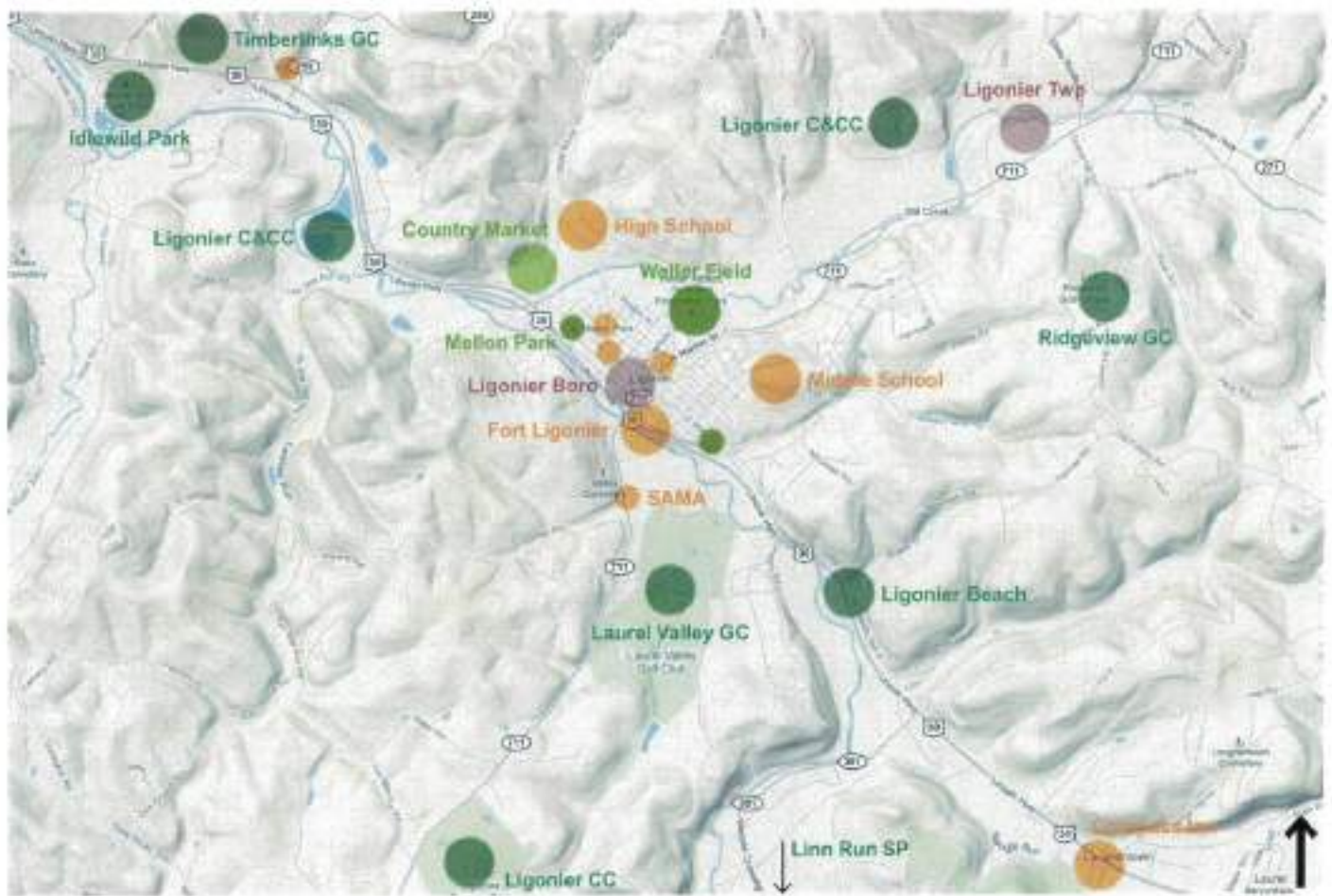
ROADWAYS: CURRENT SYSTEM

The current roadway network is comprised primarily of two-lane roads that interconnect towns and villages in the region. The street network within Ligonier Borough is a compact grid of two-lane neighborhood streets, some with on-street parking, and alleys.

Route 30 is the main east-west route, and is primarily a four-lane road. Approximately 1,000 feet east of its intersection with East Main Street, Route 30 transitions to two lanes. Route 711 is the primary north-south route, running from Seward through Ligonier (North and South Market Street within the Borough) and terminating in Connellsville. The Pennsylvania Turnpike (Interstate 70/76) can be accessed from Route 711 south of Ligonier at Donegal. Route 381 is another main north-south route that intersects with Route 711 at Jones Mills near Donegal.



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DESTINATIONS

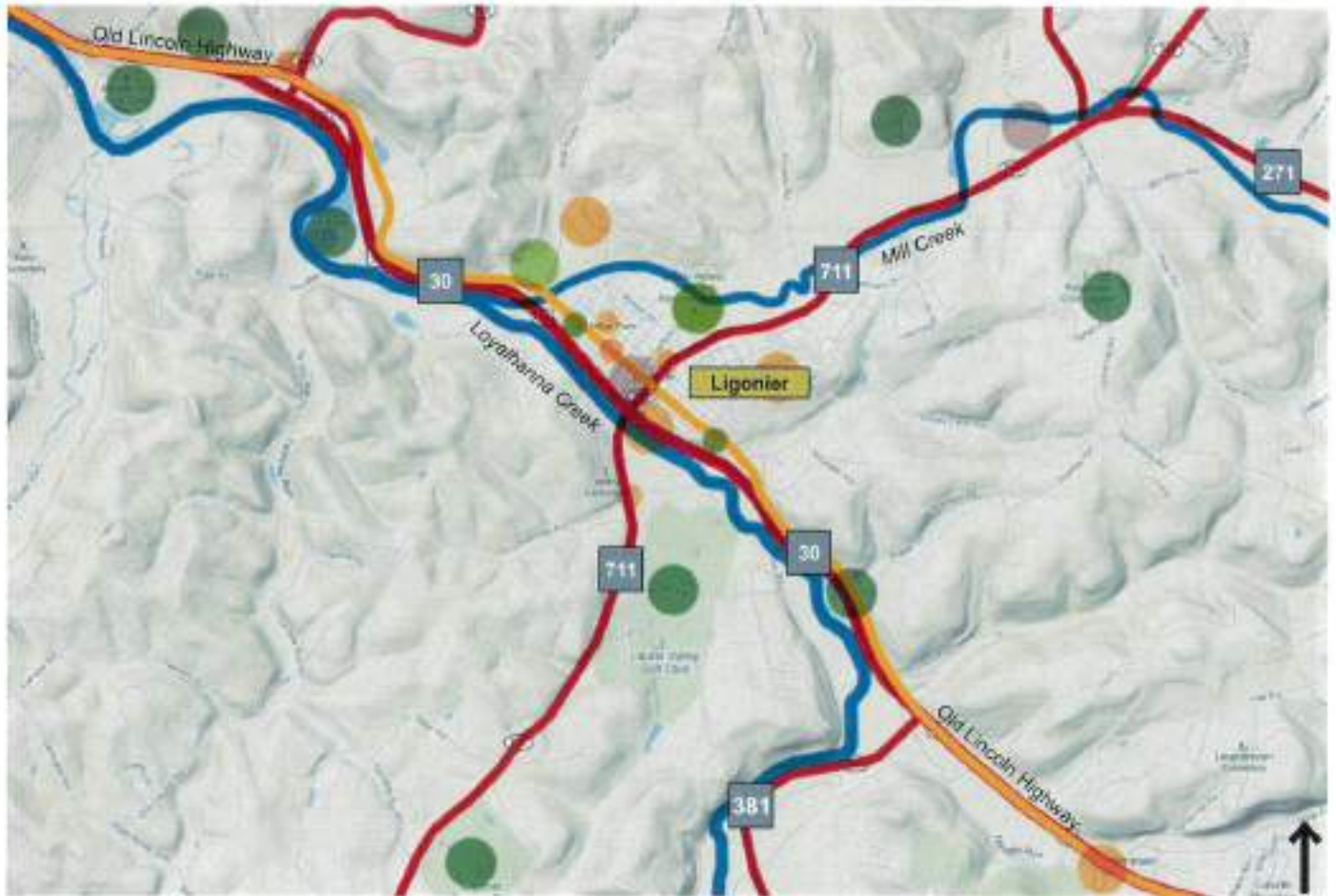
The Ligonier Valley is unparalleled with the quantity and quality of recreational and cultural destinations for its size.

Recreational destinations include numerous golf courses and clubs (Timberlinks Golf Club, Ligonier Country Club, Laurel Valley Golf Club, and Ridgeview Golf Club), Idlewild Park, Ligonier Camp & Conference Center, Ligonier Country Market, Mellon Park, Weller Field, YMCA, Ligonier Beach, and Linn Run State Park. The latter contains many recreational trails for all types of users. Several ski resorts are also nearby.

Fort Ligonier, Southern Alleghenies Museum of Art, Compass Inn, Ligonier Valley Library, and multiple schools are among some of the cultural destinations in the area.



The Diamond at the intersection of Market and Main Streets

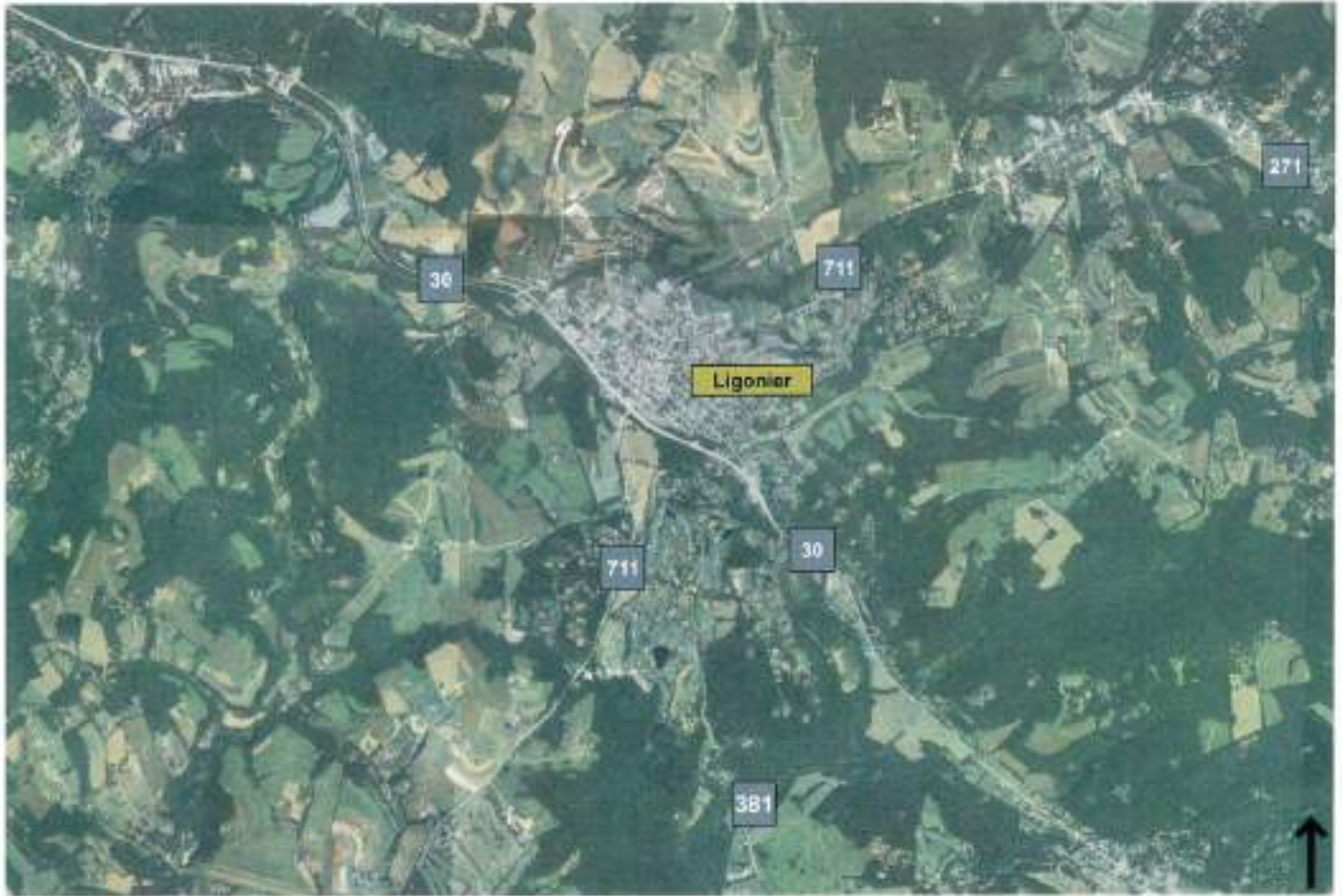


COMPOSITE

This map shows the inter-relationship of waterways, roadways, and destinations in the Ligonier Valley. The road network generally parallels Loyalhanna and Mill creeks and connects residents and visitors to the area's recreational and cultural destinations.



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AERIAL IMAGE: VEGETATION

This aerial image shows the general character of the vegetation within the Ligonier Valley. Natural, wooded areas and rural farm tracts are the dominant land cover in the region.





PROPERTY BOUNDARIES

This map depicts the property boundaries within the project study area. Smaller tracts dominate the Borough of Ligonier, and larger parcels are prevalent in Ligonier Township.





LAND USES

This map shows the dominant land uses in Ligonier Valley including, but not limited to:

- Cultural/Institutional - Fort Ligonier, Ligonier Valley Schools, Holy Trinity, Ligonier Valley Library, numerous places of worship, and the YMCA
- Civic - include the Borough of Ligonier and Ligonier Township
- Utility - Allegheny Power
- Parks/Open Space - Mellon Park and The Diamond
- Recreation - Timberlinks Golf Club, Idlewild Park, Weller Field, Laurel Valley Golf Club & Ligonier Beach

Other large property owners within the project study area include the Loyalhanna Watershed Association, Ligonier Camp & Conference Center, and Bethlen Homes.



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LAND USES: TOWN

This map shows the land uses within the Borough of Ligonier in more detail.

In addition the uses described on the previous page, people are attracted to many services that the town provides. These include a variety of retail, office, and restaurant destinations that are mainly situated along the pedestrian-friendly streets of West/East Main and North/South Market. Other destinations for visitors include the Ramada Inn on West Loyalhanna and several small inns, cottages, and bed and breakfasts.



SECTION B:
Trail & Bikeway Alignment





SYSTEM OVERVIEW

The Phase Two study area of approximately 9.2 miles is organized into the five sections listed below. For each segment, a primary alignment is identified. Alternative routes have been recommended for some of the sections.

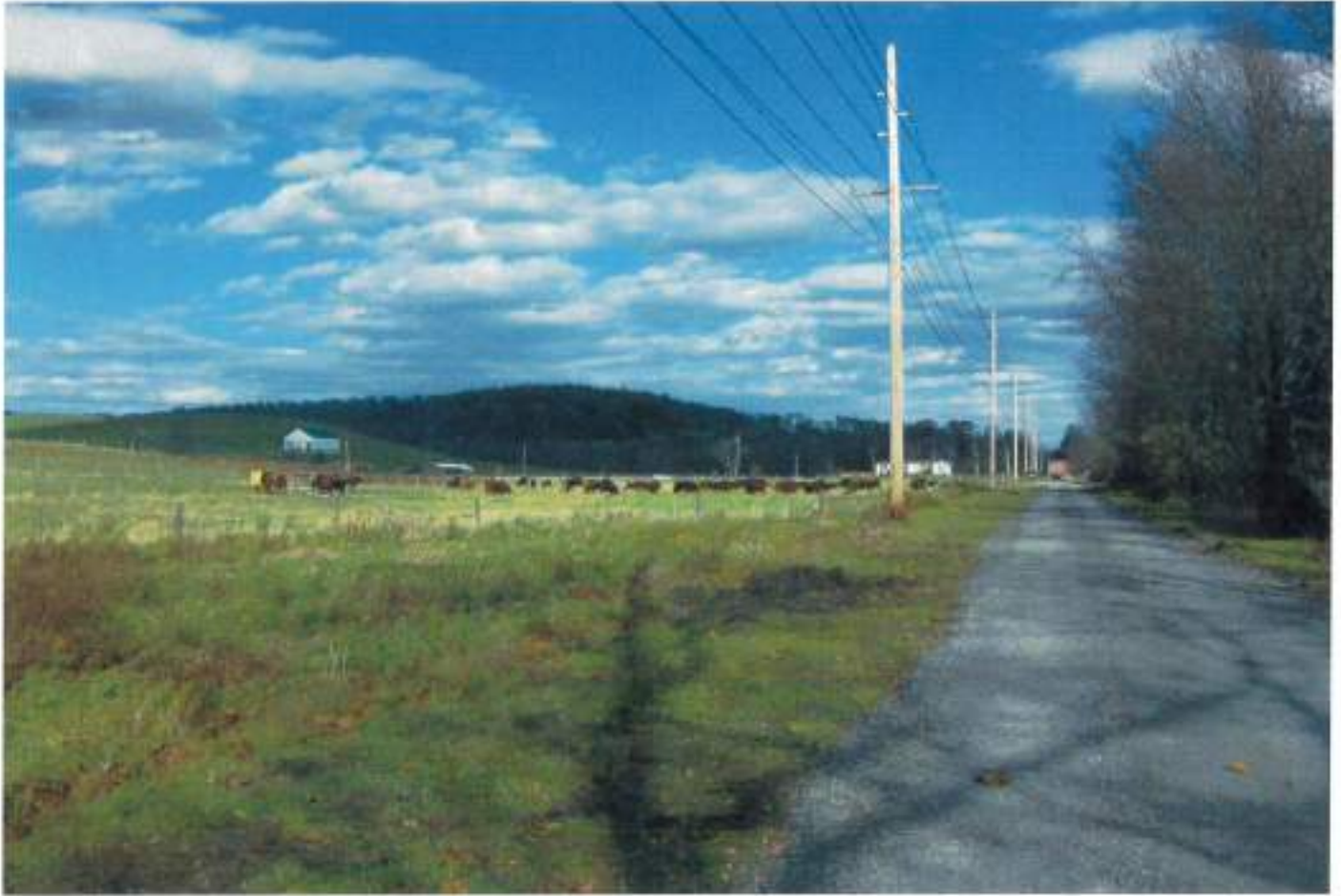
- **North Route** – Approximately 1.4 miles from the Phase One trail intersection at Peoples Road, adjacent to the Route 711 corridor, and ending at the Ligonier Township Municipal Building.
- **Town Route** – Approximately 3.5 miles generally located within the limits of Ligonier Borough.
- **West Route** – Approximately 2.2 miles from Ligonier Borough near the Country Market (intersection of West Main and Springer), along the Old Lincoln Highway Corridor paralleling Route 30, and terminating at Idlewild Park.

- **East Route** – Approximately 1.6 miles from Ligonier Borough (intersection of Bell and East Main), along the Old Lincoln Highway Corridor paralleling Route 30, and ending at the intersection with Route 381.
- **South Route** – Approximately 0.5 miles from Ligonier Borough (intersection of Loyalhanna and South Market), along Route 711, and ending at the Southern Alleghenies Museum of Art on Boucher Lane.

The main focus of this report is to provide continuity to existing trail and bicycle route facilities, and connect the community to high-demand uses in the area as economically as possible. To that end, an emphasis has been placed on locating the proposed route within existing public rights-of-way to limit the amount of initial property acquisition and cost.



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Above: Completed Phase One section of shared-use path
Below: Phase One section during construction



Paving a portion of the Phase One section



**SECTION B.1:
North Route**



LEGEND

- On-Road Route
- Shared-Use Path
- Alternate Route
- Culvert



NORTH ROUTE: PRIMARY ALIGNMENT

The proposed North Route begins at the end of the Phase 1 trail at Peoples Road, extends northeast, and ends at the Ligonier Township Municipal Building. This section is approximately 1.4 miles in length. Two phases are proposed: Phase 2.1 and 2.7 (see above).

