

BERKSHIRE FLYER: PITTSFIELD TO NEW YORK CITY

FEASIBILITY STUDY

DEVELOPED IN SUPPORT OF THE BERKSHIRE FLYER WORKING GROUP

March 26, 2018

Berkshire Flyer:
Pittsfield to New York City

Feasibility Study

Developed by:
MasssDOT Transit & Rail Division

In support of:
The Berkshire Flyer Working Group

Study Support Provided by:

STV Inc.
HMMH Inc.
TPRG

3/26/2018

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1 INTRODUCTION AND BACKGROUND

1.1 Study Goals

This study is the result of legislation directing MassDOT to assemble a working group of key stakeholders to provide expertise to study the potential for initiating a new rail service in Berkshire County. Specifically the legislation reads:

> *SECTION 137. The Massachusetts Department of Transportation shall convene a working group, not later than October 1, 2017, to identify and evaluate the economic and cultural benefits and political, legal or logistical challenges to the Berkshire and western Massachusetts regions of the commonwealth and the commonwealth as a whole of establishing direct seasonal weekend passenger rail service between the City of New York, New York and the City of Pittsfield between Memorial Day and Columbus Day weekends modeled on the CapeFLYER passenger rail. The working group shall contact state, local and county officials of the state of New York to identify opportunities for collaboration and mutually beneficial improvements and expansions in passenger rail infrastructure and service.*
>
> *The working group shall include, but not be limited to, a designee from the secretary of housing and economic development, elected officials from the state and federal legislative delegations, the duly elected mayor of city of Pittsfield, the Berkshire County Regional Planning Commission and existing rail service stakeholders. The secretary of the Massachusetts Department of Transportation shall designate a qualified individual to chair the working group.*
>
> *The working group shall submit its findings to the Massachusetts Department of Transportation, the senate and house chairs of the joint committee on transportation, the chairs of the senate and house committees on ways and means and the senate and house chairs of the joint committee on tourism, arts and cultural development on or before March 1, 2018.*

The purpose of the Berkshire Flyer Study is to evaluate the potential for using a route through New York to provide seasonal, weekend-focused passenger rail service between Pittsfield, MA and New York City. The goal of the seasonal rail service is to improve the linkage between the regional economic engines of New York City and Berkshire County.

Specifically, the study goals are to document the political, legal and logistical challenges of implementing direct seasonal service, while also identifying and evaluating the economic and cultural benefits of such a service. These goals will be achieved through a study framework that will highlight challenges and benefits to various attributes of a potential service. The study is organized by:

- identifying and evaluating potential routes,
- estimating capital and operating costs, and
- summarizing key factors in the potential market demand for service.

It is not the goal of the study to provide a detailed investigation of every implementation challenge, each service issue, or all of the economic benefits that such a service could provide,

but rather to develop an overview of the scope of investment, the level of demand, and the types of benefits.

The preliminary idea for service is to implement a passenger rail service that operates in a manner similar to the successful Cape Flyer. The Cape Flyer is a service that operates on weekends between Memorial Day and Labor Day, providing passenger rail service between Boston, MA and Hyannis, MA. The service operates as an extension of the Massachusetts Bay Transportation Authority's (MBTA's) Middleboro Line and generally serves passengers that are destined for weekend trips to destinations on Cape Cod or the Islands. The service hosts about 14,000 trips each summer.

1.2 Study Development Process

1.2.1 Berkshire Flyer Working Group

The Berkshire Flyer Working Group was convened on September 26, 2017 to carry out the charge identified in the above-cited legislation. As noted, the Working Group is made up of various stakeholders across Berkshire County that have some working knowledge of existing Berkshire County transportation, tourism and economic development issues. The group was structured so that it could reach conclusions on potential benefits of implementing a seasonal passenger rail service in the short five-month period of the study.

The following persons were invited to participate in the Berkshire Flyer Working Group as members:

- Senator Adam Hinds, Massachusetts Legislature
- Mayor Linda Tyer, City of Pittsfield
- Nathaniel Karns, Berkshire Planning Commission
- Caroline Mael, Amtrak
- Maurice O'Connell, CSX Transportation
- Francisca Heming, MassDOT Highway District 1
- Erica Kreuter, Executive Office of Housing and Economic Development - MassWorks Infrastructure Program
- Rep. Richard Neal, U.S. Congress District 1 Representative
- Rep. Smitty Pignatelli, Massachusetts Legislature
- Rep. Tricia Farley-Bouvier, Massachusetts Legislature
- Billy Keane, Berkshire Board of Realtors
- Jay Green, Berkshire Scenic Railroad
- Eddie Sporn, Robin Road Consulting
- Michael Knapik, Office of the Governor - Western Massachusetts Office
- Tony Mazzucco, Town of Adams
- Robert Malnati, Berkshire Regional Transit Authority
- Jonathan Butler, 1Berkshire

Additionally, the following delegates regularly attended meetings:

- Adrian Servetnick (Executive Office of Housing and Development)
- Alfred Enchill (Senator Hinds Office)

- Clete Kus (Berkshire Regional Planning Commission)
- Deanna Ruffer (City of Pittsfield)
- Kevin Chittenden (Amtrak)
- Matthew Russett (U.S. Congressman Neal's Office)
- Peter Frieri (MassDOT Highway District 1)
- Roberta McCulloch-Dews (City of Pittsfield)
- Sarah Vallieres (Berkshire Regional Transit Authority).

The Working Group also received assistance from Dr. Erin Kiley and her students at the Massachusetts College of Liberal Arts.

1.2.2 Working Group meetings

Berkshire Flyer Working Group meetings were held on the following dates:

- September 26, 2017
- October 17, 2017
- November 27, 2017
- December 18, 2017
- January 30, 2018
- February 13, 2018

Meetings were held at either the Berkshire Regional Transit Authority's offices in Pittsfield, or the MassDOT District 1 Office in Lee. All Working Group meetings were noticed and open to the public.

The main themes and discussions at each meeting were:

- Meeting #1 – Introductions and Review of Cape Flyer Service,
- Meeting #2 – Target Travel Market Discussion and Role of Consultant Support,
- Meeting #3 – Route Alternatives,
- Meeting #4 – Finalization of Route Options, Capital Costs, Travel Data Needs,
- Meeting #5 – Tourism Market, Last Mile Connections, Fare Comparisons, and
- Meeting #6 – Draft Recommendations.

1.3 Potential Passenger Rail Service

Before any details can be developed for a passenger rail service, it is first important to define the purpose and travel markets to be served. This section starts by providing an overview of the seasonal Cape Flyer Passenger Rail Service, which serves as a model for the Berkshire Flyer. This is followed by an overview of the attributes being considered to meet the goals for the Berkshire Flyer.

The potential service attributes were discussed and reviewed by the Working Group. Although members of the Working Group hope that the service goals would change and expand over time, it was agreed that the service would be examined as a limited service that could test the market.

1.3.1 Cape Flyer Rail Service



The Cape Flyer service was initiated in the summer of 2013. It is the first passenger rail operation to serve passengers traveling to Cape Cod since Amtrak's Cape Codder ceased operation in 1996. As the Cape Codder service was focused on providing service between New York City and Cape Cod, the Cape Flyer is the first direct rail service between South Station in Boston and Cape Cod since 1961.

The service runs on weekends and holidays between Memorial Day weekend and Labor Day weekend and is operated by the Cape Cod Regional Transit Authority (CCRTA) in collaboration with MBTA and MassDOT. CCRTA is responsible for non-operations elements, such as marketing, advertising and managing last-mile connections. Although the service has been covering its operating costs, as the service sponsor, CCRTA is responsible for any operating costs if revenue does not meet projections. CCRTA has also invested in marketing and has organized promotions to increase ridership.

Table 1: Cape Flyer Schedule

Boston to Hyannis	FRIDAYS
5:50PM	South Station
6:10PM	Braintree
6:23PM	Brockton
6:40PM	Middleborough/ Lakeville
7:05PM	Wareham Village
7:15PM	Buzzards Bay
8:15PM	Hyannis

Hyannis to Boston	FRIDAYS
9:00PM	Hyannis
10:00PM	Buzzards Bay
10:10PM	Wareham Village
10:30PM	Middleborough/ Lakeville
10:46PM	Brockton
11:00PM	Braintree
11:18PM	South Station

Boston to Hyannis	SATURDAYS AND SUNDAYS
8:00AM	South Station
8:20AM	Braintree
8:33AM	Brockton
8:52AM	Middleborough/ Lakeville
9:10AM	Wareham Village
9:20AM	Buzzards Bay
10:20AM	Hyannis

Hyannis to Boston	SATURDAYS AND SUNDAYS
6:40PM	Hyannis
7:40PM	Buzzards Bay
7:50PM	Wareham Village
8:10PM	Middleborough/ Lakeville
8:26PM	Brockton
8:42PM	Braintree
9:02PM	South Station

The service operates 78 miles between South Station, Boston and Hyannis, MA, a trip that takes about 2 hours 20 minutes. When the service was initiated it was operated as an extension of existing MBTA commuter rail service between Boston and Middleboro/ Lakeville. It continues to operate along that segment of MBTA-owned tracks and stops at stations in Brantree and Brockton. On the MassDOT-owned segment from Middleboro/Lakeville to Hyannis the service also stops at stations in Wareham, Bourne/Buzzards Bay. The stations in Wareham, Buzzards Bay and Hyannis were last used for the Cape Codder service, but all required accessbility -related improvements specifically for the Cape Flyer service. Incremenatal service improvements have been made over the years, for example adding station stops and introducing a dedicated train that eliminates the need to mix of commuter and tourist passengers. However, the Cape Flyer always has been required to maintain a schedule that avoids any conflict with existing commuter service operations.