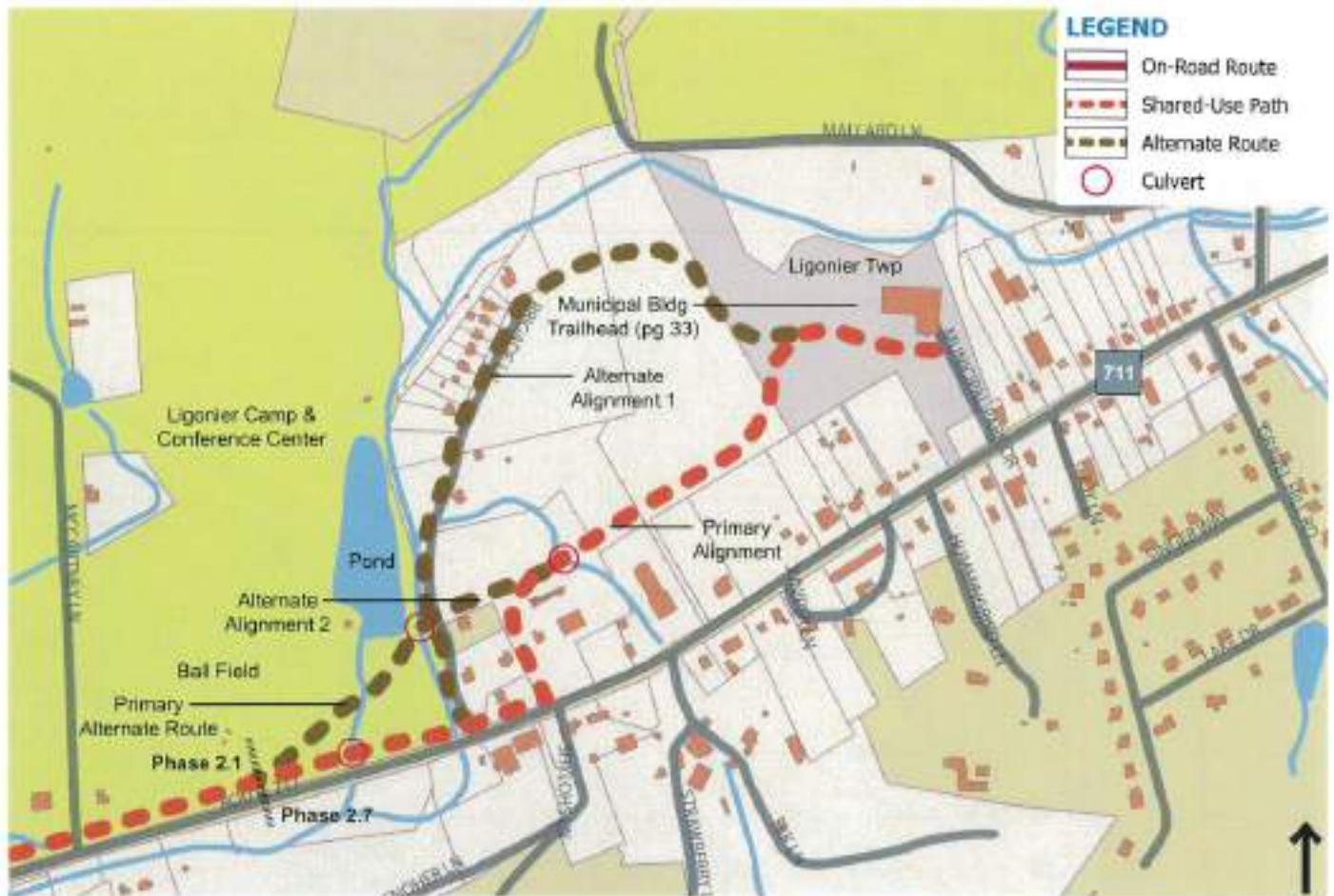
The route travels in an easement behind private parcels for roughly 0.2 miles. It then travels for about 0.7 miles through Ligonier Camp & Conference Center, mainly paralleling Route 711 (culverts will be required to cross several water courses in this section). At the road bridge, the route travels 0.1 miles (500 feet) along the southbound lane of Route 711, separated by a Jersey barrier, until it reaches the intersection of Shylahs Lane. The route then travels on private parcels (easements will be required) for 0.3 miles until it reaches the Municipal Building site.



Area of Ligonier Camp & Conference Center property where the trail is to be located (Route 711 is to the right)



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Aerial image showing both primary (orange: shared-route path) and alternatives (brown: on-road/shared-route combination) alignments to reach the Municipal Building Trailhead

NORTH ROUTE: ALTERNATE ALIGNMENT

Two potential routing alternatives, both in Phase 2.7, have been identified for the North Route.

Alternate 1 begins at the intersection of Route 711 and Brigade Lane, heads north on Brigade Lane, and ends at the Municipal Building Trailhead. This section is approximately 0.4 miles in length, and would replace 0.3 miles of the primary alignment. Alternate 2 initially takes the same route as the first alternative but makes a right off Brigade lane past the third lot then meets up with the primary alignment.

Brigade Lane is a private road, therefore an easement will be required for either of these route options. The benefit of these alternatives is a reduced trail length on Route 711, a busy thoroughfare, by about 300 feet.





NORTH ROUTE: LC&CC SOCCER FIELDS

The plan above shows a potential Phase 2.1 shared-use path alignment from behind the Golden property to the existing parking lot for the Ligonier Camp & Conference Center soccer fields. The route then parallels Route 711 on its way north towards the Ligonier Township Municipal Building.

An easement at the northeast corner of the Golden property will be needed for proper trail alignment in addition to an easement or agreement with the Ligonier Camp & Conference Center for use of their property. The area directly east of the Golden property is traversed by two water courses that would be crossed utilizing pipe culverts. At least three additional culverts will be needed for the section adjacent to Route 711.



Aerial image of Golden property and soccer field area on Ligonier Camp & Conference Center property



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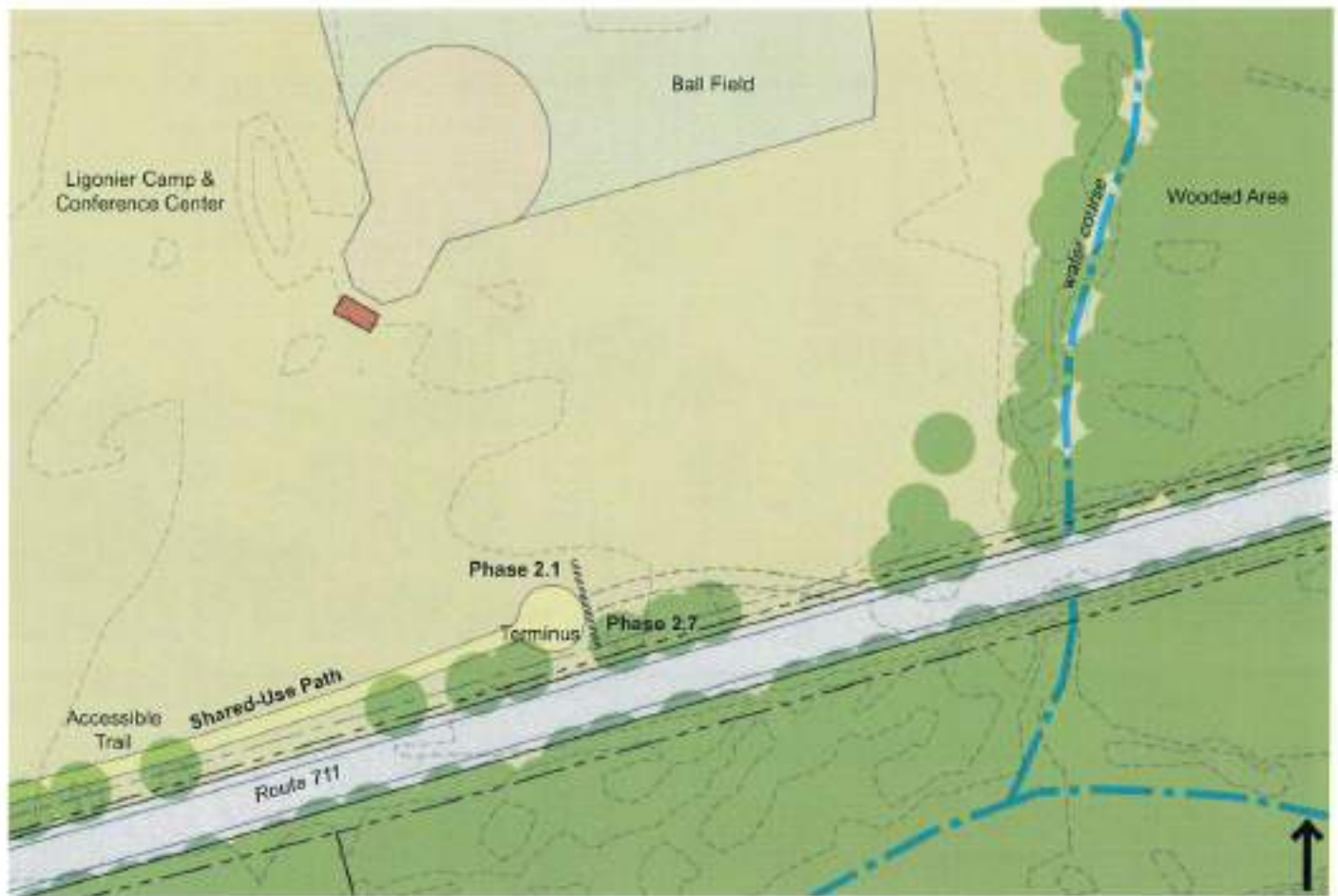
Aerial image showing proposed shared-use path alignment at intersection of Route 711 and Macartney Lane

NORTH ROUTE: LC&CC ENTRY

The plan above shows a potential Phase 2.1 shared-use path alignment crossing Macartney Lane on the Ligonier Camp & Conference Center property along Route 711. To clear an existing sign, the proposed trail is located approximately 50 feet back from Route 711. An existing tree on the western side of Macartney Lane, between the trail and Route 711, will have to be removed to provide adequate visibility for both trail users and motorists.



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NORTH ROUTE: LC&CC BALL FIELD

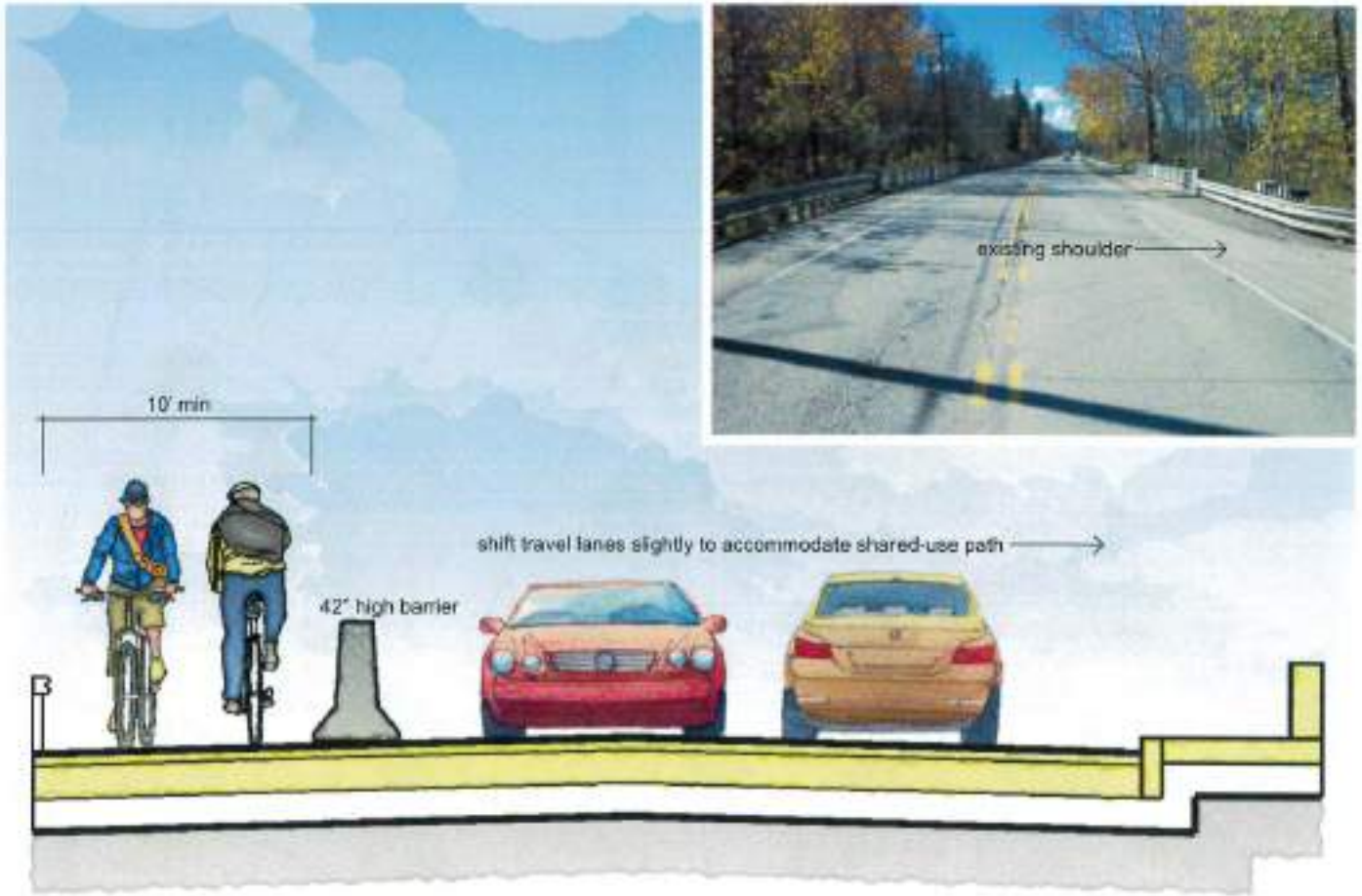
The plan above shows a potential Phase 2.1 shared-use path alignment at the ball field on the Ligonier Camp & Conference Center property along Route 711. The Phase 2.1 section of the route would terminate just west of an existing water course and grove of trees. Phase 2.7 would extend the trail to the Municipal Building Trailhead.



Aerial image of temporary Phase 2.1 trail terminus at ball field on Ligonier Camp & Conference Center property



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Top: Existing photo of Route 711 at Brigade Lane looking south
 Middle: Proposed Route 711 section illustrating Option 1
 Bottom: Existing Route 711 section at bridge just south of Brigade Lane

NORTH ROUTE: ROUTE 711 BRIDGE

For about 0.1 miles, or 500 feet, the route in Phase 2.7 travels along the southbound lane of Route 711. The existing road condition includes two travel lanes with wide shoulders on both sides. There are three options for extending the route north, which should be explored in further detail during the implementation phase.

Option 1 shifts the existing travel lanes south to accommodate a shared-use path along the southbound side of the road with a minimum 42-inch high barrier (as per AASHTO) until it reaches the Shylohs Lane intersection. Option 2 is to designate that section of Route 711 as a signed shared roadway ("Share the Road") route. Option 3 is to construct a new trail bridge, independent of the Route 711 bridge, that connects Ligonier Camp & Conference Center to Brigade Lane and Alternative Alignment 2.





NORTH ROUTE: BALTIC ROAD TRAILHEAD

The Baltic Road Trailhead, included Phase 2.1, is on an approximately 0.7 acre parcel that was gifted to Ligonier Township in 2010. The property is currently mostly wooded in character and contains a water course at its eastern end. The trailhead program includes:

- 16-car pervious parking lot including 1 van accessible space
- accessible walkway connections from the parking area to the existing Phase One shared-use path
- a pavilion and/or information kiosk
- small lawn areas for picnicking
- landscaped areas with native plants and rain gardens to filter stormwater runoff



Existing conditions of the Baltic Road Trailhead area



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Existing conditions of the Municipal Building Trailhead area

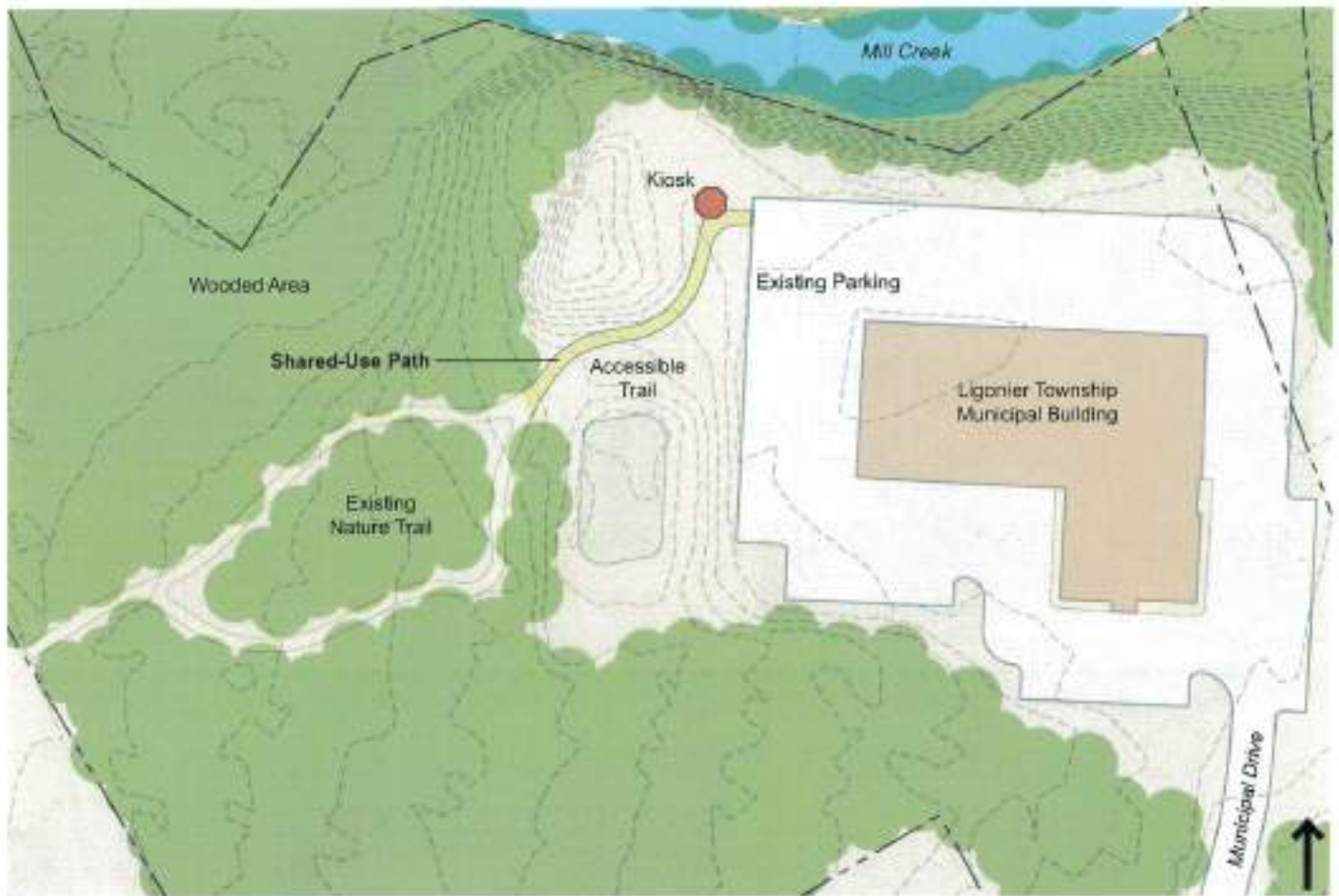
NORTH ROUTE: MUNICIPAL BUILDING TRAILHEAD - OPTION 1

The Municipal Building Trailhead, included in Phase 2.7, is on the site of the existing Township Municipal Building off Route 711 adjacent to Mill Creek. In Option 1, The accessible, shared-use path is extended from the existing Nature Trail to the existing parking spaces near the building's front entrance. The trailhead program includes:

- utilizes existing parking lot with accessible spaces (designate 10 spaces for dedicated trail parking)
- accessible shared-use path connection from the parking area to the existing Nature Trail
- a pavilion and/or information kiosk
- landscaped areas with native plants and rain gardens to filter stormwater runoff



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NORTH ROUTE: MUNICIPAL BUILDING TRAILHEAD - OPTION 2

The Municipal Building Trailhead, included in Phase 2.7, is on the site of the existing Township Municipal Building off Route 711 adjacent to Mill Creek. In Option 2, The accessible, shared-use path is extended from the existing Nature Trail to the existing parking spaces near the back of the building. The trailhead program includes:

- utilizes existing parking lot with accessible spaces (designate 10 spaces for dedicated trail parking)
- accessible shared-use path connection from the parking area to the existing Nature Trail
- a pavilion and/or information kiosk
- landscaped areas with native plants and rain gardens to filter stormwater runoff



Existing conditions of the Municipal Building Trailhead area



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**SECTION B.2:
Town Route**





TOWN ROUTE: PRIMARY ALIGNMENT

The proposed Town Route is the "hub" for the entire trail and bikeway network - from town, users can travel in all directions. This section is approximately 3.5 miles in length, and is comprised almost entirely of on-road routes within public rights-of-way designated by shared lane pavement markings, or sharrows (see page 64). Three phases are proposed: Phase 2.2 (bridge over Mill Creek), Phase 2.3 (on-road routes), Phase 2.9 (shared-use paths).