Source: Pi.1415926535



Source: Kevin Rutherford
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Figure 2: Cape Flyer Stations

The Cape Flyer service has been in operation for five summers, providing between 12,000 and 17,000 trips each season. Ridership varies from weekend to weekend but is strongest in the heavy vacation periods of July and early August.

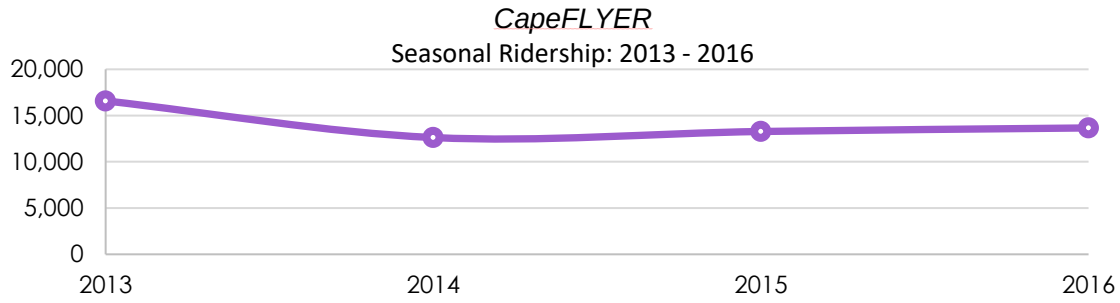


Figure 3: Cape Flyer Ridership

Because the service is focused on the tourist market, the CCRTA and the operator have worked to ensure that passengers have the types of amenities that are important to discretionary riders. They have responded to the needs of their customers by providing:

- Free Wifi/Internet,
- On-board bicycle storage, and
- A Café Car to provide food and beverage storage during the trip.



Figure 4: Cape Flyer Amenities

There is parking at each of the stations, with the following rates:

- South Station – nearby lots from $5 per half hour to $30 per day
- Braintree Station - $7 per day
- Brockton Station - $3 per day
- Middleboro/Lakeville Station - $4 per day
- Wareham Station – free
- Buzzards Bay Station – free
- Hyannis Transportation Center - $10 per day

Fares are generally at or slightly above the market rates established by the intercity bus providers. Sample fares for the service are as follows:

- South Station, Braintree, or Brockton – to - Hyannis: $22 one-way / $40 round trip
- South Station, Braintree, or Brockton – to - Wareham Village or Buzzards Bay: $20 one-way / $35 round trip
- Middleboro/Lakeville, Wareham Village or Buzzards Bay - to - Hyannis: $5 one-way / $8 round trip

1.3.2 Framework for Berkshire Flyer Service

The goal of the Berkshire Flyer legislative direction is seasonal passenger rail service between Pittsfield and New York City. Through discussions with the Working Group, a framework for the service was established that has been used to form alternatives and options for the service. It was understood by the Working Group that the service plan would need to start out modestly, as a proof of concept. Utilizing this framework ensures that the service details remain in line with the goals of the Working Group as any next steps are considered.

The contemplated service focused on the following:

- Providing a one-seat ride from New York to Pittsfield. With a one-seat ride passengers would not be required to transfer trains.
- Providing service between Memorial Day weekend and Labor Day weekend, with potential to extend service to weekends in the fall through Columbus Day.
- Service schedules that would bring weekend travelers from New York to Berkshire County. While travel from the Berkshires to New York City was not a part of the Working Group's charge, it is an objective to be kept in mind as the schedule is developed.
- Optimal service schedules would allow passengers to arrive in Pittsfield by 4 PM on Fridays and depart Pittsfield in the late afternoon on Sundays.

Service schedules for a Berkshire Flyer service would require a balancing of the goals with the schedules and capacities of existing Amtrak operations along the corridor, in order to minimize any initial capital investment. This could include alternative schedule times, length of the operating season, or connections. Chapter 2 will provide detail on the alternatives for service considered.

1.4 Existing Services

Current non-auto travel options between New York City, NY and Pittsfield, MA include Amtrak trains or private carrier buses. The following bus operators can be used to travel a portion or the entire trip between the two cities. Each bus operator has different routes, connections and intermediary cities.

Greyhound – Greyhound provides service between NYC and Pittsfield either on routes that travel through Hartford, CT and Springfield, MA with a transfer in Springfield, MA or on a route that requires a transfer at the Albany Bus Terminal

Peter Pan /Bonanza – Peter Pan/Bonanza Bus Lines provide service between NYC and Pittsfield on routes that travel through Hartford, CT and Springfield, MA with a transfer in Springfield,

MA or through a direct service that travels through Waterbury, CT and Great Barrington, MA, among other stops.

Bus/transit service operators, in addition to those identified above, provide service for portions of the trip and would require transfers at major bus/transit hubs. These options include Trailways/Adirondack Bus, Fox Bus, Megabus and MetroNorth.

The travel times vary considerably based on operator, route, and specific departure time. In general the most direct services are scheduled to take anywhere from 4 hours to 6 hours, with delays likely due to roadway conditions, especially on Friday afternoons in the New York metropolitan area.

The quickest of the bus trips do not experience a significant time penalty for the added stops and transfers. Based on historical travel data from Google, the trip time on Friday afternoons from New York City to Pittsfield takes 4 to 5 hours.

Using a combination of bus and rail modes for trips between New York and Pittsfield (called interlining) is complicated by the fact that at the major transfer location on the most well-served and frequent route (New York to Albany), the terminals for bus service and rail service are not located proximate to each other. At the New York City end of the service most bus departures originate from the Port Authority Bus Terminal on 41st Street, while train departures would originate from New York Penn Station on 31st Street. In the Albany, NY area, the bus and rail terminals are not located close to each other and would require a 25-minute walk (or other service connection), a condition which would dissuade most travelers from choosing that route.

Albany/Rensselaer Station & Transit Center



Source By UpstateNYer; cropped by Beyond My Ken (talk) 21:01, 22 April 2012 (UTC) – Own work, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=19181484

Figure 5: Albany/Rensselaer Station & Transit Center

The Capital District Transportation Authority (CDTA) is the owner and operator of the Rensselaer Rail Station in Rensselaer, New York which opened in September 2002. The rail station facilities include a parking garage, rental cars, CDTA bus service, taxi service, and Amtrak train service.

Albany Bus Terminal

Located on Hamilton Street in downtown Albany, the Albany Bus Terminal is home to Greyhound, Peter Pan, Adirondack Trailways, New York Trailways, Vermont Trailways, Fox Bus Inc., and Tour buses.

The Albany Bus Terminal and the Albany/Rensselaer Station are a 10-minute bus ride apart on the Capital District Transit Authority (CDTA). The service operates six days per week with no direct service on Sundays.



Source: Google (July 2017)

Figure 6: South view of Albany Bus Terminal

1.4.1 Existing Amtrak Services

Currently, connections between Pittsfield, MA and New York Penn Station can be made daily through Albany/Rensselaer Station. Options are available for Friday departures from New York Penn Station on the Amtrak Empire Service at 11:20 AM, with a transfer onto the Amtrak Lake Shore Limited service in Albany/Rensselaer. The transfer would require a 1 hour 15 minute layover in Albany/Rensselaer. Passengers would arrive at Pittsfield at 4:09 PM. This 4-hour and fifty-minute trip is provided once per day. The same trip is possible in the reverse direction on a Sunday, where the train leaves Pittsfield at 4:39 PM and a passenger ultimately arrives in New York Penn Station at 8:50 PM.

When booking travel on the Amtrak ticketing system, a southbound (Pittsfield-New York Penn Station) ticket can be easily identified and purchased; however, due to limitations to the system, a northbound ticket can only be purchased by selecting the individual travel segments (New York Penn Station to Albany/Rensselaer and Albany/Rensselaer Station to Pittsfield Station). Although these trips require connections, the 4:15 to 4:45 hour travel time is comparable to bus and auto trip times.

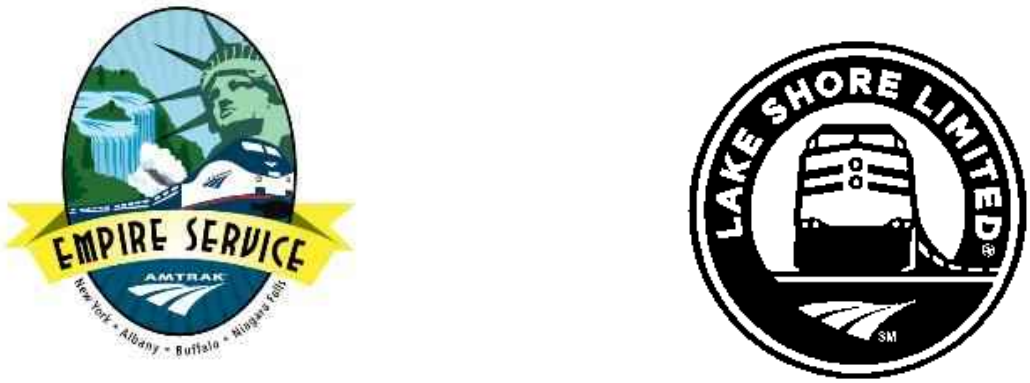


Figure 7: Logos of Existing Amtrak Services

2 ALTERNATIVES

The study examined three service alternatives operating over two different routes to provide the connection between New York City and Pittsfield. The combination of routes and services can be seen in Table 2, Berkshire Flyer Alternatives Matrix. A description of each route and service is included in the following sections.

Table 2: Berkshire Flyer Alternatives Matrix

Service Alternative	Route Used	Construction of New Track Required	Addition of New Trains on Empire Corridor Required
1A	Albany/Rensselaer Route	No	No Extension of Existing Trains
1B	Albany/Rensselaer Route	No	Yes
2	Schodack Subdivision Route	Yes New Connector Track	Yes

2.1 Potential Routes

Two railroad routes were reviewed for the contemplated Berkshire Flyer passenger service from Pittsfield, Massachusetts to New York Penn Station. The Albany/Rensselaer Route is from the Pittsfield Amtrak Station to New York Penn Station via the Albany/Rensselaer, NY Amtrak Station. The Schodack Subdivision Route is from the Pittsfield Amtrak Station to New York Penn Station via the CSX Schodack Subdivision. The Schodack Subdivision route would also include travel along an unbuilt contemplated connection track between CSX's Berkshire & Schodack Subdivisions near Castleton, NY. The two routes reviewed for the service have common beginning and end points and are described in detail below. Passenger service already operates effectively on Amtrak's Hudson Subdivision and with trackage rights on Metro-North, so the existing passenger connection from Mile Post 125.6 (Hudson Subdivision) near Stuyvesant to New York Penn Station is not described technically.

2.1.1 Albany/Rensselaer Route

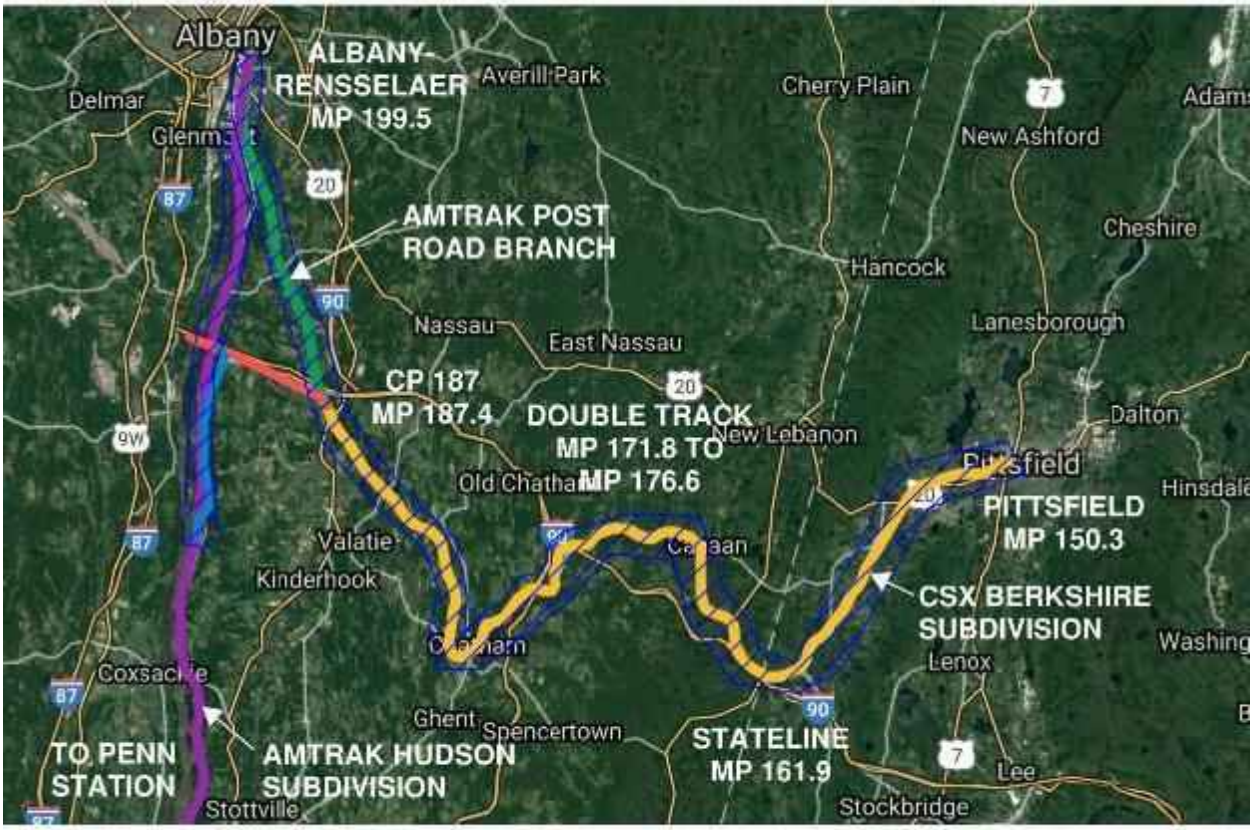


Figure 8: Berkshire Flyer Albany /Rensselaer Route

2.1.1.1 Route Description

Where is it?

The Albany/Rensselaer Route begins at Pittsfield Station, travels to the Albany/Rensselaer Station, and then goes southward to New York Penn Station. (See blue outlined/hatched route in Figure 8 – Berkshire Flyer Albany/Rensselaer Route.) The total length of the route is 191 miles, with 11 miles in Massachusetts, and 180 miles in New York. Ownership of the route is mixed, with CSX having ownership of a portion between Pittsfield and Albany (Berkshire Subdivision) and between Albany and New York Penn (Hudson Subdivision), the other route segments are owned by Amtrak and Metro North.[1]. Despite the mix of route ownership, Amtrak currently operates services on each segment of the route; Amtrak owns the Post Road Branch, leases the Hudson Subdivision from CSX, and has trackage rights on the Berkshire Subdivision and on MetroNorth. (See Appendix D for schematic track plan with ownership, operations, and speeds.)

[1] The Albany/Rensselaer Route would use the CSX Berkshire Subdivision from Milepost (MP) 150.5 (Pittsfield) to MP 187.4; the Amtrak's Post Road Branch from MP 187.4 to MP 199.5 (Albany/Rensselaer), the Amtrak Hudson Subdivision from MP 142.1 to MP 75.8, and MetroNorth from MP 75.8 to MP 0.0 (New York Penn Station).

What are its operating characteristics?

The CSX-owned Berkshire Subdivision generally has a speed of 50/50 (passenger/freight) Miles Per Hour (MPH), with a passenger speed of 60 MPH from Milepost (MP) 150 to MP 157. It has a low passenger speed of 30 to 35 MPH from MP 176 to MP 178. The Amtrak Post Road Branch generally has a speed of 79/50 MPH. The Amtrak Hudson Subdivision has a speed of 15/10 MPH through the Albany/Rensselaer Station, with the speed increasing to primarily 110/50 MPH with some variation heading south to New York Penn Station (although usually at a high speed on the Hudson Subdivision and on MetroNorth). The third leg of the wye north of the Albany/Rensselaer Station where Empire Service trains reverse direction is on the Hudson's Troy Lead and has a speed of 10 MPH.

The Berkshire section of the route is single-track except for a double track segment from MP 171.8 to MP 176.6 (4.8 miles). There are existing industry sidings at MP 177.2 and MP 184.7 and three additional stub end sidings at MP 162.0, MP 162.1, and MP 177.4. Based on historic documents, the route was double track in the past. Existing roadbeds in former double track areas are often efficient locations for new passenger sidings if the cross section is wide enough to accommodate the current required track centers, so this could be evaluated if required by Amtrak or CSX in the future. The Amtrak Post Road Branch is single track, which significantly limits the number and frequency of trains that can use the branch, while Amtrak's Hudson Subdivision and MetroNorth are both double track, which allow for frequent train operations.

The number and locations of signal control points along a rail route impacts the capacity of the route and the ability to operate both passenger and freight service without significant impact to either. Along the CSX-owned segment of the Albany/Rensselaer Route from Pittsfield and Albany there are three Control Points (Interlockings) that are located in a manner that it should minimize the impact that the addition of one passenger train would have on freight operations.

- CP 150 (MP 150.3): A connection to the Housatonic Railroad.
- CP 171 (MP 171.8) & CP 176 (MP 176.6): The ends of the double track section.
- CP 187: Connection between the Berkshire Subdivision and the Post Road Branch.
- The two industry sidings and the three other stub sidings appear to be hand thrown electric lock switches and not signalized control points. This would need to be verified with CSX.

2.1.1.2 Tunnel

The State Line Tunnel is located at MP 164.8 and is approximately 600 feet in length. Vertical and horizontal clearance information does not appear to be publicly available and so would need to be verified with CSX.

2.1.1.3 Station Descriptions

The Pittsfield Amtrak Station includes a station building and a single-sided, 146-foot low-level platform. Amtrak maintains accessibility at the station by making a wheelchair lift available. The functional characteristics of the station have been reviewed and it is assumed that additional improvements would not be required for the Berkshire Flyer service. There is no other railroad passenger facility between the Albany/Rensselaer Station and the Pittsfield Station.

The Albany/Rensselaer Amtrak Station has two high island platforms (840 feet and 1,060 feet in length) and is served by a total of four tracks from the Post Road Branch and the Hudson Subdivision. The station and both of the track approaches (north and south) were improved to allow full flexibility in the station area, allowing trains to move from the Post Road Branch or the Hudson Subdivision to any station track and providing full access between the Station the Rensselaer Shops, where trains are stored and maintained each night. Amtrak's Rensselaer Shops/Yard are directly north of the Station.