Designated north-south bikeway streets include Boquet, Fairfield, Kastner, Walnut, West Vincent, Springer, Ramsey, and Bell. East-west streets include Bunger, West Main, Railroad, Loyalhanna, Church, and the Old Lincoln Highway. A portion of shared-use path is proposed on Allegheny Power property (an easement is required) connecting the Mill Creek Trailhead to Kastner Street.



An example of an on-road route designated with a shared lane pavement marking, or sharrow (see page 64)



Aerial image showing both primary (orange & red) and alternative (brown) alignments

TOWN ROUTE: ALTERNATE ALIGNMENT

Two potential routing alternatives, both in Phase 2.3, have been identified for the Town Route.

Alternate 1 begins at the Mill Creek Trailhead, continues south along a dedicated easement, then continues on Allegheny Power property (an easement will be required) until it reaches Kastner Street to the west. This section is approximately 0.2 miles in length, and would replace 0.2 miles of the primary alignment.

Alternate 2 begins at the Mill Creek Trailhead, continues south along a dedicated easement, turns left onto Ligonier Borough property (south of the ball fields), then turns right onto Dice Alley. This section is approximately 0.2 miles in length, and would replace 0.3 miles of the primary alignment.





Bunger Street at North Dice Alley looking west



North Fairfield Street at Bunger Street looking north



Kastner Street looking north



West Vincent Street at Indian Street looking north



North Walnut Street near North Vincent Street looking north



West Main Street at North Walnut Street looking west





Railroad Street at South Walnut looking east



West Loyalhanna Street at South Grant Street looking east



East Loyalhanna Street at Marker Street looking west



East Church Street at Marker Street looking west



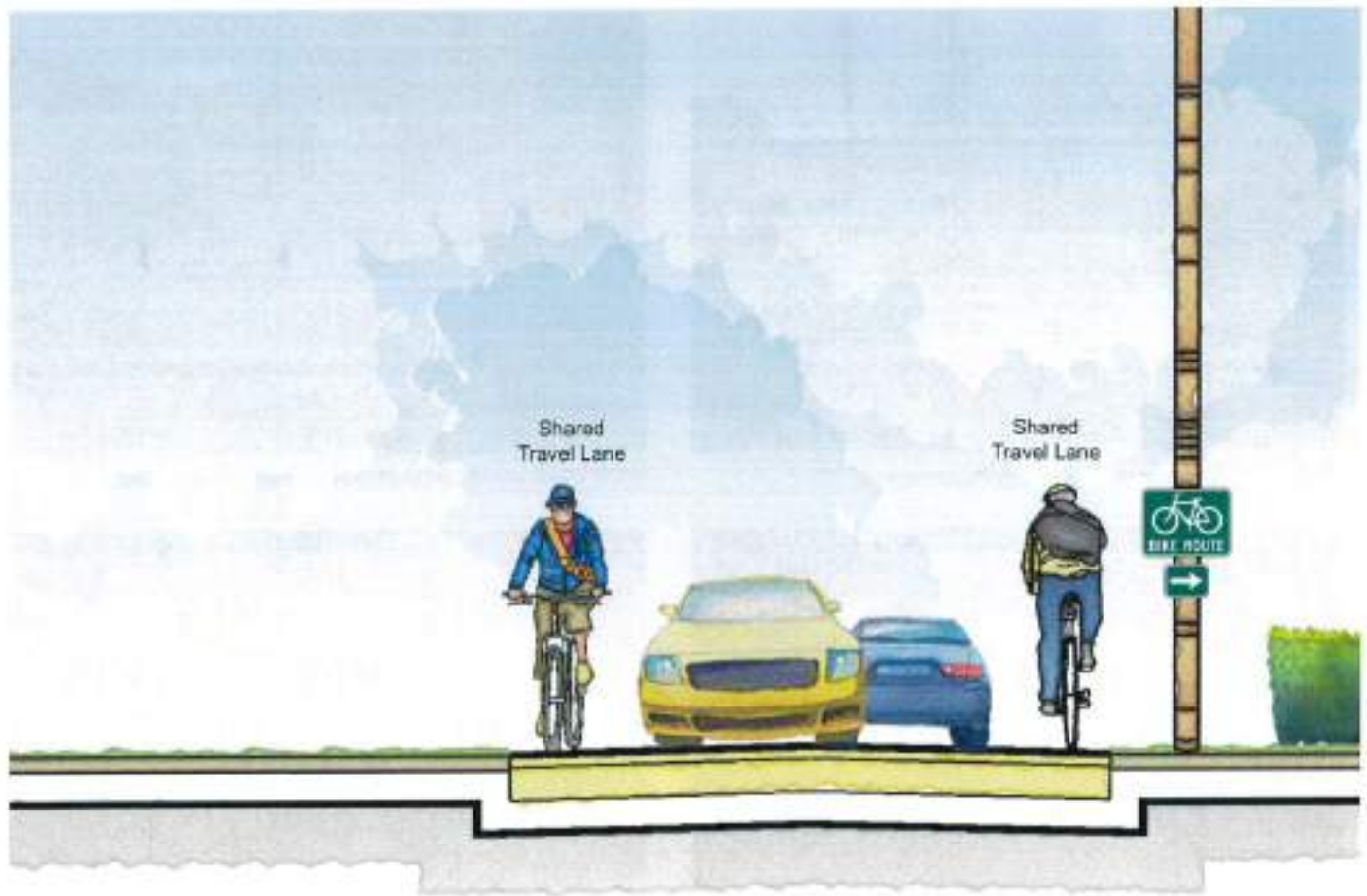
Bell Street at Bank Alley looking south



Old Lincoln Highway East near Bell Street looking east

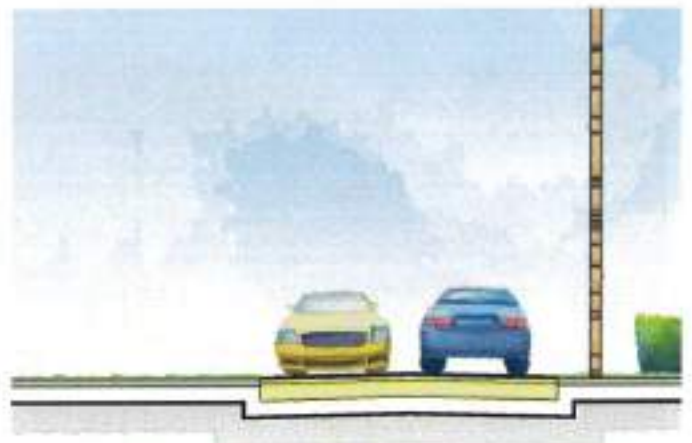


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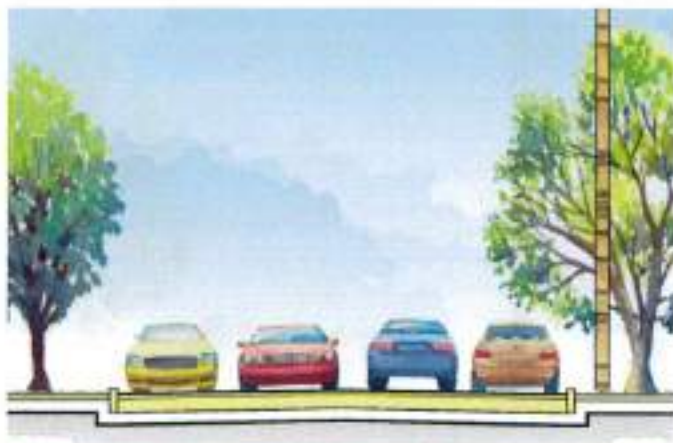
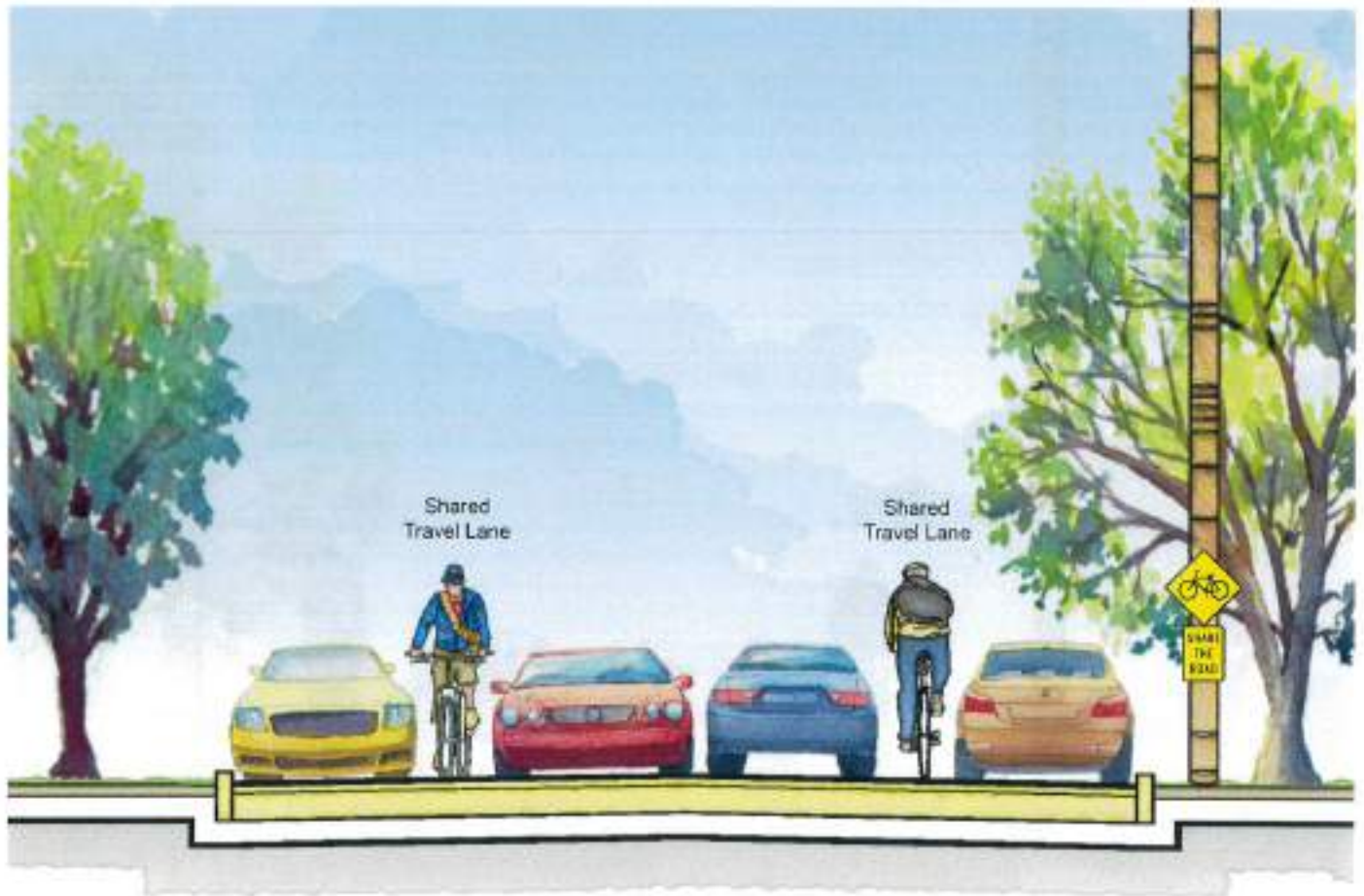


TOWN ROUTE: BUNGER STREET

A portion of the Town Route travels along Bunger Street where the existing road condition consists of two travel lanes. The proposed primary alignment is a shared travel lane in either direction along Bunger Street that would be designated by a sharrow and signage.



Existing condition on Bunger Street showing two travel lanes



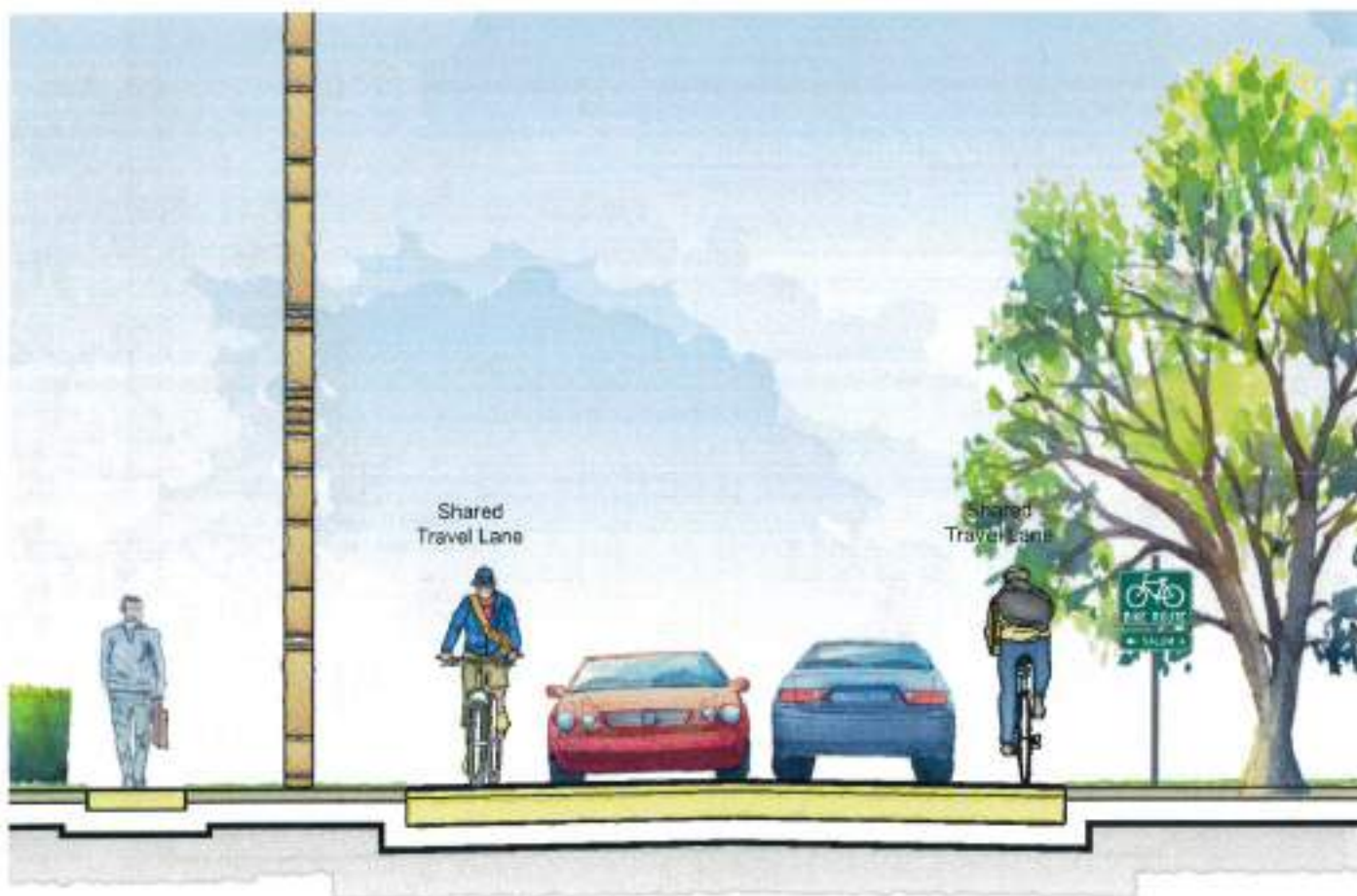
Existing condition on West Main Street showing two travel lanes and on-street parking on either side

TOWN ROUTE: WEST MAIN STREET

A portion of the Town Route travels along West Main Street where the existing road condition consists of two travel lanes and on-street parking on either side. The proposed primary alignment is a shared travel lane in either direction along West Main Street that would be designated by a sharrow and signage.

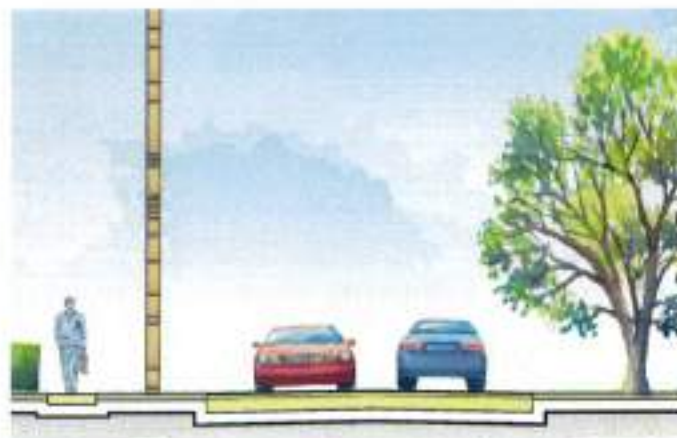


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TOWN ROUTE: WALNUT STREET

A portion of the Town Route travels along North and South Walnut Street where the existing road condition consists of two travel lanes and sporadic on-street parking. The proposed primary alignment is a shared travel lane in either direction along North and South Walnut Street that would be designated by a sharrow and signage.



Existing condition on Walnut Street showing two travel lanes.





Existing conditions of the Mill Creek Trailhead area

TOWN ROUTE: MILL CREEK TRAILHEAD

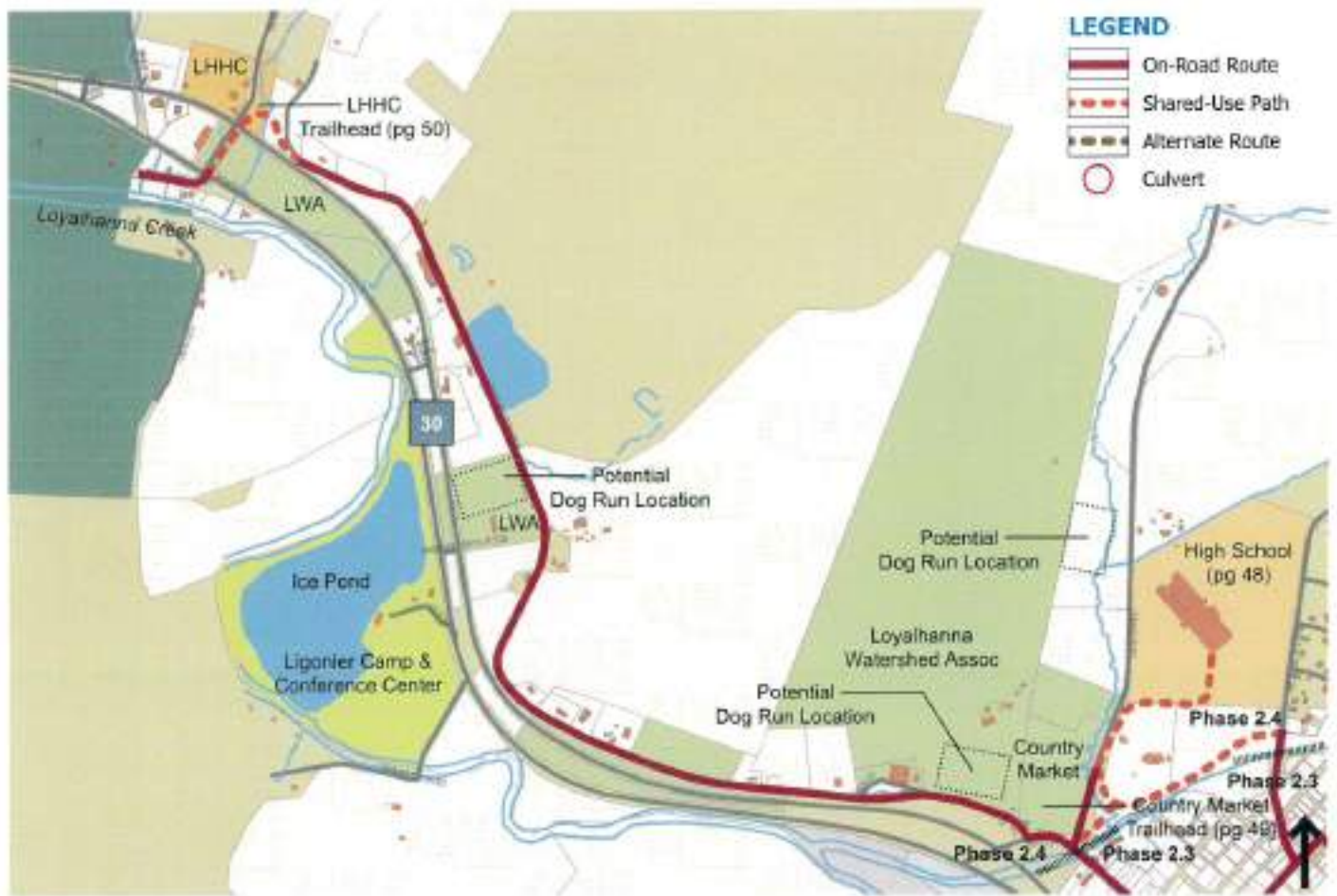
The Mill Creek Trailhead, included in Phase 2.3, is located on the south shore of Mill Creek North of Weller Field. The property is currently used as a gravel parking area. The trailhead program includes:

- 52-car pervious parking lot including 2 van accessible spaces (designate 14 spaces for dedicated trail parking)
- accessible walkway connections from the parking area to the proposed shared-use path and trail bridge over Mill Creek
- ramp with landings from bridge to accessible trail
- a pavilion and/or information kiosk
- landscaped areas with native plants and rain gardens to filter stormwater runoff



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**SECTION B.3:
West Route**



WEST ROUTE: PRIMARY ALIGNMENT

The proposed West Route begins at the end of Phase 2.3 at Mill Creek, extends northwest, and ends at Idlewild Park. This section is approximately 2.2 miles in length. Two phases are proposed: Phase 2.4 (on-road routes) and Phase 2.8 (shared-use paths).