New York Penn Station currently serves as the origin and destination for trains traveling through the Empire Connection Tunnel and utilizing the Hudson Subdivision. Even with 21 tracks, the station suffers from chronic capacity issues, limiting the number of trains and resulting in delays and negative passenger experiences. Additionally, the Empire Connection track only has access to the southern portion of New York Penn Station, which it shares with NJTRANSIT. Amtrak currently operates thirteen daily weekday and eleven daily weekend roundtrips along the Empire Corridor between Albany/Rensselaer and New York City. Potential future expansion of this service and planned NJTRANSIT service growth may increase the train volume on this route and at the southern platforms, respectively. There are several projects planned to address these and other operational/reliability issues at the station in the coming decade, but not all funding has been secured. Because the approaches are in long tunnels, only electric or dual-mode locomotives are allowed to access the station.

2.1.1.4 Existing Rail Traffic

In planning any new rail service it is important to understand the existing freight and passenger use of each rail segment on the route, as it will impact the capacity of the line to accommodate the new service and would influence schedule flexibility. The Albany/Rensselaer Route has significant passenger traffic on the Hudson Subdivision that could impact the ability to accommodate service on a new train in a preferred time period. Passenger rail service on the remainder of the route is limited. Freight rail service volumes on the CSX Berkshire Subdivision are notable but not likely to impact the ability for the contemplated service to operate; however scheduling and passenger service on-time-performance may be influenced depending on the operational details of the freight and passenger services. The following is a summary of existing rail traffic on each segment:

Daily Amtrak Passenger Service

- CSX Berkshire Subdivision: 2 Trains
- Amtrak (leased from CSX) Hudson Subdivision: 20 Trains
- Amtrak Post Road Branch: 2 Trains

Freight Tonnage[2]

- CSX Berkshire Subdivision: 10 – 40 Million Gross Tons (MGT)
- Amtrak (leased from CSX) Hudson Subdivision: 0 – 10 MGT
- Amtrak Post Road Branch: 0 – 10 MGT

[2] The amount of rail traffic and related capacity of a rail line is often described by the tonnage of freight carried.

2.1.2 Schodack Subdivision Route

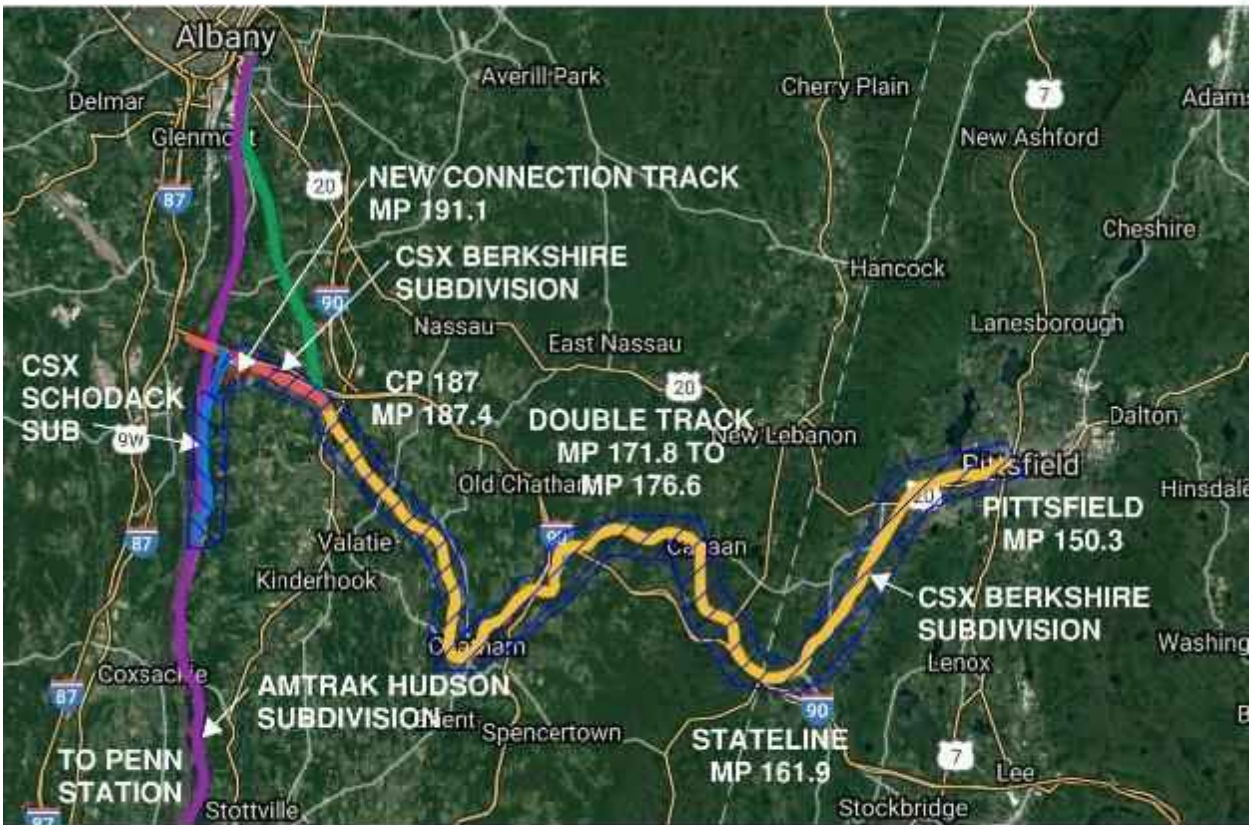


Figure 9: Berkshire Flyer Schodack Subdivision Route

2.1.2.1 Route Description

Where is it?

The Schodack Subdivision Route begins at the Pittsfield Station, bypasses the Amtrak Post Road Branch and Albany/Rensselaer Station, would turn onto the CSX Schodack Subdivision near Castleton, NY (new track), and then would go southward to New York Penn Station on the Hudson Subdivision.

The route would require the construction of a new connection track to allow trains to travel directly between the Schodack Subdivision and eastern segment of the Berkshire Subdivision. Currently the track configuration only permits direct travel between the Schodack Subdivision and the western segment of the Berkshire Subdivision. Without the construction of the new connecting track, the train would need to change direction during mid-route, which is both time-consuming and difficult for a passenger train in revenue operations.

The total Schodack Subdivision Route length is 173 miles, with 11 miles in Massachusetts and 162 miles in New York. The Berkshire Subdivision ends where the Schodack Subdivision ends and the Castleton Subdivision begins at CP SM (Berkshire MP 191.9 = Schodack MP 8.4 = Castleton MP 8.4).

What are its operating characteristics?

The CSX Schodack Subdivision has a speed of 40 MPH for passenger trains and 40 MPH for freight trains from where it would meet the new connection track to where it ends at the Hudson Subdivision at MP 125.6. South of this point, the Hudson Subdivision has a speed of 110 MPH for passenger trains and 50 MPH for freight trains.

2.1.2.2 New Connection Track

The new connection track between the CSX Berkshire Subdivision and CSX Schodack Subdivision would be approximately 3,000 feet in length and would need to meet CSX's standards for a curve at 40 MPH, the same speed as the Schodack Subdivision. The new connection track would require two new signalized control points, one on the Berkshire Subdivision and one on the Schodack Subdivision.

The Berkshire Subdivision is at an elevation of about 173 feet and the Schodack Subdivision is at an elevation of about 152 feet. The topography of the area between the tracks is much higher than the tracks, with about one third of the length of the new track crossing a ridge line (highest point along the alignment appears to be at about elevation 219 feet). The installation of the new connection track through this area would appear to require average excavations of up to about 50 feet through the ridge and about 20 feet along the other two thirds of the new alignment. In addition, it is understood based on United States Geological Survey data that a portion of the excavation would require rock ledge removal in addition to soil removal. Elevations for this conceptual evaluation were obtained using online 3D surface models and are approximate only.

There is currently a bridge carrying Knickerbocker Road over the railroad just south of the new connection track, so the location of the connection track could not be shifted southward to avoid the ridge. In addition to avoiding impacts to the Knickerbocker Road bridge, the contemplated Schodack Subdivision Route alignment avoids both an existing National Wetlands Inventory (NWI) Freshwater Forested/Shrub Wetland[3] to the southeast and a creek and a NWI Freshwater Emergent Wetland to the northeast. If the track was shifted further to the southeast away from the ridge line, it would require a modification of the Knickerbocker Road bridge, takings of additional residential properties in the area, and infrastructure to address the crossing of regulated resource areas near the Berkshire Subdivision, which would all increase project costs. It would also still require an average cut of about 20 feet for the entire length of the track; because this alignment would be much longer, the total amount of cut would be anticipated to be greater than the shorter route through the ridge line.

Additionally, the existing Schodack Subdivision is located within a cut approximately 30 deep. This cut appears to generate drainage issues because standing water can be seen on online photos from the overhead Knickerbocker Road Bridge. It is assumed that the cut for the new connection track would require extensive drainage mitigation to avoid compounding existing drainage issues. This would require further investigation during design development.

[3] Located approximately at elevation 184, with a length of 275 feet

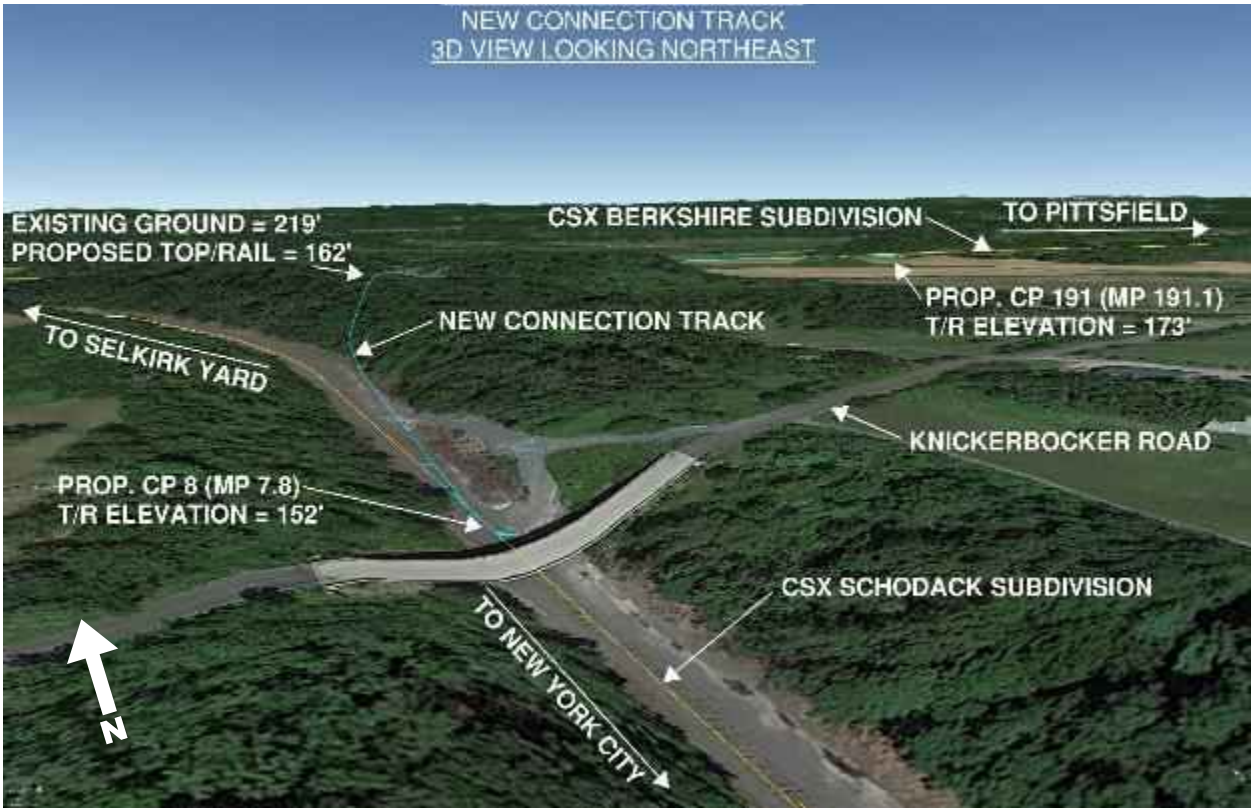


Figure 10: Berkshire Flyer Schodack Subdivision Route – New Connection Track Aerial View

In addition to the construction complexities introduced by the significant cut required to construct the contemplated connection track, the aforementioned wetland and the missing section of right-of-way are likely to increase the cost and duration of the Schodack Subdivision Route implementation. These costs cannot be estimated at this level of project development, but infrastructure assumptions and other related conceptual costs are included in Chapter 3.



Figure 11: Berkshire Flyer Schodack Subdivision Route Environmental Resources

2.1.2.3 Existing Rail Traffic

In considering how the Berkshire Flyer service would interact with existing rail service and evaluating available capacity along the route, it appears that challenges would need to be addressed on the Schodack Subdivision Route. Like the Albany/Rensselaer Route, the Schodack Subdivision Route uses a portion of the Hudson Subdivision that has significant passenger rail traffic that must be considered in planning the service schedule. In addition, CSX uses both the Berkshire and Schodack Subdivisions for freight. More detail would be needed from CSX to understand the existing volumes on the segments. However, because the Schodack is a single-track segment, either additional capacity would be needed or the service would run the risk of significant delay if CSX was occupying the track during the Berkshire Flyer service schedule. The following is a summary of existing rail traffic on each segment:

Daily Amtrak Passenger Service

- CSX Berkshire Subdivision: 2 Trains
- CSX Schodack Subdivision: 0 Trains
- Amtrak (leased from CSX) Hudson Subdivision: 20 Trains

Freight Tonnage[4]

- CSX Berkshire Subdivision: 10 – 40 Million Gross Tons
- CSX Schodack Subdivision: 0 – 10 Million Gross Tons
- Amtrak (leased from CSX) Hudson Subdivision: 0 – 10 Million Gross Tons

2.2 Potential Services

The potential passenger rail service being evaluated in this study would carry passengers between New York City and Pittsfield, MA. The contemplated service would be seasonally focused on serving weekend travelers during the summer and possibly the fall months.

[4] The amount of rail traffic and related capacity of a rail line is often described by the tonnage of traffic on the line.

Operations were examined for an initial service implementation to run from Memorial Day weekend to Columbus Day (up to 20 weeks of service), although a shorter season may be considered if travel demand estimates anticipate a shorter season. Given visitor patterns, members of the Working Group agreed that a slightly shorter season, perhaps operating from the last half of June, might be more viable as an initial implementation step. The planned focus of service is for northbound service on Friday afternoons and southbound service on Sunday afternoons.

The conceptual service plans would need to take into account existing rail services along the line and line ownership. As previously noted, segments of the routes are owned by Amtrak and CSX and are used by both freight and passenger services. Due to the mixed ownership, the only feasible operator would be Amtrak. Amtrak has statutory access[5] to freight railroads' rights-of-ways that exists for no other entity, and therefore can utilize the CSX rail line. In addition, the Berkshire Flyer service plans would need to take into account both the CSX and Amtrak operations. New York State Department of Transportation (NYSDOT) would need to concur with, and be a party to, any service agreement affecting Amtrak service in the state of New York. In preliminary conversations, NYSDOT representatives stated that they would be willing to entertain a proposal for Berkshire Flyer service as long as it does not require changes to existing passenger rail services or additional financial support.

Three conceptual service plans along with service assumptions have been developed and are provided in the following sections.

2.2.1 Option 1A- Empire Corridor Extension

The contemplated service would function as an extension of existing Amtrak Empire Service between New York Penn Station and Albany/Rensselaer using equipment that would be headed to storage at the end of the day to provide the trip to Pittsfield for the Berkshire Flyer service. This service would use the existing tracks between Pittsfield and New York Penn Station via Albany/ Rensselaer.



2.2.1.1 Operational Route Description

On Friday, northbound passengers would board train #255, departing from New York Penn Station at approximately 2:20 PM; arriving at Albany/Rensselaer at 4:50 PM. Passengers would then continue on to Pittsfield aboard the same train, arriving at about 6:10 PM.

On Sunday, southbound passengers would board a train in Pittsfield at approximately 2:45 PM for the trip to Albany/Rensselaer and then would continue on to New York Penn Station as train #244 departing Albany/Rensselaer at 4:10 PM and arriving at New York Penn Station at 6:45 PM.

It is assumed that fares for this and the other options would be consistent with existing Amtrak fare policies and fare structure. However, if the service is to follow the Cape Flyer's pattern of

[5] Railroad Passenger Service Act of 1970.

financial self-sufficiency, other charges may need to be considered. Additional information regarding fares is included in Chapter 5.

2.2.1.2 Station Facility Assumptions

The contemplated service would operate as it currently does, serving all stations between New York Penn Station and Albany/Rensselaer Station. In addition to the existing Empire Corridor stations, the service would stop at the existing Pittsfield Station. Although a second station along the extension could be contemplated in the future in or near Chatham, NY, the capital requirements for a station at that location are too significant to be considered at this time.

2.2.1.3 Capital Requirement Assumptions

Infrastructure

The service as contemplated would travel entirely along the two rail routes that are currently used by Amtrak to provide passenger service (Empire Corridor from New York Penn Station to Albany/Rensselaer and Lake Shore Limited Corridor from Albany/Rensselaer to Pittsfield). It is assumed that the service would not require any additional capital infrastructure along the two routes, at the existing terminal stations or at Pittsfield Station.

Train Layover

It is assumed that the contemplated service would be based out of Albany/Rensselaer and would be operated by providing either deadhead or revenue trips between Pittsfield and Albany/Rensselaer to position trains appropriately. It is assumed that the service would not require any additional capital infrastructure in Albany/Rensselaer or Pittsfield for train layover or crew accommodations.

2.2.1.4 Rolling Stock Assumptions

Because the service is an extension of existing Amtrak services during non-peak periods, it is assumed that the service could be provided by Amtrak using the existing fleet. It is understood that modifications to train consists providing the service would require an additional locomotive to operate along the segment between Albany/Rensselaer and Pittsfield to compensate for the lack of train-turning capabilities in the Pittsfield area (see Appendix B for a wye-track concept that could be considered in the future to improve operations). If the service sells out on a regular basis an additional coach could be added to the train set to accommodate the demand.

2.2.1.5 Contemplated Suggested Schedules

The following schedule has been developed as a suggested schedule for the service. It is noted that this is not optimal, in that the Friday arrival and Sunday departure are later and earlier, respectively, than identified as the preferred timing. However, it is the closest option that fits in with existing Amtrak operations on the Empire Corridor.