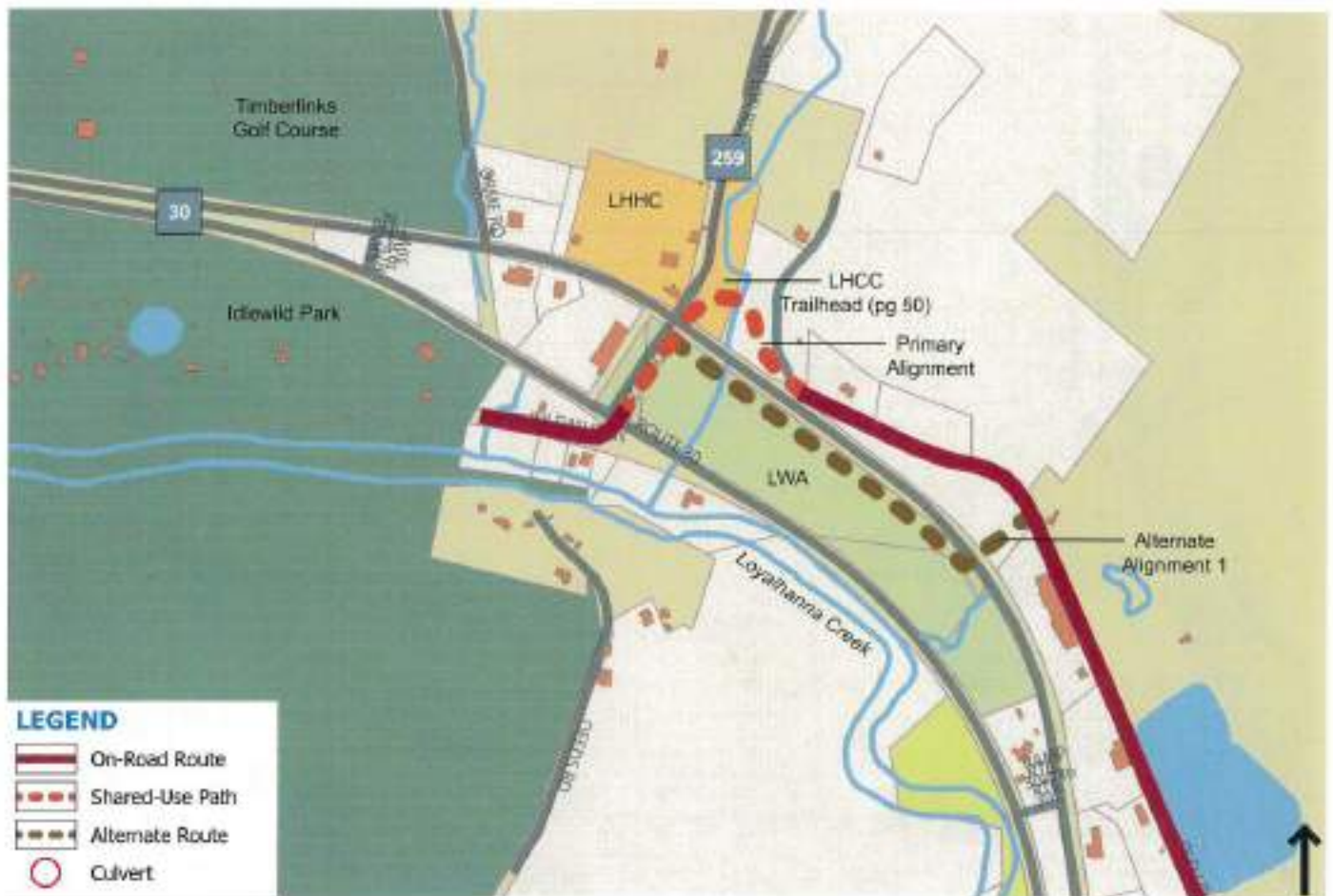
The on-road route travels in the public right-of-way on Old Lincoln Highway from the Country Market Trailhead for approximately 1.6 miles. It then transitions to a shared-use path and travels for about 0.2 miles in public right-of-way, on private property, and property owned by the Lincoln Highway Heritage Corridor (easements will be required). A new trail bridge is proposed to cross an existing water course. From there, the route travels 0.1 miles (500 feet) south across both westbound and eastbound lanes of Route 30 until it reaches Idlewild Lane.



Aerial image showing the primary (orange & red) alignment at the LHHHC site



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Aerial image showing both primary (orange & red) and alternative (brown) alignments

WEST ROUTE: ALTERNATE ALIGNMENT

One potential routing alternative has been identified for the West Route. Alternate 1 begins at a service drive along the Old Lincoln Highway, heads south across Route westbound Route 30, travels west through Loyahanna Watershed Association (LWA) property, turns left and parallels Route 259, and ends at the Idlewild Road after crossing eastbound Route 30. This section is approximately 0.3 miles in length, and would replace 0.3 miles of the primary alignment.

All portions of this alternative alignment would be a shared-use path. Easements will be required through several parcels for this route option to become a reality. The benefit of this alternative is that it eliminates the need to climb a steeper portion of the primary alignment. This section could be built in addition to the main route.





WEST ROUTE: LIGONIER VALLEY HIGH SCHOOL

The plan above shows a potential Phase 2.8 shared-use path alignment that connects Carey School Road to Springer Road, and provides an alternate route to the Country Market. Easements will be required on two private parcels, the American Legion and Valley Youth Network properties. The trail is aligned in order to not limit development on either parcel.

A connection from Ligonier Valley High School to the shared-use path is provided at the northern property line of the Valley Youth Network parcel. A new sidewalk is proposed from the school's main entrance to the existing parking area south of the ball field where it connects to the trail.



Aerial image of the Ligonier Valley High School area



Existing conditions of the Country Market Trailhead area

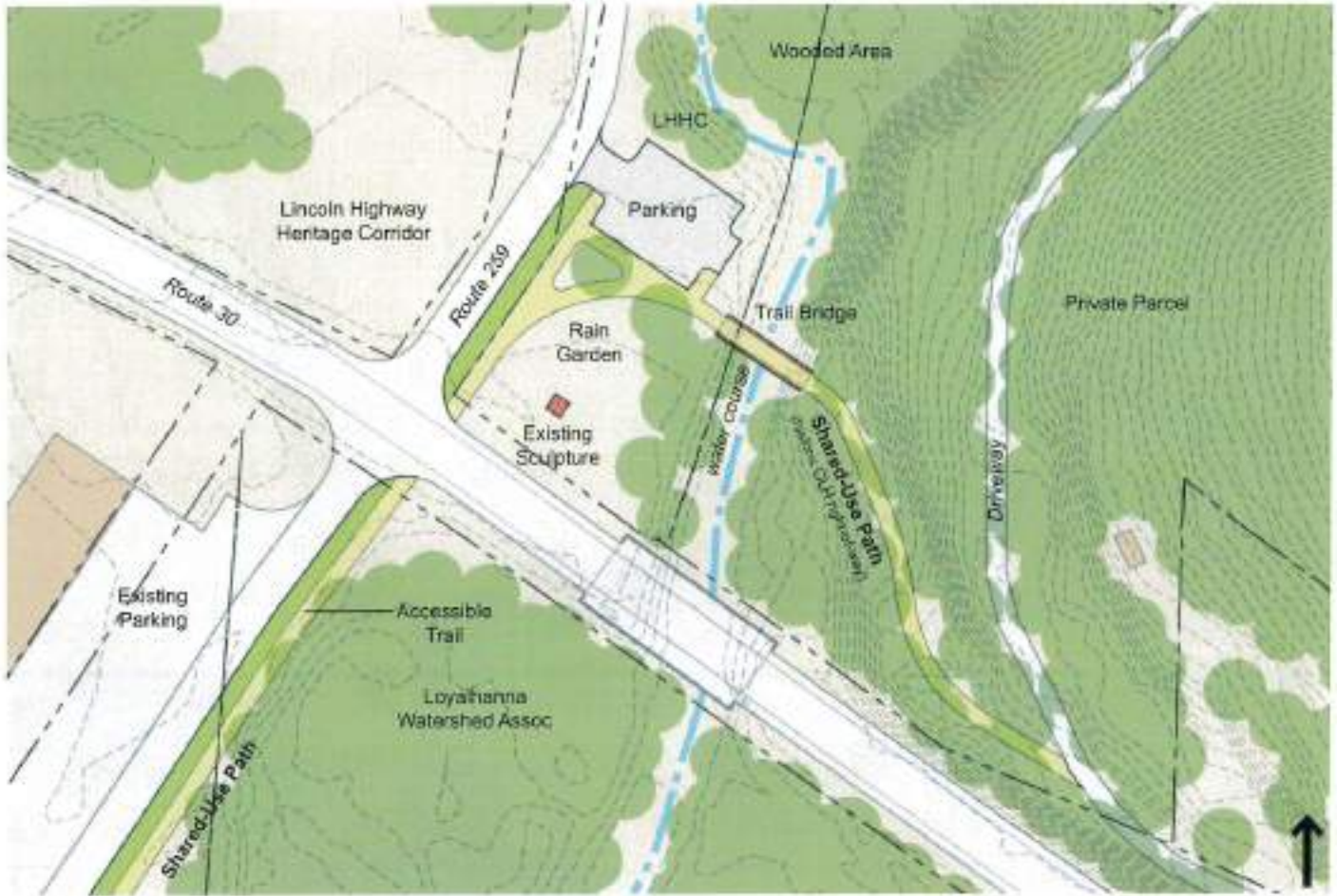
WEST ROUTE: COUNTRY MARKET TRAILHEAD

The Country Market Trailhead is located on a parcel that is controlled by the LWA, who is proposing to create a multi-purpose trail, including landscaping improvements, in the area between the existing parking area and West Main Street/Old Lincoln Highway. The trailhead program includes:

- utilizes existing parking lot at Country Market (designate 10 spaces for dedicated trail parking)
- accessible walkway connections from the existing parking area to the proposed shared-use path
- a pavilion and/or information kiosk (proposed by LWA)
- landscaped areas with native plants (proposed by LWA)



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WEST ROUTE: LINCOLN HIGHWAY HERITAGE CORRIDOR TRAILHEAD

The Lincoln Highway Heritage Corridor Trailhead, included Phase 2.8, is on a parcel that is owned by the LHC at the intersection of Route 30/259. Installation of signs and pavement markings (as per MUTCD and AASHTO) will be required to alert trail users and motorists of the Route 30 crossing. The trailhead program includes:

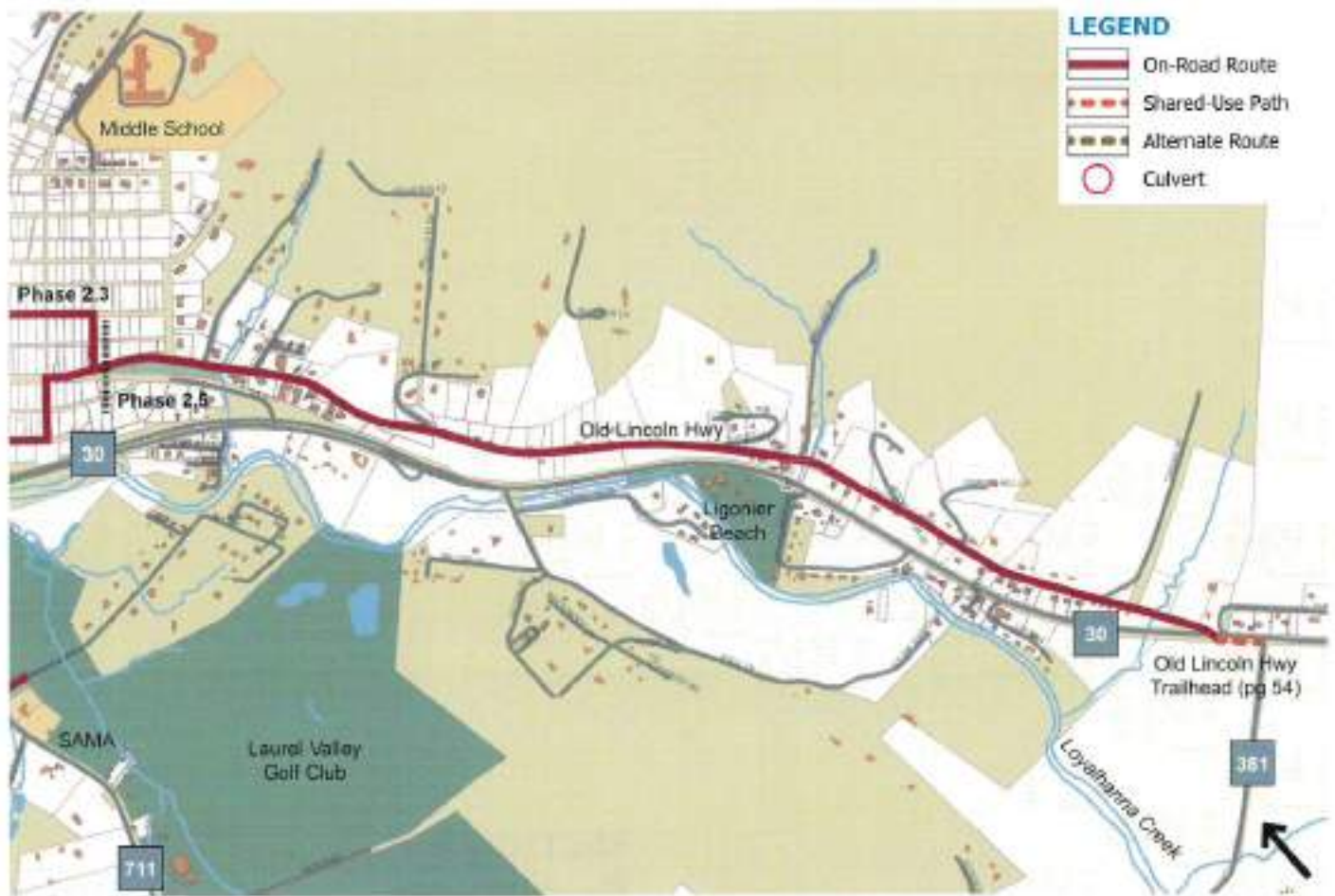
- 15-car pervious parking lot including 1 van accessible space
- accessible walkway connections from the parking area to the proposed shared-use path
- an information kiosk
- small lawn area for picnicking
- landscaped areas with native plants and rain gardens to filter stormwater runoff



Existing conditions of the Lincoln Highway Heritage Corridor Trailhead area

SECTION B.4: East Route





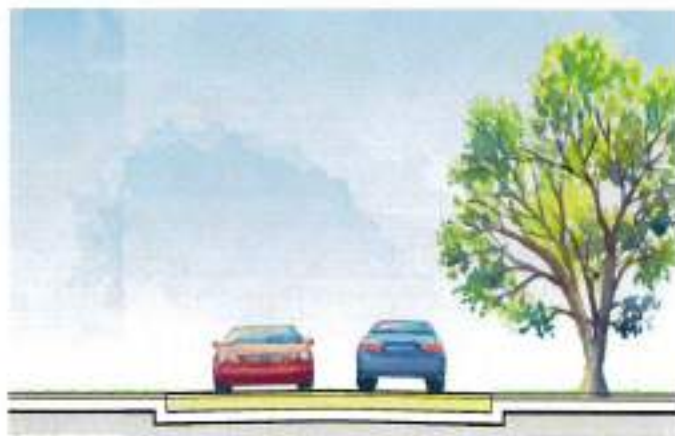
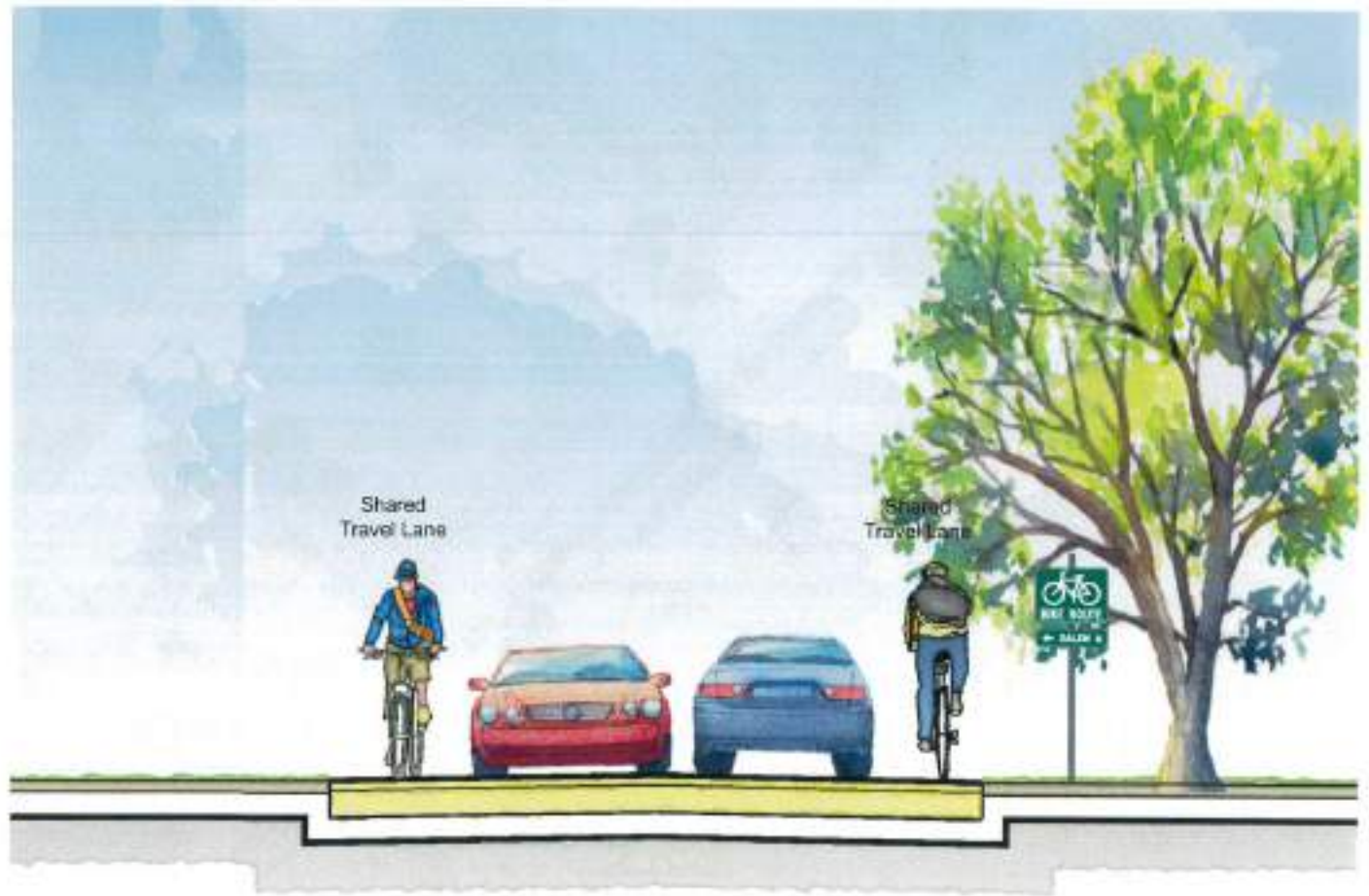
EAST ROUTE: PRIMARY ALIGNMENT

The proposed East Route, Phase 2.5, begins at the intersection of Bell Street and Old Lincoln Highway, extends southwest, and ends at the Route 30/381 intersection. This section is approximately 1.6 miles in length.

The on-road route travels in the public right-of-way on Old Lincoln Highway from the intersection with Bell Street for approximately 1.5 miles. It then crosses Route 30 and transitions to a shared-use path for an additional 0.1 miles (400 feet) in public right-of-way until it reaches Route 381, where it continues as an existing signed shared roadway ("Share the Road") route to Linn Run State Park.