Berkshire Flyer: Friday Outbound (Northbound)		
Stations	MP	Dep/Arr
New York Penn	0	**Dep: 2:20 PM**
Yonkers	15	Dep: 2:44 PM
Croton-Harmon	33	Dep: 3:03 PM
Poughkeepsie	74	Dep: 3:45 PM
Rhinecliff	89	Dep: 4:00 PM
Hudson	115	Dep: 4:20 PM
Albany-Rensselaer	142	Arr: 4:50 PM
Albany-Rensselaer	142	Dep: 5:05 PM
Pittsfield	190	**Arr: 6:10 PM**

Berkshire Flyer: Sunday Return (Southbound)		
Stations	MP	Dep/Arr
Pittsfield	0	**Dep: 2:45 PM**
Albany-Rensselaer	48	Arr: 3:55 PM
Albany-Rensselaer	48	Dep: 4:10 PM
Hudson	75	Dep: 4:32 PM
Rhinecliff	101	Dep: 4:52 PM
Poughkeepsie	116	Dep: 5:10 PM
Croton-Harmon	157	Dep: 5:51 PM
Yonkers	175	
New York Penn	190	**Arr: 6:45 PM**

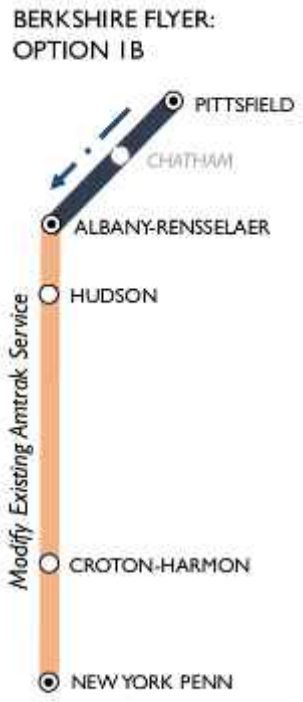
Table 3: Contemplated Suggested Schedules - Option 1A

2.2.1.6 Amtrak Information

MassDOT requested Amtrak to review the contemplated service described above and provide input regarding operational challenges or additional capital equipment or improvements required. Upon completion of its review, Amtrak did not recommend any changes or additions for the service.

2.2.2 Option 1B – Berkshire Flyer Express

The contemplated service would function similarly to Option 1A except that the service would operate as a partial express train stopping at only select stations along the Empire Corridor before reaching Albany/Rensselaer and turning for Pittsfield.



2.2.2.1 Operational Route Description

The service would operate as a **new** train service along the corridor with a Friday early afternoon departure from New York Penn Station and a Sunday departure from Pittsfield in the early evening.

The contemplated Friday departure from New York Penn Station would be at approximately 12:30 PM (or the closest available slot), operating between two existing Amtrak services (#233 and #283) and arriving at Pittsfield at approximately 4:20 PM. This express service would not result in reduced travel times, since it would be delayed at Albany/Rensselaer to avoid conflicts with the Amtrak Lake Shore Limited service at Pittsfield. Alternative New York departure times would need to be identified to achieve the projected 10 to 12 minute travel time savings by running express.

The contemplated Sunday departure of Pittsfield would be at about 5:40 PM, arriving at New York Penn at approximately 9:30 PM.

This service would not decrease service to existing New York Empire Corridor stations, but would utilize capacity along the line without providing service to all Empire Corridor stations. It was noted by NYSDOT that they would not be supportive of an alternative that did not provide service to all the Empire Corridor Stations.

It is assumed that fares for this and the other options would be consistent with existing Amtrak fare policies and fare structure. However, if the service is to follow the Cape Flyer's pattern of financial self-sufficiency, other charges may need to be considered. Additional information regarding fares is included in Chapter 5.

2.2.2.2 Station Facility Assumptions

The contemplated service would skip many of the existing stations between New York Penn Station and Albany/Rensselaer Station, with stops at only Croton-Harmon and Hudson before arriving at Albany/Rensselaer and continuing to the existing Pittsfield Station.

2.2.2.3 Capital Requirement Assumptions

Infrastructure

As with Option 1A, the service as contemplated would travel entirely along the two rail routes that are currently used by Amtrak to provide passenger service (Empire Corridor from New York Penn Station to Albany/Rensselaer and Lake Shore Limited Corridor from Albany/Rensselaer to Pittsfield). It is assumed that the service would not require any additional capital infrastructure along the two routes, at the existing terminal stations or at Pittsfield Station.

Train Layover

It is assumed that the contemplated service would be based out of Albany/Rensselaer and would be operated by utilizing spare Amtrak equipment that is already stationed at Albany/Rensselaer. It is assumed that the service would not require any additional capital infrastructure in Albany/Rensselaer or Pittsfield for train layover or crew accommodations. As part of the Amtrak review of service, they did not identify any issues related to the assumptions being made.

2.2.2.4 Rolling Stock Assumptions

The service could be provided by Amtrak using the existing fleet, by utilizing existing equipment that is not in use by Amtrak during the contemplated service times. It is understood that an additional locomotive would need to be added to the trainset to operate along the segment between Albany/Rensselaer and Pittsfield to compensate for the lack of train-turning capabilities in the Pittsfield area.

2.2.2.5 Suggested Contemplated Schedules

The estimated travel times are similar to those on the existing Empire Service, with a slight improvement due to the elimination of station stops (estimated to be approximately 8 minutes). Specific schedules have not been developed, but assumed departure times were identified above.

2.2.3 Option 2 – Schodack Subdivision Service



The contemplated service would function similarly to Option 1 except that the service would operate along a new route north of Hudson, NY. The route would utilize the CSX Schodack Subdivision and a new Connection Track to be constructed between milepost 7.8 on the Schodack Subdivision to milepost 191.1 on the CSX Berkshire Subdivision.

This route is 18 miles shorter than the route through Albany/ Rensselaer as described above; however, because the route uses the Schodack Subdivision with a maximum train speed of 40 mph instead of the Hudson Subdivision with a maximum train speed of 110 mph, the train travel time savings is estimated to only be four minutes. However, utilizing the Schodack Subdivision would eliminate approximately 15 minutes of time required at Albany/Rensselaer for passenger boarding/alighting, adding a locomotive, and "turning" the train, resulting in a total travel time savings of approximately 20 minutes over Option 1.

As identified for Option 1B, the service would operate as new trains along the corridor with a Friday early afternoon departure from New York Penn Station and a Sunday departure from Pittsfield in the early evening.

The contemplated target Friday departure from New York Penn Station would be at approximately 12:30 PM (or the closest available slot), operating between two existing Amtrak services (#233 and #283) and arriving at Pittsfield at approximately 4:30 PM.

The contemplated target Sunday departure from Pittsfield at about 5 PM arriving at New York Penn at approximately 9:30 PM

Similar to Option 1B, this service would not decrease service to existing New York Empire Corridor Stations, but would utilize capacity along the line without providing service to all Empire Corridor stations. It was noted by NYSDOT that they would not be supportive of an alternative that did not provide service to all the Empire Corridor Stations.

It is assumed that fares for this and the other options would be consistent with existing Amtrak fare policies and fare structure. However, if the service is to follow the Cape Flyer's pattern of financial self-sufficiency, other charges may need to be considered. Additional information regarding fares is included in Chapter 5.

2.2.3.1 Station Facility Assumptions

The contemplated service would skip many of the existing stations between New York Penn Station and Hudson, with stops at only Croton-Harmon and Hudson before traveling the new segment to Pittsfield Station. Albany/Rensselaer Station would not be served. Although a second station along the extension could be contemplated in the future in or near Chatham, NY, the capital requirements for a station at that location are too significant to be considered at this time.

2.2.3.2 Capital Requirement Assumptions

Infrastructure

The service as contemplated would travel along the portions of two existing Amtrak rail routes that are currently used by Amtrak to provide passenger service (Empire Corridor from New York Penn Station to milepost 125.6 on the Hudson Subdivision and Lake Shore Limited Corridor from milepost 187.4 on the CSX Berkshire Subdivision to Pittsfield). It is assumed that the service would not require any additional capital infrastructure along the segments identified above.

In addition to utilizing the existing routes, the contemplated service would utilize the 11.5 miles of existing CSX track (Schodack Subdivision and the Berkshire Subdivision) and 0.6 miles of newly constructed track. Details regarding the newly constructed track are included in the description of the Schodack Subdivision Route and the estimated costs are included in Chapter 3.

Train Layover

It is assumed that the contemplated service would be based out of Albany/Rensselaer and would be operated by utilizing spare Amtrak equipment that is already stationed at Albany/Rensselaer. It is assumed that the service would not require any additional capital infrastructure in Albany/Rensselaer or Pittsfield for train layover or crew accommodations.

2.2.3.3 Rolling Stock Assumptions

It is assumed that the service could be provided by Amtrak using their existing fleet, by providing existing equipment that is not in use during the contemplated service times. The trains used would need a second locomotive so that there is one on each end. This configuration is needed for the train to change directions in Pittsfield, since there are no train-turning capabilities in the Pittsfield area.

2.2.3.4 Contemplated Schedules

The estimated train travel times between Pittsfield and Hudson are approximately 5 minutes shorter, which combined with the 15-minute dwell time in Albany/Rensselaer Station results in a 20-minute timesaving. Specific schedules have not been developed, but assumed departure times have been provided above. Amtrak would identify the non-peak direction trips to Albany or New York City necessary for the appropriate positioning of equipment.

3 CAPITAL COST ESTIMATES

3.1 Required Capital

The three service options examined by this study operate over two potential routes, one through Albany/Rensselaer and one over the Schodack Subdivision. The potential capital cost requirements for these routes vary significantly because of the new connector track required for Schodack Subdivision Route, but they also contain many similar elements. This chapter summarizes the required capital improvements and their estimated cost.

3.1.1 Track Improvements

The Albany/Rensselaer Route is made up of existing track that is currently used for Amtrak passenger service. Accordingly, no track improvement cost is anticipated for the Albany/Rensselaer Route. However, the Schodack Subdivision Route includes both the introduction of passenger service to track that is currently only used for freight traffic, and the construction of a new connecting track. The following subsections describe improvements for the Schodack Subdivision Route.

3.1.1.1 Track Construction

These costs have been only been conceptually evaluated because the collection of geotechnical data is beyond the scope of this study. The following elements would require consideration.

Basic Track Construction

The Schodack Subdivision Route requires the installation of approximately 3,000 feet of new track. Typical track construction includes clearing and grubbing, installation of subballast, and construction of ballasted track. Total potential cost for these items is estimated at $1.2 million. The installation of the track is only one component necessary to allow trains to operate along the corridor. Other efforts, including design, property acquisition, right-of-way site work, train signals and switches are required. Descriptions of those items and the related costs are provided below.

Connections to Existing CSX Track

Two new track switches and two new train signals (called control points) would be required where the new connecting track meets the existing CSX tracks. The new signals would have to be connected into the existing CSX signal systems on both ends. Total potential cost for these items is estimated at $4.3 million.

Earthwork/Drainage

As described in Chapter 2, the new connection track alignment would require a significant cut through an existing ridge. Using available 3D surface modeling information, the average excavation depths appear to be up to 50 feet through the ridge and around 20 feet along about two-thirds of the alignment. Approximately 25% of this excavation is estimated to be rock, but the collection and evaluation of geotechnical data would be required to accurately determine the value. This extensive cut would not only increase construction costs, it would also generate additional drainage issues requiring mitigation, further increasing cost. Total potential cost for these items is estimated at $4.7 to $16.5 million.

Engineering/Permitting

This study is based only on readily available information and did not include the collection of any survey, geotechnical, environmental, regulatory, or right-of-way information. A complete engineering evaluation and design would be required to support any new track construction. This effort is typically estimated to be about 6% of total construction cost. Total potential cost for these items is estimated at $0.7 to $1.4 million.

Land Acquisition

The land required for the new connection track and its construction are in the state of New York and are not entirely owned by CSX. Some of the land is privately held and some appears to be owned by a public utility. Additional real estate evaluation would be necessary before an estimate for land acquisition costs could be made.

Existing CSX Track Upgrades

A 10.2-mile section of Schodack Subdivision Route is on existing CSX track. These sections of existing CSX track do not currently support passenger rail service. It is anticipated that improvements would be required to increase the track classification from Class 3 to Class 4, likely including tie replacements, resurfacing, and tie plates and other track materials. Total potential cost for these improvements is estimated to range from $3 to 6 million depending upon the conditions of the existing track structure.

Positive Train Control

Amtrak would require that the entirety of Schodack Subdivision Route be upgraded to include Positive Trail Control (PTC) prior to introducing any passenger service. Determination of the scope of PTC implementation that would be required to support the contemplated Schodack Subdivision Route service option is beyond the scope of this study; however, PTC implementation costs are typically significant.

3.1.2 Station Improvements

In general, it appears that any of the contemplated service alternatives could begin without performing any station improvements. Future station projects could be considered to increase ridership and improve passenger experiences.

3.1.2.1 Pittsfield Station

Pittsfield Station currently supports Amtrak passenger service, so no capital improvements are anticipated to be required to support any of the contemplated service alternatives. Future station improvements related to universal accessibility and parking could be considered but are not expected to be required for the contemplated service alternatives.

3.1.2.2 Albany/Rensselaer Station

Platform extensions and other station upgrades were recently performed at Albany/Rensselaer Station. It is not anticipated that any additional capital improvements would be needed to support use of the contemplated Albany/Rensselaer Route. The Schodack Subdivision Route does not pass through the Albany/Rensselaer Station.

3.1.2.3 New York Penn Station

As previously discussed, New York Penn Station suffers from chronic capacity issues. Several projects are planned to address these issues. Potential capital improvements to New York Penn Station are not contemplated to support the Berkshire Flyer service.

3.1.2.4 Chatham Station

The addition of a station at Chatham, NY was discussed by the Working Group. Support from Chatham has been reported, but would need to be confirmed and advanced by leadership in that community before this concept could be developed. A new passenger rail station would require a full-length high-level station platform to be built, which is a requirement for any new or newly served Amtrak train station. The station and associated platform would introduce a significant cost to the project that would need to be thoroughly evaluated and studied.

3.1.3 Rolling Stock

Service Options 1B and 2 both require the addition of a new train to each of the existing Amtrak schedules for Friday and Sunday evenings. Amtrak did not evaluate the cost of either of these service alternatives and therefore did not provide input on whether the existing Amtrak fleet includes capacity during the Berkshire Flyer service periods to be able to provide a trainset for the potential service. Although it is understood that existing service on Sunday afternoon is limited, and therefore trainsets are likely available, Friday afternoons are a high-demand period, and it is less likely that Amtrak could provide a trainset for either the 1B or 2 service options.

3.2 Capital Cost Estimate Summary

Many of the cost elements identified above have not been fully estimated since insufficient data is available to determine the required scope. The following costs have been estimated based on the conceptual plans and would be required for the start of any contemplated service.

Table 4: Capital Cost Estimate Summary

Cost Category	Option 1A	Option 1B	Option 2
Track Improvements	$0	$0	$17.2 M - $36.5 M+
Station Improvements	$0	$0	$0
Rolling Stock	$0	$TBD	$TBD
SUBTOTAL	**$0**	**$0**	**$17.2 M - $36.5 M+**

Note: Land Acquisition and PTC Implementation costs would need to be added to Option 2 after further evaluation to determine scope. Additionally, costs (and service options) do not reflect any new stations, although Berkshire Flyer Working Group did discuss opportunities for new stations in the future.

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4 OPERATING COST ESTIMATES

Operating costs for a passenger rail service include all the costs for the daily operation and regular maintenance of the service. The following summarizes the types and categories of costs that are considered.

- Train and Equipment Maintenance – Costs associated with spare parts, labor and materials, and periodic overhauls;
- Crew, Materials, and Fuel – Costs associated with operating the service such as crew salaries and fringe benefits, ticketing, crew-used support materials, and fuel costs;
- Access Rights to Rail Corridors – Defines a charge levied by the owner of the rail infrastructure to use the rail for public transit-related passenger purposes; and
- Service Overhead/Management Costs – Defines the costs for system administrative services, customer service, and general management activities.

Amtrak maintains an operating and maintenance cost model that is used to estimate the cost for service additions and changes on their network. They have used this model, which relies on a contemplated operating plan and actual costs from previous and existing services, to identify likely costs for the Berkshire Flyer options.

From these operating costs, the estimated revenue generated by the service is deducted to identify the total operating subsidy required. Most of the estimated revenue is generated from ticket sales, although a small amount can be generated from on-board food sales. The ticket sales value pivots off a combination of the projected ridership and the fares paid by each passenger. Additional information is provided in Chapters 5 and 6 related to the fare structure and estimated ridership. These operating costs are only for the train service provided by Amtrak and do not include marketing and other support of the type that CCRTA provided to the Cape Flyer.

4.1 Option 1A

Amtrak provided operating cost estimates for a 20-week seasonal service. This option includes a service that is an extension of existing Amtrak Empire Corridor trains and therefore the incremental operating costs is only for the trip between the Albany/Rensselaer Station and Pittsfield Station. Table 5 summarizes the estimated annual (20-week) operating costs:

Table 5: Option 1A Operating Cost Estimate Summary

Cost Category	Cost
Train & Equipment Maintenance	$129,368
Crew, Materials, and Fuel	$245,000
Access Rights to Rail Corridors	$9,000
Service Overhead/Management Costs	$38,193
Gross Operating Cost	**$421,561**
Estimated Revenue	$185,000
Net Operating Cost	**$237,561**

4.2 Option 1B

Detailed cost estimates were not provided by Amtrak for Option 1B. However, since this option contemplates not stopping at all existing Empire Corridor stations, it therefore requires a new train to be operated along the corridor. It is not known if a slot could be found in the schedule that would not interfere with existing Amtrak, commuter, and freight services on the line or if a slot would be available at Penn Station. The requirement for a new train and a schedule slot along the Empire Corridor and into Penn Station could be a fatal flaw for this option.

In addition, with the requirement of a new train for the service, the cost of the entire trip would be allocated to the Berkshire Flyer service operating cost, not just the incremental segment beyond the last Empire Corridor station at Albany/Rensselaer. Allocating the cost of the entire trip (New York to Pittsfield) to the service in addition to any costs required for occupying the new train slot in the schedule would increase costs dramatically. There is no basis on which to determine whether the added operating costs could be offset by even a substantial increase in ticket revenue. The 10 minutes of saved travel time for this option is only about a five percent reduction in travel time and therefore is only likely to increase ridership and revenue by about 6.5 percent, an estimate based on historical Amtrak northeast corridor intercity ridership results. If the vacation-based ridership for the Berkshire Flyer proves more responsive to travel time savings, and ridership could be increased by10 to 15 percent, it would generate approximately $30,000 in annual revenue.

4.3 Option 2

Detailed cost estimates were not provided by Amtrak for Option 2, but because this option also contemplates a new train set, the estimated operating cost increases would be similar to those in Option 1B with the same set of concerns regarding train scheduling. In addition, this option would have an added cost of providing the owner of the Schodack Subdivision (CSX) an additional payment for use and maintenance of their track. It is also not known if a slot could be found in the schedule that would not interfere with existing Amtrak, commuter, and freight services on the line, or if a slot would be available at Penn Station.

5 ALTERNATIVES ASSESSMENT

A summary of the alternatives is provided based on the assumptions detailed in the previous chapters, including the conceptual service schedules, identified capital needs, and estimated ridership, revenue, and operating costs based on 20-weeks of service annually.