Aerial image showing the primary (red) alignment



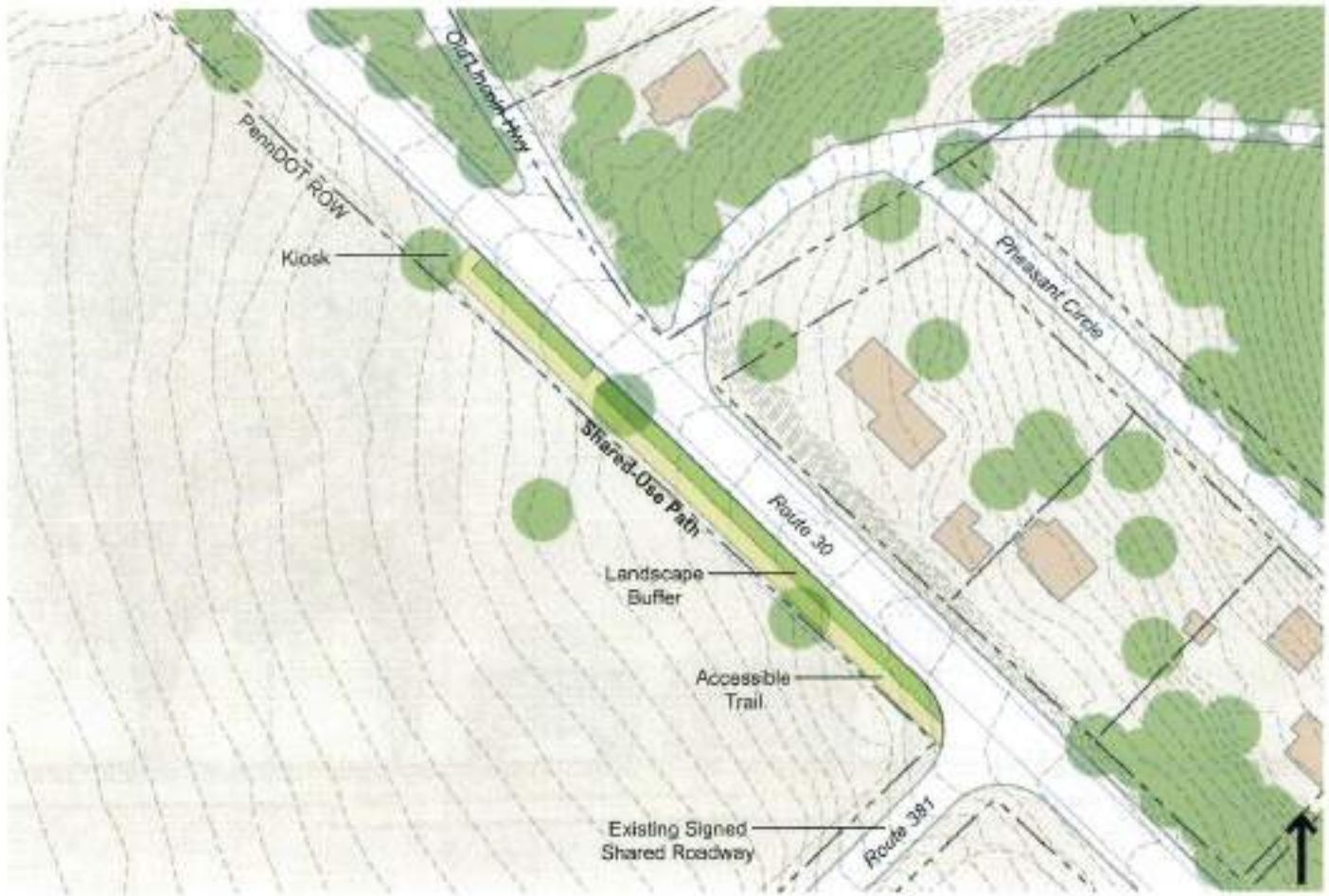
Existing condition on Old Lincoln Highway showing two travel lanes

EAST ROUTE: OLD LINCOLN HIGHWAY

A majority of the East Route travels along Old Lincoln Highway where the existing road condition consists of two travel lanes. The proposed primary alignment is a shared travel lane in either direction along Old Lincoln Highway that would be designated by a sharrow and signage.



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EAST ROUTE: OLD LINCOLN HIGHWAY TRAILHEAD

The Old Lincoln Highway Trailhead is located at the Old Lincoln Highway/Route 30 intersection. Installation of signs and pavement markings (as per MUTCD and AASHTO) will be required to alert trail users and motorists of the Route 30 crossing. The trailhead program includes:

- accessible shared-use path
- an information kiosk
- 10 foot wide landscape buffer between the shared-use path and Route 30 (with possible 42-inch high vertical barrier if determined necessary during implementation phase)
- landscaped areas with native plants and rain gardens to filter stormwater runoff



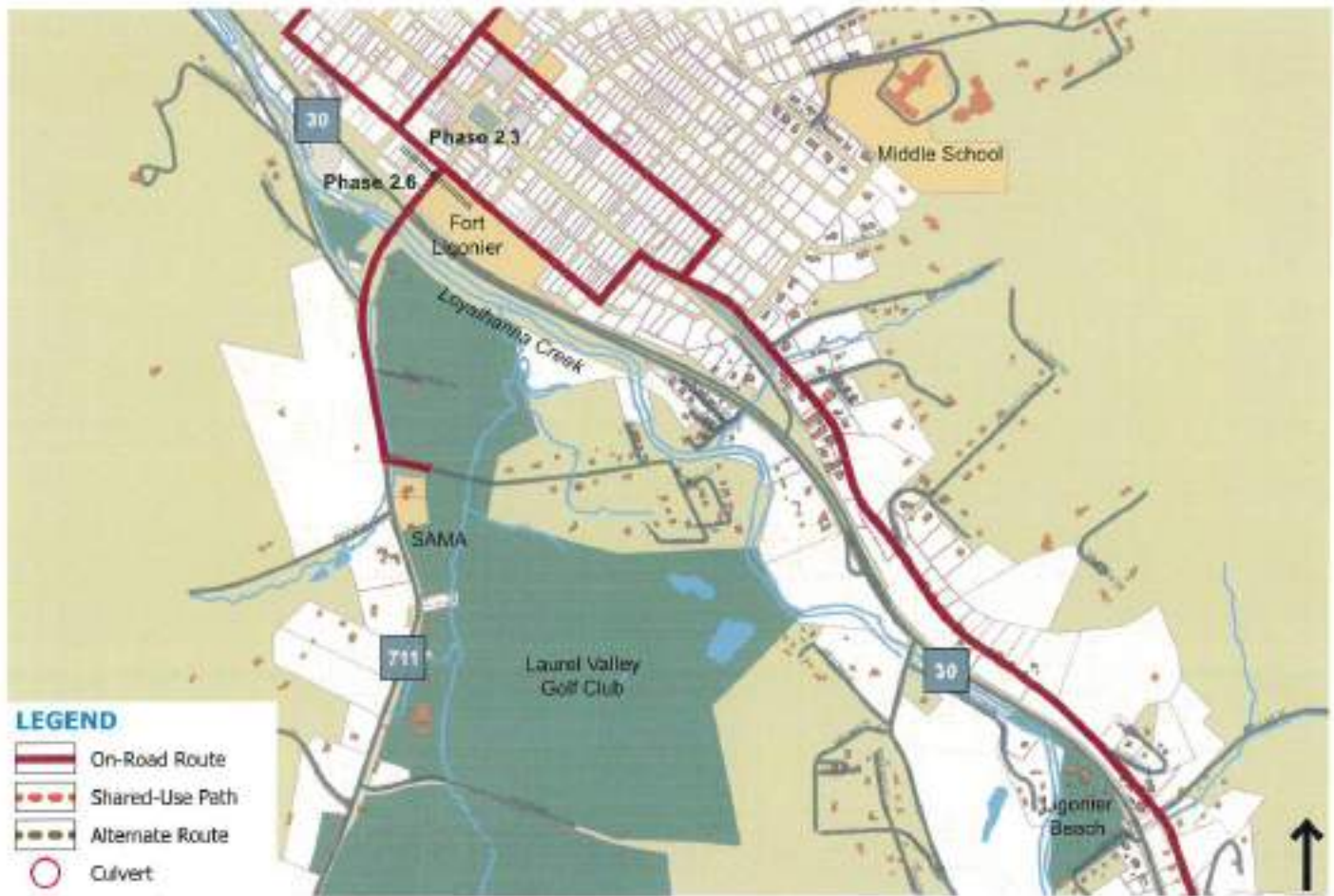
Existing conditions of the Old Lincoln Highway Trailhead area



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**SECTION B.5:
South Route**





SOUTH ROUTE: PRIMARY ALIGNMENT

The proposed South Route, Phase 2.6, begins at the intersection of Loyalhanna Street and South Market Street (Route 711), extends south, and ends at the Southern Alleghenies Museum of Art on Boucher Lane. This section is approximately 0.5 miles in length.

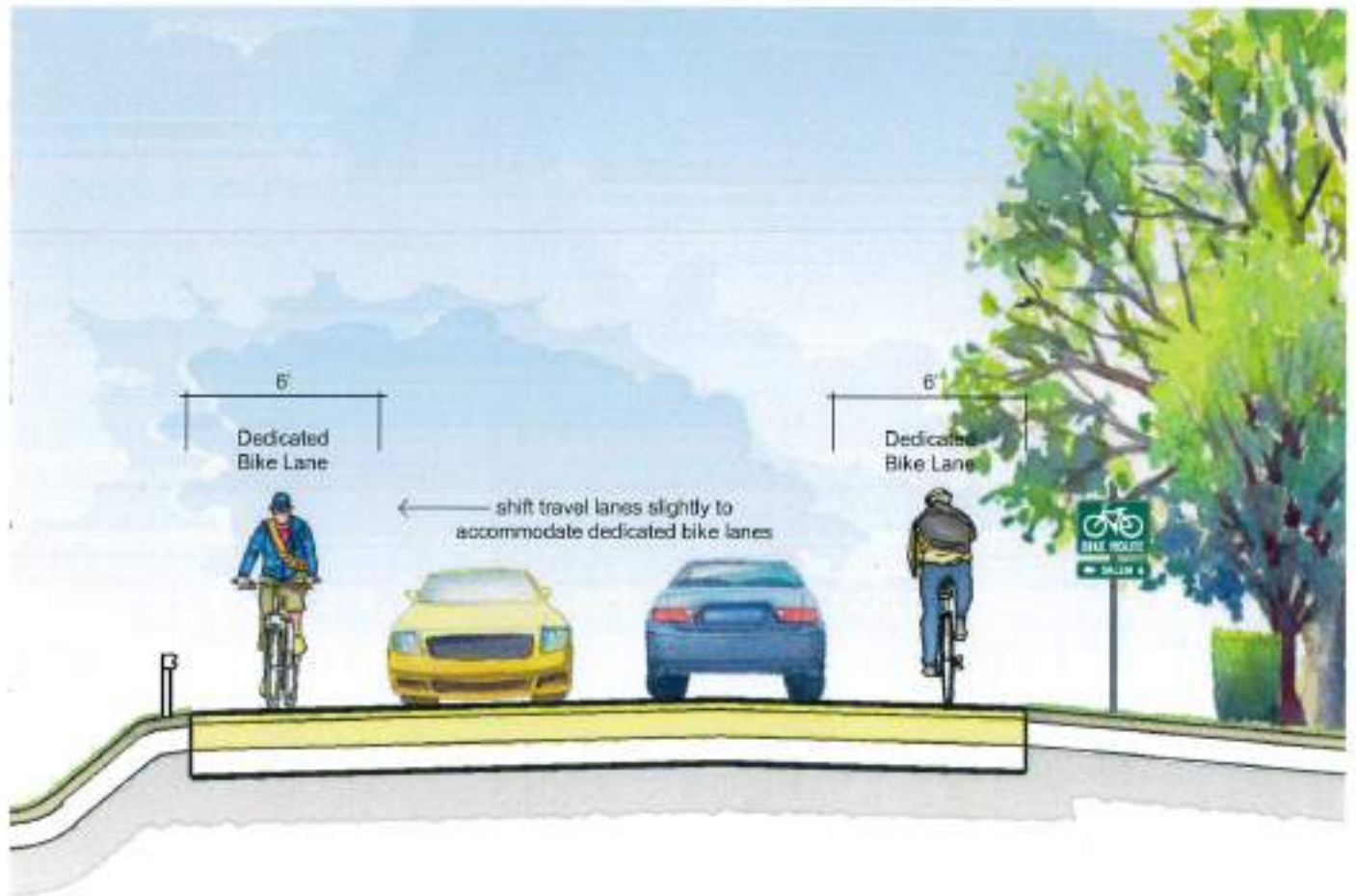
The on-road route travels in the public right-of-way on South Market Street (Route 711) from the intersection with Loyalhanna Street for approximately 0.1 miles (400 feet). It then crosses Route 30 and continues for an additional 0.4 miles in public right-of-way until it reaches the museum on Boucher Lane.



Aerial image showing the primary (red) alignment



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Top: Proposed Route 711 section illustrating Option 1
 Bottom: Existing condition on Route 711 south of Route 30 showing two travel lanes

SOUTH ROUTE: ROUTE 711

The South Route travels along Route 711 where the existing road condition consists of two travel lanes. There are two options for extending the route south, which should be explored in further detail during the implementation phase.

Option 1 designates a dedicated bike lane in either direction along Route 711 that would be delineated by pavement markings and signage (as per MUTCD and AASHTO) until it reaches the intersection with Boucher Lane. Option 2 is to designate that section of Route 711 as a signed shared roadway ("Share the Road") route, similar to existing Route 381 south of Route 30. Design upgrades to the existing roadway may be deemed necessary to accommodate bike traffic including bicycle-safe drainage grates, bridge expansion joints, and upgrading paved shoulders.



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SECTION B.6:
Future Expansion





WEST ROUTE: FUTURE EXPANSION

The scope of the feasibility study terminates on the eastern edge of Idlewild Park at Idlewild Lane. Future expansion of the West Route could travel about 5.0 miles through Idlewild Park and Loyalhanna Gorge Greenway until it reaches Latrobe. This route would follow portions of the historic Ligonier Valley Rail Road (LVRR) line, which ended service in 1952. The LVRR Museum, recently opened in 2010, is housed in a newly renovated Darlington Station off Idlewild Hill Lane. The Greenway, overseen by the County Parks & Recreation Department, stretches from Idlewild Park northwest to the Kingston Dam near the Route 30/217 intersection, and links the Chesnut Ridge and Laurel Hill Greenways. A major hurdle to achieving this future connection would be acquiring property and/or easements through the Idlewild Park property.



Above: Conceptual future expansion route (orange dots)
 Below: Restored Darlington Station off Idlewild Hill Lane currently houses the LVRR Museum (from Ligonier Valley Rail Road Museum)



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Above: Conceptual future expansion route (orange dots)
 Below: Compass Inn Museum on Route 30 in Laughlintown (from Compass Inn Museum)

EAST ROUTE: FUTURE EXPANSION

The scope of the feasibility study terminates at the Old Lincoln Highway Trailhead at the Route 30/381 intersection. Future expansion of the East Route could extend approximately 1.1 miles along Route 30 until it reaches Laughlintown. At the center of town lies the Compass Inn Museum, a historic stagecoach stop built in 1799 and used until 1862 when the railroads became popular. Across California Avenue from the museum is Ligonier Country Inn. Laughlintown is also home to another regional landmark, The Pie Shoppe, which has been in business for 65 years. Property issues would restrict the future connection to Laughlintown to a signed shared roadway ("Share the Road") along Route 30. Portions of the route may be configured as a shared use path within the PennDOT right-of-way from Route 381 east about 0.25 miles.



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ALT SOUTH ROUTE: FUTURE EXPANSION

The scope of the feasibility study terminates at the Old Lincoln Highway Trailhead at the Route 30/381 intersection. Future expansion of an Alternative South Route could extend approximately 4.7 miles along Route 381, through Rector, and onto Linn Run Road to Linn Run State Park. The park is 612 acres of mixed hardwood and evergreen forest and is a popular place for picnicking and hiking. It borders 50,000-acre Forbes State Forest. Within Linn Run, there are approximately 6.25 miles of hiking trails. Bicycles are not permitted on the trails in Linn Run but are permitted on designated trails in Forbes State Forest. The route would follow Route 381, currently designated a signed shared roadway, for 3.0 miles then along a newly designated signed shared route on Linn Run Road for another 1.7 miles. An alternative route could follow the Old Linn Run Road right-of-way to the Valley School property.



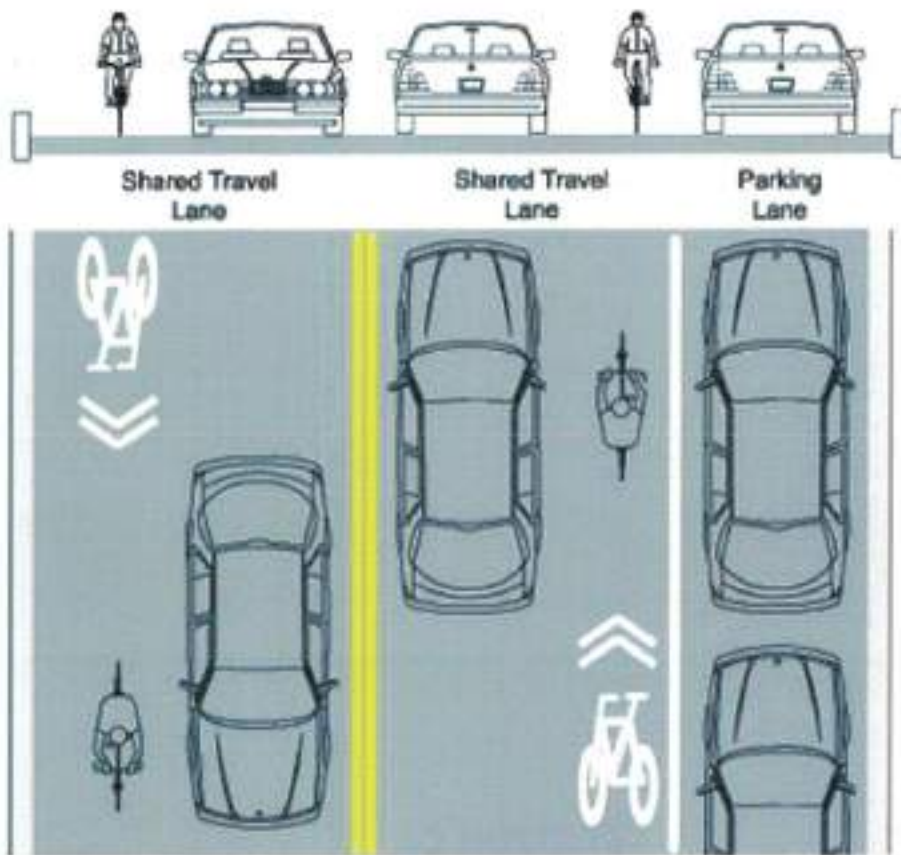
Above: Conceptual future expansion route (orange dots)
 Below: Linn Run State Park (from GMT blog by Dave Juliette)



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SECTION C:
Bike Wayfinding & Signage





What do sharrows mean for motorists and bicyclists?

Motorists

- Expect to see bicyclists on the street
- Remember to give bicyclists three feet of space when passing
- Follow the rules of the road as if there were no sharrows

Bicyclists

- Use the sharrow to guide where you ride within the lane
- Remember not to ride too close to parked cars
- Follow the rules of the road as if there were no sharrows

SHARED LANE MARKING: "SHARROW"

Sharrows are comprised of an image of a bicycle with a series of chevrons to indicate that motorists and cyclists are to share the travel lane. They are used on streets that are too narrow for conventional bike lanes.

Unlike bicycle lanes, sharrows do not designate a particular part of the street for the exclusive use of cyclists. They are simply a marking to guide cyclists to the best place to ride on the road, avoid car doors, and help motorists expect to see and share the lane with cyclists.

While cyclists are allowed on all public streets, it is important to designate some streets as part of the bikeway system in order to help cyclists safely navigate to their destination.



Top: Typical plan showing relationship of sharrow to travel and parking lanes (from Seattle Department of Transportation)

Bottom: An example of a shared lane pavement marking or "sharrow" (from Bike Pittsburgh)



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SHARED LANE MARKING: EXAMPLE

Sharrows are a relatively simple and inexpensive way to expand and designate a bicycle network as seen in the above example.

The sharrow is typically installed 11 feet from the curb, or approximately 4 feet from parked cars. It is intended to indicate where bicyclists should ride to avoid traveling within the door zone of parked cars. It also alerts motorists to share the road with bicyclists and conveys that the street is a preferred bike route.



Top: Photo after sharrows added to street
Bottom: Photo before sharrows
(both from Seattle Department of Transportation)



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Regulatory



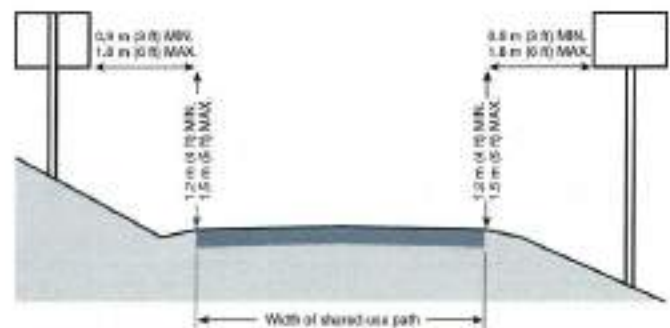
Warning



Guide

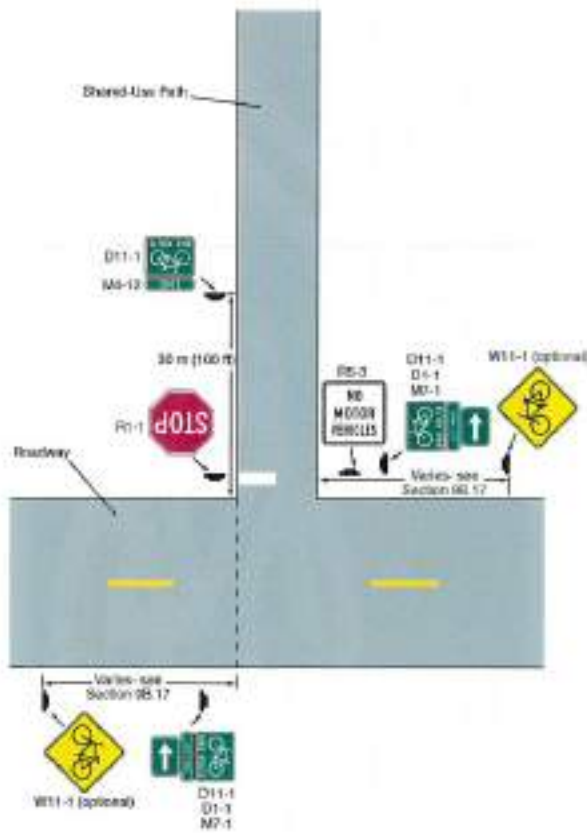
FACILITY SIGNS

The sampling of bicycle facility signs and typical placement (shown right) are from the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD as published by the U.S. Department of Transportation Federal Highway Administration), which regulates their use and placement.



Typical sign placement on shared-use paths





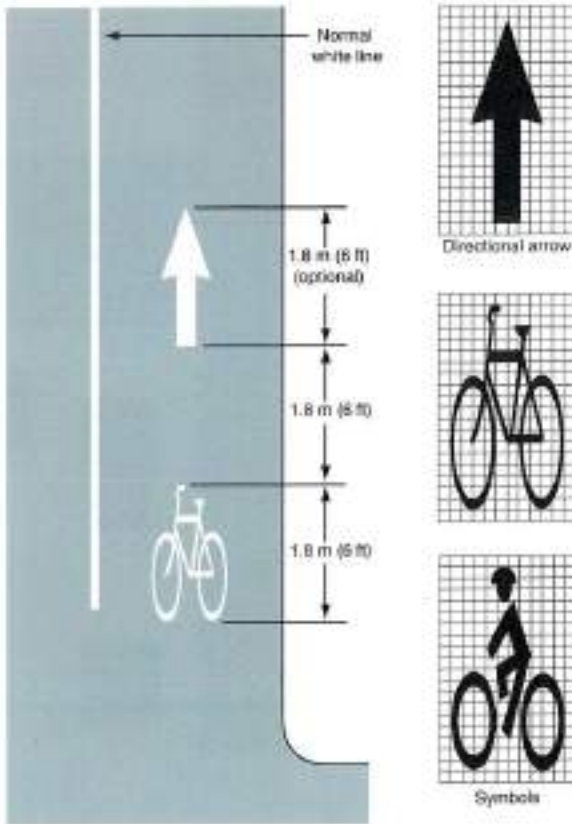
Shared-Use Path



On-Road Route

EXAMPLE SIGNING

The drawings shown above, from the MUTCD, depict typical sign placement for shared-use paths and on-road bicycle routes.



Bike Lane Markings



Shared Lane Markings

LANE MARKINGS

The drawings shown above, from the MUTCD, depict typical size and placement for bike lane and shared lane pavement markings.



**SECTION D:
Budgeting & Construction**





PHASING STRATEGY

Realizing that the improvements identified in this study collectively represent approximately \$1.7M to \$2M (excluding Future Expansion proposals) in new infrastructure improvements in 2011 dollars, it is important to consider how individual projects can be organized to make the overall implementation of the project manageable. An important consideration when developing the phasing strategy is the desire to maximize overall connectivity along the LVTB route as quickly as possible.

The key to this strategy is to build off the existing Phase One shared-use path. Extending this route north to the existing ball fields at Ligonier Camp & Conference Center and south to Weller Field on a new trail bridge over Mill Creek will provide immediate connectivity for residents and visitors of Ligonier to important community assets.

The following breakdown represents an itemized list of projects organized into separate phases to be achieved within a 10 to 15 year completion horizon. The proposed improvements are organized into eight separate phases:

- **Phase 2.1:** North Route - Phase 1 to LC&CC Fields
- **Phase 2.2:** Town Route - Trail Bridge over Mill Creek
- **Phase 2.3:** Town Route - All On-Road Routes
- **Phase 2.4:** West Route - All On-Road Routes
- **Phase 2.5:** East Route - All On-Road Routes
- **Phase 2.6:** South Route - All On-Road Routes
- **Phase 2.7:** North Route - LC&CC Ball Fields to Ligonier Township Municipal Building
- **Phase 2.8:** West Route - All Shared-Use Paths
- **Phase 2.9:** Town Route - All Shared-Use Paths



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On-Road Route	36,600
Shared-Use Path	13,000
Trail Bridge	150
Total Phase Length (feet)	48,750

PHASE 2: SUMMARY

The overall preliminary opinion of estimated construction cost for Phase 2 is shown to the left summarized by component (Route Site & Landscape Improvements) and phase (Phases 2.1 to 2.9). In round figures, the proposed primary routes for Phase 2 are estimated as follows:

- **Routes** - \$1,167,000 for 48,750 feet (9.2 miles) of on-road routes and shared-use paths (approximately \$24 per linear foot)
- **Trailheads** - \$550,000 for 7 trailhead sites

Component Name	Cost
Route Base & Additional Improvements	
Phase 2.1: North Route - Phase One to LCB&CC Ball Fields	\$ 333,067.00
Phase 2.2: Town Route - Bridge over Mill Creek	\$ 111,301.00
Phase 2.3: Town Route - All On-Road Routes	\$ 76,348.00
Phase 2.4: West Route - All On-Road Routes	\$ 43,633.00
Phase 2.5: East Route - All On-Road Routes	\$ 67,965.00
Phase 2.6: South Route - All On-Road Routes	\$ 12,876.00
Phase 2.7: North Route - LCB&CC to Township Building	\$ 182,761.00
Phase 2.8: West Route - All Shared-Use Paths	\$ 240,956.00
Phase 2.9: Town Route - All Shared-Use Paths	\$ 97,477.00
Total	\$ 1,166,384.00
Cost per Linear Foot	\$ 23.93
Trailhead Base & Additional Improvements	
Phase 2.1: Baltic Road Trailhead	\$ 104,003.00
Phase 2.2: Mill Creek Trailhead	\$ 138,049.00
Phase 2.3: Library Trailhead	\$ 42,390.50
Phase 2.3: Country Market Trailhead	\$ 84,408.50
Phase 2.5: Old Lincoln Highway Trailhead	\$ 42,540.00
Phase 2.7: Municipal Building Trailhead	\$ 59,526.00
Phase 2.8: LHHC Trailhead	\$ 78,523.00
Total	\$ 549,440.00
Phase 2 Total	\$ 1,715,824.00

The cost for on-street routes includes pavement markings, signage, and bike racks. Cost for shared-use paths includes site preparation (erosion control, clearing and grubbing, and earthwork), crushed limestone trail on an aggregate base, signage, site furnishings (benches, litter receptacles, and bike racks), pedestrian trail bridges, culverts, and seeding.

Trailhead costs include site preparation (erosion control, clearing and grubbing, and earthwork), gravel parking lots, trail connections to route network, signage, trailhead kiosk, site furnishings (benches, litter receptacles, and bike racks/lockers), landscaping, rain gardens, and seeding.

Cost estimates do not include alternate alignments, permit or application fees that may be required to obtain regulatory approvals, and any easement or property acquisition costs.

Statements concerning probable construction cost and/or detailed cost estimates prepared by GAI represent its judgment as a professional familiar with the construction industry. It is recognized, however, that GAI has no control over the cost of labor, materials or equipment, over the contractors' methods of determining bid prices, or over competitive bidding or market conditions. Accordingly, GAI cannot and does not guarantee that bids, proposals, or actual costs will not vary from any statement of probable construction cost or other cost estimate prepared by it.



PHASE 2: BASE IMPROVEMENTS

The overall preliminary opinion of estimated construction cost for Phase 2 base improvements is shown to the right summarized by component (Route Site & Landscape Improvements) and phase (Phases 2.1 to 2.9). In round figures, the proposed primary routes for Phase 2 are estimated as follows:

- **Routes** - \$960,000 for 48,750 feet (9.2 miles) of on-road routes and shared-use paths (approximately \$20 per linear foot)
- **Trailheads** - \$285,000 for 7 trailhead sites

On-Road Route	36,600
Shared-Use Path	12,000
Trail Bridge	150
Total Phase Length (feet)	48,750

Component Name	Cost
Route Base Improvements	
Phase 2.1: North Route - Phase One to LC&CC Ball Fields	\$ 254,320.00
Phase 2.2: Town Route - Bridge over Mill Creek	\$ 97,369.00
Phase 2.3: Town Route - All On-Road Routes	\$ 76,348.00
Phase 2.4: West Route - All On-Road Routes	\$ 43,633.00
Phase 2.5: East Route - All On-Road Routes	\$ 62,154.00
Phase 2.6: South Route - All On-Road Routes	\$ 12,876.00
Phase 2.7: North Route - LC&CC to Township Building	\$ 139,700.00
Phase 2.8: West Route - All Shared-Use Paths	\$ 197,895.00
Phase 2.9: Town Route - All Shared-Use Paths	\$ 74,829.00
Total	\$ 959,124.00
Cost per Linear Foot	\$ 19.67
Trailhead Base Improvements	
Phase 2.1: Baltic Road Trailhead	\$ 67,125.00
Phase 2.2: Mill Creek Trailhead	\$ 89,251.00
Phase 2.3: Library Trailhead	\$ 13,410.00
Phase 2.3: Country Market Trailhead	\$ 35,611.00
Phase 2.5: Old Lincoln Highway Trailhead	\$ 19,296.00
Phase 2.7: Municipal Building Trailhead	\$ 17,806.00
Phase 2.8: UHHC Trailhead	\$ 42,018.00
Total	\$ 284,517.00
Phase 2 Total	\$ 1,243,641.00

Statements concerning probable construction cost and/or detailed cost estimates prepared by GAI represent its judgment as a professional familiar with the construction industry. It is recognized, however, that GAI has no control over the cost of labor, materials or equipment, over the contractors' methods of determining bid prices, or over competitive bidding or market conditions. Accordingly, GAI cannot and does not guarantee that bids, proposals, or actual costs will not vary from any statement of probable construction cost or other cost estimate prepared by it.



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On-Road Route	36,600
Shared-Use Path	12,000
Trail Bridge	150
Total Phase Length (feet)	48,750

Component Name	Cost
Route Additional Improvements	
Phase 2.1: North Route - Phase One to LC&CC Ball Fields	\$ 78,747.00
Phase 2.2: Town Route - Bridge over Mill Creek	\$ 13,932.00
Phase 2.3: Town Route - All On-Road Routes	\$ -
Phase 2.4: West Route - All On-Road Routes	\$ -
Phase 2.5: East Route - All On-Road Routes	\$ 5,811.00
Phase 2.6: South Route - All On-Road Routes	\$ -
Phase 2.7: North Route - LC&CC to Township Building	\$ 43,061.00
Phase 2.8: West Route - All Shared-Use Paths	\$ 43,061.00
Phase 2.9: Town Route - All Shared-Use Paths	\$ 22,648.00
Total	\$ 207,260.00
Cost per Linear Foot	\$ 4.25
Trailhead Additional Improvements	
Phase 2.1: Baltic Road Trailhead	\$ 36,878.00
Phase 2.2: Mill Creek Trailhead	\$ 48,798.00
Phase 2.3: Library Trailhead	\$ 28,980.50
Phase 2.3: Country Market Trailhead	\$ 48,797.50
Phase 2.5: Old Lincoln Highway Trailhead	\$ 23,244.00
Phase 2.7: Municipal Building Trailhead	\$ 41,720.00
Phase 2.8: LHHC Trailhead	\$ 30,505.00
Total	\$ 264,923.00
Phase 2 Total	\$ 472,183.00

PHASE 2: ADDITIONAL IMPROVEMENTS

The overall preliminary opinion of estimated construction cost for Phase 2 additional improvements is shown to the right summarized by component (Route Site & Landscape Improvements) and phase (Phases 2.1 to 2.9). In round figures, the proposed primary routes for Phase 2 are estimated as follows:

- **Routes** - \$271,000 for 48,750 feet (9.2 miles) of on-road routes and shared-use paths (approximately \$4 per linear foot)
- **Trailheads** - \$265,000 for 7 trailhead sites

Statements concerning probable construction cost and/or detailed cost estimates prepared by GAI represent its judgment as a professional familiar with the construction industry. It is recognized, however, that GAI has no control over the cost of labor, materials or equipment, over the contractors' methods of determining bid prices, or over competitive bidding or market conditions. Accordingly, GAI cannot and does not guarantee that bids, proposals, or actual costs will not vary from any statement of probable construction cost or other cost estimate prepared by it.



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PHASE 2.1: NORTH ROUTE Phase One to LC&CC Ball Fields

Phase 2.1 begins at the intersection of the Phase 1 trail and Peoples Road, extends northeast, and ends at the northern end of the Ligonier Camp & Conference Center ball field site. Improvements include:

- 4,600 feet (0.87 miles) of shared-use paths
- Baltic Road Trailhead (adjacent to Phase 1 trail)

In addition to the costs shown here, Phase 2.1 may require easement and/or property acquisition for some of its length and will require coordination with state agencies.

On-Road Route	0
Shared-Use Path	4,600
Trail Bridge	0
Total Phase Length (feet)	4,600

Component Name	Cost
Route Base Improvements	
On-Road Route Improvements	\$ -
Shared-Use Path Improvements	\$ 170,685.00
Mobilization (5%)	\$ 8,534.00
Design & Inspection Fees (20%)	\$ 34,137.00
Contingency (20%)	\$ 40,964.00
Subtotal	\$ 254,320.00
Cost per Linear Foot	\$ 55.29
Route Additional Improvements	
Site Furnishings	\$ 8,000.00
Landscape Improvements	\$ 44,850.00
Mobilization (5%)	\$ 2,643.00
Design Fees (10%)	\$ 10,570.00
Contingency (20%)	\$ 12,684.00
Subtotal	\$ 78,747.00
Trailhead Base Improvements	
Baltic Road Trailhead	\$ 45,050.00
Mobilization (5%)	\$ 2,253.00
Design & Inspection Fees (20%)	\$ 9,010.00
Contingency (20%)	\$ 10,812.00
Subtotal	\$ 67,125.00
Trailhead Additional Improvements	
Baltic Road Trailhead	\$ 24,750.00
Mobilization (5%)	\$ 1,238.00
Design & Inspection Fees (20%)	\$ 4,950.00
Contingency (20%)	\$ 5,940.00
Subtotal	\$ 36,878.00
Phase 2.1 Total	\$ 437,070.00

Statements concerning probable construction cost and/or detailed cost estimates prepared by GAI represent its judgment as a professional familiar with the construction industry. It is recognized, however, that GAI has no control over the cost of labor, materials or equipment, over the contractors' methods of determining bid prices, or over competitive bidding or market conditions. Accordingly, GAI cannot and does not guarantee that bids, proposals, or actual costs will not vary from any statement of probable construction cost or other cost estimate prepared by it.



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On-Road Route	0
Shared-Use Path	700
Trail Bridge	70
Total Phase Length (feet)	770

PHASE 2.2: TOWN ROUTE Trail Bridge over Mill Creek

Phase 2.2 begins at the southern end of the Phase 1 trail and extends southwest over Mill Creek via a new trail bridge on the existing railroad bridge abutments. Improvements include:

- 700 feet (0.2 miles) of shared-use paths/ramp to connect trail bridge to Boquet Street on-road route
- 70 feet of trail bridge over Mill Creek (accounts for roughly \$55,000 of Route Base Improvements cost)
- Mill Creek Trailhead

In addition to these costs, Phase 2.2 may require easement and/or property acquisition for some of its length and will require coordination with state agencies.

Component Name	Cost
Route Base Improvements	
On-Road Route Improvements	\$ -
Shared-Use Path Improvements	\$ 65,348.00
Mobilization (5%)	\$ 3,267.00
Design & Inspection Fees (20%)	\$ 13,070.00
Contingency (20%)	\$ 15,684.00
Subtotal	\$ 97,369.00
Cost per Linear Foot	\$ 126.45
Route Additional Improvements	
Site Furnishings	\$ 2,000.00
Landscape Improvements	\$ 7,350.00
Mobilization (5%)	\$ 468.00
Design Fees (10%)	\$ 1,870.00
Contingency (20%)	\$ 2,244.00
Subtotal	\$ 13,932.00
Trailhead Base Improvements	
Mill Creek Trailhead	\$ 59,900.00
Mobilization (5%)	\$ 2,995.00
Design & Inspection Fees (20%)	\$ 11,980.00
Contingency (20%)	\$ 14,376.00
Subtotal	\$ 89,251.00
Trailhead Additional Improvements	
Mill Creek Trailhead	\$ 32,750.00
Mobilization (5%)	\$ 1,638.00
Design & Inspection Fees (20%)	\$ 6,550.00
Contingency (20%)	\$ 7,860.00
Subtotal	\$ 48,798.00
Phase 2.2 Total	\$ 249,350.00

Statements concerning probable construction cost and/or detailed cost estimates prepared by GAI represent its judgment as a professional familiar with the construction industry. It is recognized, however, that GAI has no control over the cost of labor, materials or equipment, over the contractors' methods of determining bid prices, or over competitive bidding or market conditions. Accordingly, GAI cannot and does not guarantee that bids, proposals, or actual costs will not vary from any statement of probable construction cost or other cost estimate prepared by it.



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PHASE 2.3: TOWN ROUTE

All On-Road Routes

Phase 2.3 includes all on-road routes within Ligonier Borough public rights-of-way designated by shared lane pavement markings (sharrows) and signage. Improvements include:

- 15,900 feet (3.0 miles) of on-road routes
- Library Trailhead
- Country Market Trailhead

In addition to the costs shown here, Phase 2.3 may require easement and/or property acquisition for some of its length and will require coordination with state agencies.

On-Road Route	15,900
Shared-Use Path	0
Trail Bridge	0
Total Phase Length (feet)	15,900

Component Name	Cost
Route Base Improvements	
On-Road Route Improvements	\$ 51,240.00
Shared-Use Path Improvements	\$ -
Mobilization (5%)	\$ 2,562.00
Design & Inspection Fees (20%)	\$ 10,248.00
Contingency (20%)	\$ 12,298.00
Subtotal	\$ 76,348.00
Cost per Linear Foot	\$ 4.80
Route Additional Improvements	
Site Furnishings	\$ -
Landscape Improvements	\$ -
Mobilization (5%)	\$ -
Design Fees (10%)	\$ -
Contingency (20%)	\$ -
Subtotal	\$ -
Trailhead Base Improvements	
Library Trailhead	\$ 9,000.00
Country Market Trailhead	\$ 23,900.00
Mobilization (5%)	\$ 1,645.00
Design & Inspection Fees (20%)	\$ 6,580.00
Contingency (20%)	\$ 7,896.00
Subtotal	\$ 49,021.00
Trailhead Additional Improvements	
Library Trailhead	\$ 19,450.00
Country Market Trailhead	\$ 32,750.00
Mobilization (5%)	\$ 2,610.00
Design & Inspection Fees (20%)	\$ 10,440.00
Contingency (20%)	\$ 12,528.00
Subtotal	\$ 77,778.00
Phase 2.3 Total	\$ 203,147.00

Statements concerning probable construction cost and/or detailed cost estimates prepared by GAI represent its judgment as a professional familiar with the construction industry. It is recognized, however, that GAI has no control over the cost of labor, materials or equipment, over the contractors' methods of determining bid prices, or over competitive bidding or market conditions. Accordingly, GAI cannot and does not guarantee that bids, proposals, or actual costs will not vary from any statement of probable construction cost or other cost estimate prepared by it.



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On-Road Route	9,100
Shared-Use Path	0
Trail Bridge	0
Total Phase Length (feet)	9,100

PHASE 2.4: WEST ROUTE All On-Road Routes

Phase 2.4 begins at the Farm Market Trailhead (intersection of West Main Street and Springer Road), extends northwest, and ends at Idlewild Park. Improvements include:

- 9,100 feet (1.7 miles) of on-road routes

In addition to the costs shown here, Phase 2.4 may require easement and/or property acquisition for some of its length and will require coordination with state agencies.

Component Name	Cost
Route Base Improvements	
On-Road Route Improvements	\$ 29,284.00
Shared-Use Path Improvements	\$ -
Mobilization (5%)	\$ 1,464.00
Design & Inspection Fees (20%)	\$ 5,857.00
Contingency (20%)	\$ 7,028.00
Subtotal	\$ 43,633.00
Cost per Linear Foot	\$ 4.79
Route Additional Improvements	
Site Furnishings	\$ -
Landscape Improvements	\$ -
Mobilization (5%)	\$ -
Design Fees (10%)	\$ -
Contingency (20%)	\$ -
Subtotal	\$ -
Trailhead Base Improvements	
(no trailheads this phase)	\$ -
Mobilization (5%)	\$ -
Design & Inspection Fees (20%)	\$ -
Contingency (20%)	\$ -
Subtotal	\$ -
Trailhead Additional Improvements	
(no trailheads this phase)	\$ -
Mobilization (5%)	\$ -
Design & Inspection Fees (20%)	\$ -
Contingency (20%)	\$ -
Subtotal	\$ -
Phase 2.4 Total	\$ 43,633.00

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PHASE 2.5: EAST ROUTE All On-Road Routes

Phase 2.5 begins at the intersection of Bell Street and Old Lincoln Highway, extends southwest, and ends at the Route 30/381 intersection. Improvements include:

- 8,200 feet (1.6 miles) of on-road routes
- 400 feet (0.1 miles) of shared-use path between Old Lincoln Highway and Route 381
- Old Lincoln Highway Trailhead

In addition to the costs shown here, Phase 2.5 may require easement and/or property acquisition for some of its length and will require coordination with state agencies.

On-Road Route	8,200
Shared-Use Path	400
Trail Bridge	0
Total Phase Length (feet)	8,600

Component Name	Cost
Route Base Improvements	
On-Road Route Improvements	\$ 26,344.00
Shared-Use Path Improvements	\$ 15,370.00
Mobilization (5%)	\$ 2,086.00
Design & Inspection Fees (20%)	\$ 8,343.00
Contingency (20%)	\$ 10,011.00
Subtotal	\$ 62,154.00
Cost per Linear Foot	\$ 7.23
Route Additional Improvements	
Site Furnishings	\$ -
Landscape Improvements	\$ 3,900.00
Mobilization (5%)	\$ 195.00
Design Fees (10%)	\$ 780.00
Contingency (20%)	\$ 936.00
Subtotal	\$ 5,811.00
Trailhead Base Improvements	
Old Lincoln Highway Trailhead	\$ 12,950.00
Mobilization (5%)	\$ 648.00
Design & Inspection Fees (20%)	\$ 2,590.00
Contingency (20%)	\$ 3,108.00
Subtotal	\$ 19,296.00
Trailhead Additional Improvements	
Old Lincoln Highway Trailhead	\$ 15,600.00
Mobilization (5%)	\$ 780.00
Design & Inspection Fees (20%)	\$ 3,120.00
Contingency (20%)	\$ 3,744.00
Subtotal	\$ 23,244.00
Phase 2.5 Total	\$ 110,505.00

Statements concerning probable construction cost and/or detailed cost estimates prepared by GAI represent its judgment as a professional familiar with the construction industry. It is recognized, however, that GAI has no control over the cost of labor, materials or equipment, over the contractors' methods of determining bid prices, or over competitive bidding or market conditions. Accordingly, GAI cannot and does not guarantee that bids, proposals, or actual costs will not vary from any statement of probable construction cost or other cost estimate prepared by it.



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On-Road Route	2,600
Shared-Use Path	0
Trail Bridge	0
Total Phase Length (feet)	2,600

Component Name	Cost
Route Base Improvements	
On-Road Route Improvements	\$ 8,642.00
Shared-Use Path Improvements	\$ -
Mobilization (5%)	\$ 432.00
Design & Inspection Fees (20%)	\$ 1,728.00
Contingency (20%)	\$ 2,074.00
Subtotal	\$ 12,876.00
Cost per Linear Foot	\$ 4.95
Route Additional Improvements	
Site Furnishings	\$ -
Landscape Improvements	\$ -
Mobilization (5%)	\$ -
Design Fees (10%)	\$ -
Contingency (20%)	\$ -
Subtotal	\$ -
Trailhead Base Improvements	
(no trailheads this phase)	\$ -
Mobilization (5%)	\$ -
Design & Inspection Fees (20%)	\$ -
Contingency (20%)	\$ -
Subtotal	\$ -
Trailhead Additional Improvements	
(no trailheads this phase)	\$ -
Mobilization (5%)	\$ -
Design & Inspection Fees (20%)	\$ -
Contingency (20%)	\$ -
Subtotal	\$ -
Phase 2.6 Total	\$ 12,876.00

PHASE 2.6: SOUTH ROUTE All On-Road Routes

Phase 2.6 begins at the intersection of Loyalhanna Street and South Market Street (Route 711), extends south, and ends at the Southern Alleghenies Museum of Art on Boucher Lane. Improvements include:

- 2,600 feet (0.5 miles) of on-road routes

In addition to the costs shown here, Phase 2.6 may require easement and/or property acquisition for some of its length and will require coordination with state agencies.

Statements concerning probable construction cost and/or detailed cost estimates prepared by GAI represent its judgment as a professional familiar with the construction industry. It is recognized, however, that GAI has no control over the cost of labor, materials or equipment, over the contractors' methods of determining bid prices, or over competitive bidding or market conditions. Accordingly, GAI cannot and does not guarantee that bids, proposals, or actual costs will not vary from any statement of probable construction cost or other cost estimate prepared by it.



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PHASE 2.7: NORTH ROUTE LC&CC Ball Fields to Township Building

Phase 2.7 begins at the northern end of Phase 2.1, extends northeast, and ends at the Ligonier Township Municipal Building. Improvements include:

- 400 feet (0.1 miles) of on-road route paralleling Route 711
- 2,500 feet (0.5 miles) of shared-use path
- Municipal Building Trailhead

In addition to the costs shown here, Phase 2.7 may require easement and/or property acquisition for some of its length and will require coordination with state agencies.

On-Road Route	400
Shared-Use Path	2,500
Trail Bridge	0
Total Phase Length (feet)	2,900

Component Name	Cost
Route Base Improvements	
On-Road Route Improvements	\$ 1,018.00
Shared-Use Path Improvements	\$ 92,740.00
Mobilization (5%)	\$ 4,688.00
Design & Inspection Fees (20%)	\$ 18,752.00
Contingency (20%)	\$ 22,502.00
Subtotal	\$ 139,700.00
Cost per Linear Foot	\$ 48.17
Route Additional Improvements	
Site Furnishings	\$ 4,000.00
Landscape Improvements	\$ 24,900.00
Mobilization (5%)	\$ 1,445.00
Design Fees (10%)	\$ 5,780.00
Contingency (20%)	\$ 6,936.00
Subtotal	\$ 43,061.00
Trailhead Base Improvements	
Municipal Building Trailhead	\$ 11,950.00
Mobilization (5%)	\$ 598.00
Design & Inspection Fees (20%)	\$ 2,390.00
Contingency (20%)	\$ 2,868.00
Subtotal	\$ 17,806.00
Trailhead Additional Improvements	
Municipal Building Trailhead	\$ 28,000.00
Mobilization (5%)	\$ 1,400.00
Design & Inspection Fees (20%)	\$ 5,600.00
Contingency (20%)	\$ 6,720.00
Subtotal	\$ 41,720.00
Phase 2.7 Total	\$ 242,287.00

Statements concerning probable construction cost and/or detailed cost estimates prepared by GAI represent its judgment as a professional familiar with the construction industry. It is recognized, however, that GAI has no control over the cost of labor, materials or equipment, over the contractors' methods of determining bid prices, or over competitive bidding or market conditions. Accordingly, GAI cannot and does not guarantee that bids, proposals, or actual costs will not vary from any statement of probable construction cost or other cost estimate prepared by it.



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On-Road Route	0
Shared-Use Path	2,500
Trail Bridge	70
Total Phase Length (feet)	2,570

Component Name	Cost
Route Base Improvements	
On-Road Route Improvements	\$ -
Shared-Use Path Improvements	\$ 132,815.00
Mobilization (5%)	\$ 6,641.00
Design & Inspection Fees (20%)	\$ 26,563.00
Contingency (20%)	\$ 31,876.00
Subtotal	\$ 197,895.00
Cost per Linear Foot	\$ 77.00
Route Additional Improvements	
Site Furnishings	\$ 4,000.00
Landscape Improvements	\$ 24,900.00
Mobilization (5%)	\$ 1,445.00
Design Fees (10%)	\$ 5,780.00
Contingency (20%)	\$ 6,936.00
Subtotal	\$ 43,061.00
Trailhead Base Improvements	
LHHC Trailhead	\$ 28,200.00
Mobilization (5%)	\$ 1,410.00
Design & Inspection Fees (20%)	\$ 5,640.00
Contingency (20%)	\$ 6,768.00
Subtotal	\$ 42,018.00
Trailhead Additional Improvements	
LHHC Trailhead	\$ 24,500.00
Mobilization (5%)	\$ 1,225.00
Design & Inspection Fees (20%)	\$ 4,900.00
Contingency (20%)	\$ 5,880.00
Subtotal	\$ 36,505.00
Phase 2.8 Total	\$ 319,479.00

Statements concerning probable construction cost and/or detailed cost estimates prepared by GAI represent its judgment as a professional familiar with the construction industry. It is recognized, however, that GAI has no control over the cost of labor, materials or equipment, over the contractors' methods of determining bid prices, or over competitive bidding or market conditions. Accordingly, GAI cannot and does not guarantee that bids, proposals, or actual costs will not vary from any statement of probable construction cost or other cost estimate prepared by it.



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PHASE 2.8: WEST ROUTE All Shared-Use Paths

A portion of Phase 2.8 begins at the western end of Phase 2.4, extends west, and ends at Idlewild Lane. Phase 2.8 also includes the east-west shared-use path connection between Carey School and Springer Road. Improvements include:

- 2,500 feet (0.5 miles) of shared-use paths
- 70 feet of trail bridge near Route 30/259 intersection (accounts for roughly \$55,000 of Route Base Improvements cost)
- Lincoln Highway Heritage Corridor Trailhead

In addition to these costs, Phase 2.8 may require easement and/or property acquisition for some of its length and will require coordination with state agencies.

PHASE 2.9: TOWN ROUTE All Shared-Use Paths

Phase 2.9 connects the new Mill Creek trail bridge to Kastner Street with a shared-use path. Improvements include:

This section is approximately 1,700 feet in length (400 feet of on-road routes and 1,300 feet of shared-use paths). Estimates include primary alignments only.

- 400 feet (0.1 miles) of on-road route
- 1,300 feet (0.3 miles) of shared-use path

In addition to the costs shown here, Phase 2.9 may require easement and/or property acquisition for some of its length and will require coordination with state agencies.

On-Road Route	400
Shared-Use Path	1,300
Trail Bridge	0
Total Phase Length (feet)	1,700

Component Name	Cost
Route Base Improvements	
On-Road Route Improvements	\$ 1,018.00
Shared-Use Path Improvements	\$ 49,203.00
Mobilization (5%)	\$ 2,511.00
Design & Inspection Fees (20%)	\$ 10,044.00
Contingency (20%)	\$ 12,053.00
Subtotal	\$ 74,829.00
Cost per Linear Foot	\$ 44.02
Route Additional Improvements	
Site Furnishings	\$ 2,000.00
Landscape Improvements	\$ 13,200.00
Mobilization (5%)	\$ 760.00
Design Fees (10%)	\$ 3,040.00
Contingency (20%)	\$ 3,648.00
Subtotal	\$ 22,648.00
Trailhead Base Improvements	
(no trailheads this phase)	\$ -
Mobilization (5%)	\$ -
Design & Inspection Fees (20%)	\$ -
Contingency (20%)	\$ -
Subtotal	\$ -
Trailhead Base Improvements	
(no trailheads this phase)	\$ -
Mobilization (5%)	\$ -
Design & Inspection Fees (20%)	\$ -
Contingency (20%)	\$ -
Subtotal	\$ -
Phase 2.9 Total	\$ 97,477.00

Statements concerning probable construction cost and/or detailed cost estimates prepared by GAI represent its judgment as a professional familiar with the construction industry. It is recognized, however, that GAI has no control over the cost of labor, materials or equipment, over the contractors' methods of determining bid prices, or over competitive bidding or market conditions. Accordingly, GAI cannot and does not guarantee that bids, proposals, or actual costs will not vary from any statement of probable construction cost or other cost estimate prepared by it.



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CONSTRUCTION PERMITTING

Any number of permits may be needed during the course of final design and construction of the trail and bikeway including but not limited to:

- **Wetland Identification/Stream Classification**

Conducted to identify the presence/absence of wetlands and streams, and provide an estimate of their extent. Methodology is outlined in the 1987 US Army Corps of Engineers Wetland Delineation Manual. When unavoidable wetlands are present, a formal wetland delineation report is required to support permit applications.

- **Chapter 105 Water Obstruction & Encroachment Permit**

Required for projects involving the construction, modification, relocation of any dam, water obstruction or encroachment to jurisdictional waters of the Commonwealth. Any activity that disturbs a wetland, whether or not it is associated with filling or fill materials, requires a permit. A US Army Corps of Engineers 404 Permit may also be required for certain construction activities in US waters.

- **Pennsylvania Natural Diversity Inventory (PNDI)**

Facilitates the avoidance and minimization of impacts to endangered and threatened and special concern species and resources in the Commonwealth. It applies to applicants for DEP permits, authorizations, and plan approvals.

- **National Pollution Discharge Elimination System (NPDES)**

The Federal Clean Water Act and the Pennsylvania Clean Streams law requires wastewater dischargers to have a permit establishing pollution limits, and specifying monitoring and reporting requirements. NPDES permits regulate household and industrial wastes that are collected in sewers and treated at municipal wastewater treatment plants. Permits regulate discharges with the goals of protecting public health and aquatic life, and assuring that every facility treats wastewater.

- **Archeological Phase I**

The National Historic Preservation Act (NHPA) of 1966 reflected the broad-scale recognition of a need to protect cultural resources, defining historic preservation as "the protection, rehabilitation, restoration and reconstruction of districts, sites, buildings, structures and objects significant in American history, architecture, archaeology or culture."

A Phase I archaeological study is typically required to obtain other certain permits in order to proceed with a particular project. The Phase I archaeological reconnaissance survey is designed to merely identify the existence of any prehistoric or historic archaeological resources within a project area. The survey, typically involves preliminary background research, a pedestrian surface survey, an efficient subsurface testing strategy, analysis of recovered materials, and an interpretive report stating the results of research and testing.

- **Highway Occupancy Permit**

Highway Occupancy Permits (HOPs) are required for any encroachment upon Interstate Highways, US Routes or State Highways in the Commonwealth. Encroachment is usually in the form of occupancy of State highway right-of-way, opening the roadway surface, placing a facility or structure, or opening an access. It also extends beyond the right-of-way line where work outside the right-of-way may have an adverse effect on the State highway. Typically, HOPs are issued to utility companies, municipal authorities, developers and builders, and private citizens. HOP applications should be made at the County Permit Office located within the PennDOT County Maintenance Building in the county to which the application applies. It typically takes 10 days to 6 weeks for PennDOT to process an HOP permit application.



OPERATION & MAINTENANCE

Creating ownership within the community will foster responsibility to maintaining the trail, trailheads, and other amenities created because of the new trail (i.e. small pocket parks). This connection is just a small part of a greater trail system; trail owners are encouraged to reach out to adjoining trail groups to establish a relationship to create a global mechanism that shares responsibilities for operation, maintenance, and security.

Once the trail group structure has been established, trail monitors can be utilized. Trail monitors are volunteers that are 18 years or older that walk or ride the trail to assess the conditions of the trails and to ensure the trails are safe for public use. Trail monitors will travel the trail year round and receive training on trail monitoring. The trail monitor system once again fosters local ownership in the trail which in turn increases security keeping ATVs and other unauthorized vehicles off of the trail.

Another option for maintenance is PA CleanWays. This explanation of their mission is taken from their website (<http://www.pacleanways.org/>): PA CleanWays is a non-profit organization that helps people who are ready to take action against illegal dumping and littering in their communities. Our core programs revolve around clean-



Inspecting the trail for damage

ups, adoptions and education. We carry out our mission in local communities through:

- PA CleanWays chapters and affiliates;
- Special projects like the Forest Lands Beautification Program; and
- Programs that encourage everyone to join the fight against dumping and littering.

PA CleanWays' mission is to eliminate illegal dumping and littering in Pennsylvania.

Common trail maintenance tasks include:

- **Asphalt Trail Surface Repairs** – Repaving; sealing; pothole repair; snow removal; surface cleaning; markings maintenance; litter removal from trail shoulders.
- **Non-asphalt Trail Surface Repairs** – Resurfacing; grading; pothole repair; snow removal; surface cleaning; litter removal from trail shoulders.
- **General Site Tasks** – Mowing; leaf removal; tree pruning; tree removal; invasive species removal; planting new vegetation; application of herbicides and pesticides; clearing of drainage channels and culverts.
- **Trailhead** – Surface maintenance of parking; landscaping/gardening; trash removal; maintenance related to restrooms (if applicable).
- **Trail Maintenance** – trash can emptying; maintenance related to restrooms; information kiosk maintenance; maintenance of benches and other furnishings; signage; pavement markings; repair related to vandalism and illegal dumping; lighting; gates, bollards, and fencing; bridge maintenance.

According to the publication "Rail-Trail Maintenance & Operation", owners of trails can expect an annual maintenance and operation cost of approximately \$1,500 per mile, regardless of surface type. If operation and maintenance is primarily handled by volunteer groups, that number may be reduced to approximately \$700 per mile.



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FUNDING OPPORTUNITIES

Numerous grant opportunities existing for trail and bike-way planning and development. Primary sources are listed here for consideration:

- **Department of Conservation & Natural Resources (DCNR);** <http://www.dcnr.state.pa.us/>

1. C2P2 Community Recreation & Conservation

These grants fund municipalities and nonprofit organizations to plan for, acquire, develop or rehabilitate public park, recreation, open space, greenway, trail and conservation areas, and facilities. A 50% match from the applicant is required for most projects. The maximum grant under this program is \$40,000.

- Deadline: April 20, 2011 at 4:00 PM.
- Contact: Grants Customer Service; 800-326-7734; dcnr-grants@state.pa.us.

2. C2P2 Pennsylvania Recreation Trails

These grants help develop and maintain recreational trails and related facilities for motorized and non-motorized recreational trail use, and to purchase equipment for those purposes. Eligible applicants include federal and state agencies, local governments, and nonprofit and for profit organizations. Match requirements are a minimum of 20% from the applicant except for acquisition projects, which require a 50% match. The maximum grant under this program is \$100,000.

- Deadline: April 20, 2011 at 4:00 PM.
- Contact: Grants Customer Service; 800-326-7734; dcnr-grants@state.pa.us.

3. C2P2 Rails-to-Trails

These grants help plan for, acquire, or develop rail-trail corridors. Applicants include municipalities and nonprofit organizations established to preserve and protect available abandoned railroad corridors as trails. A 50% match is required, except for acquisition projects which require a donation match.

- Deadline: April 20, 2011 at 4:00 PM.
- Contact: Grants Customer Service; 800-326-7734; dcnr-grants@state.pa.us.

4. Growing Greener

Investment of state funds to address Pennsylvania's critical environmental concerns of the 21st century. Growing Greener has helped to preserve farmlands; protect open space; maintain state parks; clean up abandoned mines; restore watersheds; provide funds for recreational trails and local parks; help communities address land use; and provide new and upgraded water and sewer systems.

- Deadline: April 20, 2011 at 4:00 PM.
- Contact: Grants Customer Service; 800-326-7734.

- **Pennsylvania Department of Transportation (PennDOT);** <http://www.dot.state.pa.us/>

1. Pennsylvania Community Transportation Initiative (PCTI)

A competitive funding program to support and encourage local transportation projects that exemplify the goals of Smart Transportation. \$24.7 million allocated in 2010 to 41 community-led planning and construction projects.

- Deadline: To be determined. 2010 deadline was September 15, 2011 at 5:00 PM.
- Contact: PennDOT Center for Program Development and Management; 717-787-2862.

2. Transportation Enhancement Program (TE)

Federal funding available for provision of facilities for pedestrians and bicycles, safety and educational activities for pedestrians and bicycles, acquisition of scenic easements and scenic or historic sites, beautification, historic preservation, and preservation of rail corridors. It is a cost reimbursement program and not a grant program. The project sponsor (applicant) will receive periodic invoices from those working on the project. The sponsor must then review, approve, and forward the invoices to PennDOT. PennDOT then reimburses the sponsor who in turn must pay their service providers.

- Deadline: To be determined.
- Contact: PennDOT Center for Program Development and Management; 717-787-2862.



3. PennDOT Safe Routes to Schools Program Provides cost reimbursement funds to municipalities, school districts, and safety advocates for improvements to walking and biking routes that provide access to schools.

- Deadline: April 21, 2011.
- Contact: PA Safe Routes to School Coordinator; PennDOT Program Center; 717-787-8065.

• Federal Sources

1. Transportation Equity Act for the 21st Century (TEA21)
<http://www.fhwa.dot.gov/tea21/>
2. Land and Water Conservation Fund (LWCF)
<http://www.nps.gov/>
3. Rivers, Trails, and Conservation Assistance Program
<http://www.nps.gov/>
4. US Department of Transportation FHWA National Scenic Byways Program
<http://fhwa.dot.gov/>
5. US Environmental Protection Agency
<http://www.epa.gov/>
6. US Department of Education
<http://www.ed.gov/>
7. US Department of Health and Human Services
<http://www.hhs.gov/>
8. Federal Grant Opportunities
<http://www.grants.gov/>
9. Non-Profit Grant Opportunities
<http://www.usa.gov/business/nonprofit.shtml>

• State Sources

1. Heritage Park Grants
<http://www.dcnr.state.pa.us/>
2. Pennsylvania Community Forests.
<http://www.dcnr.state.pa.us/>
3. Rivers Conservation Program
<http://www.dcnr.state.pa.us/>
4. Department of Community and Economic Development
<http://www.newpa.com/>

• Other Sources

1. Tourism Grant Program
<http://www.co.westmoreland.pa.us/>
2. Community Foundation of Westmoreland County
<http://www.cfwestmoreland.org/>
3. American Hiking Society's National Trails Fund
<http://www.americanhiking.org/>
4. Pennsylvania Recreation and Park Society (PRPS) RecTAP Program
<http://www.prps.org/>
5. Bikes Belong Coalition
<http://www.bikesbelong.org/>

**APPENDIX A:
Public Meeting**



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sign-in sheet

Ligonier Valley Trail: Feasibility Study for Phase Two
Public Meeting (December 6, 2010)

Name	Company
1. Chris Delamarter	
2. Malinda Smuga	
3. Monty Murty	TRUST VOLUNTEERS
4. Jennifer Sopko	Hammer Bulletin
5. SPURKA SYLAK	THE VILLAGE AT HIG
6. Patrick Myers	Ligonier Camp
7. Ben Wight	Ligonier Park
8. Lynn and Matt Thomas	
9. RICHARD KICKINGER	
10. SAM BANAKES	Ligonier Beer
11. Roy C. King	
12. Elizabeth McNeil	Rec Bd
13. Deb Brennan	Echo
14. Matt Thomas	SPEEDGOAT
15. Rose Stepanik	Rec. Board
16. Olga Herbert	LINCOLN Hwy, Heritage Commission
17. Bob Chastie	Nichole Schrock
18. Jim Pillsbury	Westmoreland C.
19. Jim Paul	Westmoreland



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Economic Research

- Four studies conducted from 1998-2009
 - 1998 baseline economic impact study
 - 2002 economic impact study
 - 2006 trail user survey
 - 2007-08 economic impact study
- Annual direct spending attributed to Great Allegheny Passage trail user spending
 - \$40.8 million in 2008
 - Up from \$7.26 million in 2002
- Total annual wages attributed to trail user spending: \$7.5 million
- 35% of overnight visitors earn an annual household income of over \$100,000.
 - Just 6% of local users earn the same amount
- Overnight visitors spend an average of \$98 a day in trail communities.
 - Local trail users spend an average of just \$13 each trail use.
- An estimated 700,000 trips are taken annually on the GAP.

Business Activity, 2007-2010

- 61 new trail-related businesses opened in the Trail Towns since 2007. There were 19 business closings during the same period, resulting in a net gain of 42 new businesses.
 - 83 new jobs (net) were created
 - 77% of the new businesses remain in operation
- 12 businesses expanded operations and five changed hands during this period.
- The Progress Fund provided loans to 20% of new and expanded businesses during this period.
 - \$2.7 million in loans leveraged an additional \$4 million in private business owner investment.
 - 100% of the borrowing businesses remain in operation.

The Trail Town Program® is an initiative of The Progress Fund that was developed in conjunction with the Allegheny Trail Alliance and other key partners. Sign up to receive Trail Town News Blasts at www.trailtowns.org.

Contact: Amy Camp, Trail Town Program Manager
(724) 216-9160 - acamp@progressfund.org



**APPENDIX B:
PennDOT Coordination**



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RESPONSE TO PENNDOT'S COMMENTS

North Route

- Is there enough ROW to install the barrier and 10' bike lane along Route 711?

We believe there is enough room within the existing ROW for Route 711 to install the shared use path by adjusting the striping of the vehicular travel lanes. This should be the first option explored during the implementation phase to determine if cross-sectional elements meet AASHTO Green Book design criteria. Another option is to designate that portion of Route 711, from LC&CC to the Township Building, as a signed shared roadway ("Share the Road") because it would connect significant uses within the community. A third alternative would be to construct a new trail bridge, independent of the Route 711 vehicular bridge that connects LC&CC to Brigade Lane and Alternative Alignment 2. The report has been .

- The cross section of Route 711 should not be compromised; the barrier and bike lane should be in addition to the existing cross section.

Adding the shared use path and barrier on Route 711 should be further investigated during the implementation phase as noted above.

- There will have to be a maintenance agreement including winter maintenance for this bike lane. The Department will not be responsible for maintenance activities.

The cost of maintaining the shared use path will need to be further considered before construction of the facility. A reporting system should be established so that route users can alert those responsible about facilities that are in need of maintenance. A contact person who can authorize maintenance work should be designated to receive the reports.

- Does the barrier meet the design criteria for the bicycle standards? Height and protection.

The barrier should be a minimum of 42 inches high to prevent bicyclists from toppling over it (taken from the AASHTO Guide for the Development of Bicycle Facilities, 1999). This will be noted on the drawing on page 31.

West Route

- The crosswalk on Route 30 at the intersection with PA 259 needs considered. If this is going to be a heavy crossing, what design features will need mitigation in order to cross safely.

The painted crosswalks on both eastbound and westbound Route 30 will be removed from the drawing on page 50 due to the absence of a traffic signal. Users of the shared use path will be alerted of the highway crossing with signs and markings as outlined in the Manual on Uniform Traffic Control Devices (MUTCD) and AASHTO. Likewise, motorists will also be alerted using the same standards contained in the MUTCD and AASHTO guidelines.



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East Route

- How will the shared-use path be separated from traffic in public ROW until it reaches PA 381?

The shared use path is separated from traffic by a 10-foot wide landscaped buffer. There is adequate room to install a 42-inch high vertical barrier if it is determined necessary during the implementation phase.

- What happens to the route at PA 381? Shown to just end? Where will the bicyclists continue?

The shared use path terminates at Route 381, which is currently designated as a signed shared roadway. Cyclists have the ability to continue to Linn Run State Park.

- Is there enough ROW on Route 30 to accommodate this path and the 10' landscaped path?

Yes, we believe there is adequate room to accommodate the shared use path and landscape buffer within the existing ROW for Route 30. This option should be further investigated during the implementation phase.

- Any bike or shared-use lane or facility in Public ROW will need a maintenance agreement including winter maintenance.

The cost of maintaining the shared use path will need to be further considered before construction of the facility. A reporting system should be established so that route users can alert those responsible about facilities that are in need of maintenance. A contact person who can authorize maintenance work should be designated to receive the reports.

South Route

- Is there enough existing ROW to complete this work?

We believe there is enough room within the existing ROW for Route 711 to install the bike lanes by adjusting the striping of the vehicular travel lanes. This should be the first option explored during the implementation phase to determine if cross-sectional elements meet AASHTO Green Book design criteria. Another option is to designate that portion of Route 711, from Route 30 to the Boucher Lane, as a signed shared roadway ("Share the Road") because it would connect significant uses within the community. We recommend keeping the drawings in the report as-is, and adding text describing the signed shared roadway option.

- Does PA 711 meet the requirements to have a shared travel lane? Were crashes, truck traffic, ADT, etc., investigated?

The collection and/or analysis of traffic data was outside the scope of this report. This work would be included as part of the implementation phase. If it is not possible to install a bike lane, then the route would be designated as a signed shared roadway ("Share the Road").



General Overall Comments

- Any bike or shared-use lane or facility in Public ROW will need a maintenance agreement including winter maintenance.

The cost of maintaining the shared use path will need to be further considered before construction of the facility. A reporting system should be established so that route users can alert those responsible about facilities that are in need of maintenance. A contact person who can authorize maintenance work should be designated to receive the reports.

- For shared lanes, has there been any investigation for Speeds, ADT, Truck Traffic, crash data investigated to ensure that this is safe and reasonable to recommend a shared use of the lanes?

The collection and/or analysis of traffic data was outside the scope of this report. This work would be included as part of moving forward with any implementation phase.

- Do all of the shared use lanes meet the criteria to incorporate on state and local roads?

The purpose of designating certain routes as signed shared roadways is because they provide continuity to other bicycle facilities and connect the community to high-demand uses in the area. The proposed routes also meet most of the criteria outlined on page 19 of the AASHTO Guide for the Development of Bicycle Facilities Routes. In addition, routes will be signed and marked as outlined in MUTCD and AASHTO. It appears that existing roadway shoulders on proposed shared roadways are at least 4 feet wide, the minimum width outlined in AASHTO. Width requirements to accommodate both bicycle and motor vehicles would be confirmed during any implementation phase. Other design upgrades may be deemed necessary to accommodate bike traffic including, but not limited to, bicycle-safe drainage grates, bridge expansion joints, and upgrading paved shoulders.

- Has the ROW been investigated along the state routes to ensure that the projected work can be incorporated or will additional ROW be included?

At this planning stage, it appears that the work outlined in the report can be done within the existing road ROWs. Additional ROW acquisition is not anticipated at this time.



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APPENDIX C:
Property Coordination





NORTH ROUTE

Property Owner	Parcel ID	Location
LIGONIER CAMP & CONFERENCE CEN	51-17-00-00-0006	104 MCCARTNEY CIR
LUTHER P MILLER INC	51-17-00-00-0233	3681 ROUTE 711
SAPONE DAVID S JANE S	51-17-00-00-0235	not listed
TIBERI JAMES V KATHRYN M	51-17-00-00-0030	not listed
CLAYCOMB IRA D & BERTHA J	51-17-00-00-0024	506 BRIGADE LN
CYPHERS MARY JEAN	51-17-00-00-0023	512 BRIGADE LN
KIMMICK WALTER D NANCY M	51-17-00-00-0231	532 BRIGADE LN
DUNLEVY DAVID L TAMARA M	51-17-00-00-0022	538 BRIGADE LN
BOYS BRIGADE CAMP ASSN	51-17-00-00-0230	not listed



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TOWN ROUTE

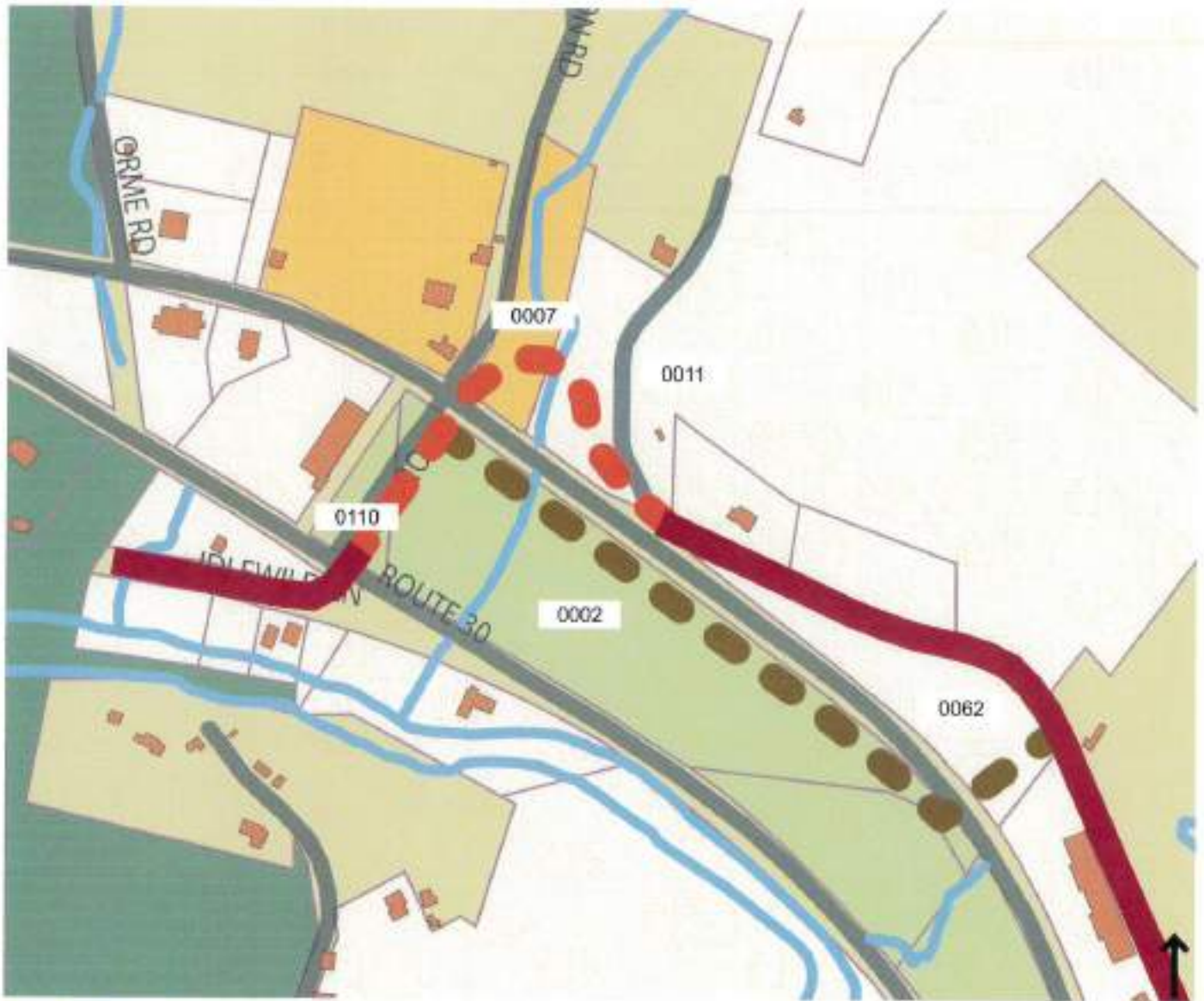
Property Owner	Parcel ID	Location
BETHLEN HOME OF HUNG REF FED A	51-16-00-00-0078	205 KALASSAY DR
LIGONIER BORO SCHOOL DISTRICT	16-01-12-00-0012	not listed
WEST PENN POWER CO	51-16-12-00-0084	not listed
WEST PENN POWER CO	16-01-11-00-0216	310 BUNGER ST





WEST ROUTE

Property Owner	Parcel ID	Location
BYERS TOSH POST 267 AMER LEGIO	51-16-00-00-0072	not listed
VALLEY YOUTH NETWORK	51-16-00-00-0099	20 SPRINGER RD
LIGONIER VALLEY SCH DIST AUTHO	51-16-00-00-0073	40 SPRINGER RD

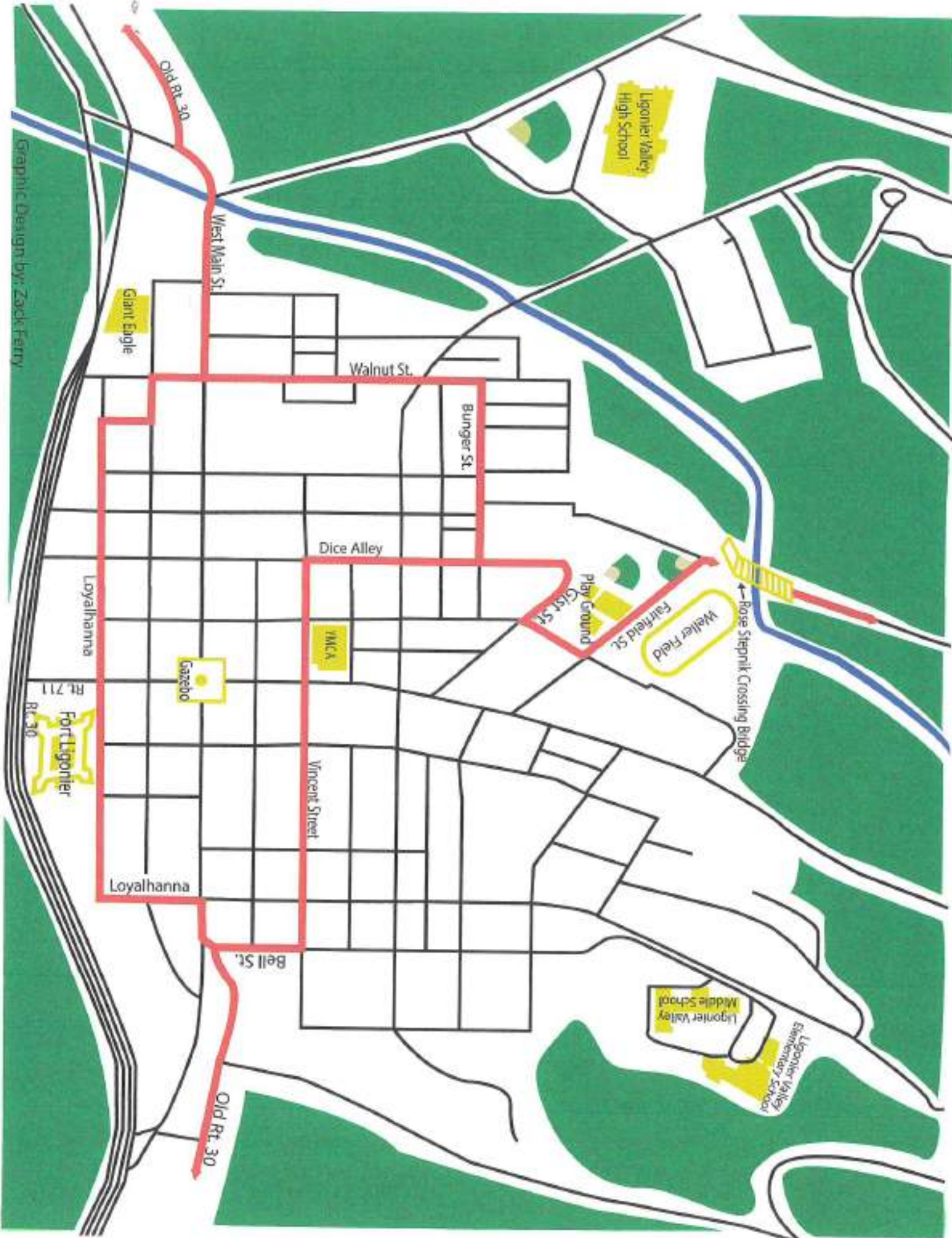


WEST ROUTE

Property Owner	Parcel ID	Location
YANARELLA MICHAEL E JR NADINE	51-10-00-00-0011	not listed
LINCOLN HIGHWAY HERITAGE CORR	51-10-00-00-0007	129 ROUTE 259
LOYALHANNA WATERSHED ASSOC	51-16-00-00-0002	not listed
LOYALHANNA WATERSHED ASSOC	51-16-00-00-0110	not listed
GRAHAM RAYMOND REBA B	51-16-00-00-0062	2407 W



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Ligonier Valley High School

Weller Field

Fairfield St. Play Ground

IMCA

Gazebo

Ligonier Valley Middle School

Ligonier Valley Elementary School

West Main St.

Walnut St.

Bunker St.

Dice Alley

Vincent Street

Bell St.

Loyalhanna

Loyalhanna

Old Rt. 30

Old Rt. 30

Rose Stepanik Crossing Bridge

Graphic Design by: Zack Ferry

Fort Ligonier
Rt. 711
Rt. 30