5.1 Option 1A

This option appears to provide the most viable set of conditions to implement a pilot service. Under this combination of route and service options, there are no significant capital improvements required, and no capacity issues have been identified. Additionally, because the service would operate as an extension of an existing Amtrak service, the operating costs would be largely limited to the incremental costs of operating between Albany/Rensselaer and Pittsfield.

- Estimated Trip Time: 3:50 – 4:00
- Estimated Berkshire Ridership: ~2,600
- Estimated Capital Cost: $0
- Estimated Gross Operating Cost: $421,561
- Estimated Net Operating Cost: $237,561
- Estimated Marketing/Management Cost: $50,000- $100,000

It is likely that additional funding or in-kind contributions would be required to provide last mile and local transportation services for Berkshire Flyer passengers.

5.2 Option 1B

This option is similar to Option 1A except that it provides express service. The express service would require a new trainset to be operated along the corridor and would increase operating costs dramatically to account for costs along the entire distance from Pittsfield to New York City. In addition, some questions still remain regarding Amtrak's ability to operate the service as contemplated.

- Estimated Trip Time: 3:40- 3:50
- Estimated Berkshire Ridership: ~3,000
- Estimated Capital Cost: $0
- Estimated Gross Operating Cost : TBD - but Greater than $421,561
- Estimated Net Operating Cost: Greater than $237,561
- Estimated Marketing/Management Cost: $50,000- $100,000

It is likely additional funding or in-kind contributions would be required to provide last mile and local transportation services for Berkshire Flyer passengers.

Issues to confirm with Amtrak for an express service would be:

- Availability of a train set to use for the service,
- Capacity for the train in New York Penn Station, and
- Available times to operate the service between Albany/Rensselaer and New York Penn.

5.3 Option 2

This alternative would provide a faster and more direct service than the other alternatives. However, the service would require a new trainset similar to Option 1B, and would require capital investments for the connecting track between the Berkshire Subdivision and the Schodack Subdivision and for track and systems upgrades. In addition, operating costs would increase by some undetermined amount to facilitate access to the CSX-owned track.

- Estimated Trip Time: 3:30- 3:40
- Estimated Berkshire Ridership: ~3,000
- Estimated Capital Cost: $17.2 million to $33.5 million +
- Estimated Gross Operating Cost: TBD - but Greater than $421,561
- Estimated Net Operating Cost: Greater than $237,561
- Estimated Marketing/Management Cost: $50,000- $100,000

It is likely additional funding or in-kind contributions would be required to provide last mile and local transportation services for Berkshire Flyer passengers.

Other issues to address with this option include:

- Availability of a train set to use for the service,
- Capacity for the train in New York Penn Station, and
- Available times to operate the service between Albany/Rensselaer and New York Penn.
- Property acquisition, permitting, and construction of a new connecting track outside the Commonwealth of Massachusetts would be a complex and expensive process.
- Amtrak use of the Schodack Subdivision would require a new agreement with CSX for use of the line and maintenance of the line to passenger rail standards. CSX has established principles for such agreements. (See Appendix E)
- Implementation of the service would be along a new segment of track that does not currently have passenger service, which would require an additional federal review and certification process and possibly other unaccounted for costs such as a new train signal system (known as PTC).

6 FARE ANALYSIS

Fares for bus service and current Amtrak passenger rail service for travel between New York City and Pittsfield were evaluated to understand the costs of other public transportation services and how a Berkshire Flyer service might fit within travelers' mode choices.

6.1 Existing Fares

6.1.1.1 Fares for One-Seat Trips

As previously identified, there are two primary bus operators that provide service between New York City and Pittsfield, Greyhound and Peter Pan/Bonanza. However, there is only one operator that provides a one-seat ride between New York City and Pittsfield. The Peter Pan service that travels from the Port Authority bus terminal in New York City, through Waterbury, CT and Great Barrington, MA provides travelers with a one-seat ride to Pittsfield. The trip is scheduled for 4 hours, 5 minutes, although it is likely that on Friday afternoons the trip time is closer to 5 hours due to traffic. The current fare for this trip is $47 one-way or $94 round-trip.

6.1.1.2 Fares for One-Carrier Trips

Travelers can purchase tickets from Greyhound, Peter Pan/Bonanza and Amtrak for trips entirely on their services between New York and Pittsfield. The following summarizes the existing fares for those services.

Greyhound provides service between New York City and Pittsfield either on routes that travel through Hartford, CT and Springfield, MA with a transfer in Springfield, MA or on a route that requires a transfer at the Albany Bus Terminal. Booking round-trip weekend travel utilizes both routes, traveling though Springfield on Friday and through Albany on Sunday. Each trip is scheduled to take 5 to 6 hours. The round trip fare costs $78 dollars, with one-way fares ranging from $30 to $53 depending upon direction, time and fare class.

In addition to the one-seat trip provided by Peter Pan/Bonanza, they also offer additional trips that include a transfer in Springfield, MA. These two-seat trips are generally scheduled to take an additional 40 minutes and cost $48 one-way.

Passengers can currently book Amtrak rail travel between New York Penn Station and Pittsfield. As previously identified in Section 1.4.1, the connections between Pittsfield, MA and New York Penn Station can be made daily through Albany/Rensselaer Station and would take between four hours ten minutes and four hours fifty minutes, depending upon direction. Although booking the northbound trip may not be easily found on the Amtrak ticketing system, the cost of the trip is typically $54 or $72 each way, depending on direction of travel and $126 for a round trip ticket.

Unlike most bus and commuter rail services, Amtrak manages fares similarly to airlines, where fares are not set at a specific cost but vary based on trip origin/destination, time until trip, and trip demand. This fare model allows Amtrak to match fare revenue with the demand for service, thereby generating more revenue during periods of high demand. This type of fare management makes it difficult to state clearly the cost of each ticket. Revenue estimates for the Berkshire Flyer service were developed by Amtrak utilizing their ridership and fare model based on the range of possible fares within their existing fare structure. Because fare rates would vary depending on time of purchase and demand, specific fares paid were not identified by Amtrak;

however, based on the information provided, it is assumed passengers will pay on average $70 per trip.

6.1.1.3 Fares for Multi-Carrier Trips

There are currently limited options for non-auto passenger service between New York and Pittsfield on Fridays and Sundays. Certainly options increase for travelers if portions of the trip rely on auto-based services. Options could include rental car services from Albany Station or ride shares from the MetroNorth Wassaic, NY station. However, the study and the following discussion is limited to non-auto based options, which increase from those identified in the previous section if travelers consider trips that include multiple carriers.

Multi carrier trips are not typically a popular travel option because delays by one carrier can result in missed connections and stranded passengers with limited or no carrier support. However, some price and/or schedule conscious travelers are willing to make trips on multiple carriers. Using current schedules, several itineraries were possible that included multiple carriers.

On Friday afternoons using a combination of noontime Fox Bus departure from New York and transfer to Bonanza Bus in Albany, travelers could make the trip in 4 hours 30 minutes with a one-way fare of $41.

On Sundays, travel options are possible using multiple carriers and could result in fares as low as $32. However, the total schedule trip times for the identified itineraries were between 5 hours 35 minutes and 5 hours 50 minutes. The Sunday multi-carrier trips include transfers at the Albany Bus Terminal and include Fox Bus and Adirondack Bus combining with Greyhound or Peter Pan/ Bonanza trips.

The multi-carrier trips provide additional departure times; but with little fare savings, longer total trip times and the added risk of missed connections, they are unlikely to be inviting options for most travelers.

6.2 Berkshire Flyer Fares

Existing Amtrak fares between New York and Pittsfield generally cost $62 for advanced purchased tickets, but can increase or decrease depending on when tickets are purchased and demand. For comparison purposes, several other comparative Amtrak fare sets were sampled to provide comparison for the approximately 180-mile Berkshire Flyer trip:

Empire and Lake Shore Limited Corridors

- 177-mile trip Amsterdam, NY to New York Penn Station is currently priced at $48.00;
- 201-mile trip Buffalo, NY to Utica, NY trip is priced at $40.00; and
- 200-mile trip Boston, MA to Albany-Rensselaer, NY is priced at $30.00; and

Northeast Corridor

- 195-mile trip Boston to Stamford, CT on the Northeast Corridor is priced at $118.00.

From this information, the significant difference in pricing between the Empire and Lake Shore service versus Northeast Corridor pricing can clearly be seen.

Bus fares for trips between New York and Pittsfield vary based on carrier and trip departure time but are generally in the range of $30 to $50. Travelers certainly would each weigh the benefits of

travel by train for improved amenities, travel time consistency (no travel delay due to traffic), and overall trip time against the additional cost when making their travel decisions.

Considering all these factors, a one-seat ride service for the Berkshire Flyer would fit in with the current market at between $65 and $90 one-way, given the premium nature of Amtrak one-seat rider service and its consistency with the existing Amtrak pricing structure for service between New York and Pittsfield. Given the study goal of following the Cape Flyer pattern of fully funded service, it would be important to determine whether the market would support a further premium for the service if that was needed. Amtrak estimates 2,600 riders for this contemplated service based on their existing fare structure. In order for the service to be fully self-funded, either more passengers would need to be attracted or additional revenue would need to be generated from each passenger. A detailed ridership fare and ridership response analysis was not conducted, but based on 2,600 seasonal trips, the estimated cost per trip is $162.13. It is likely that fares for this service, which is focused on weekend discretionary travel, could be charged at rates above the standard Amtrak fare so that the required financial support would be reduced. Additional analysis would be necessary to develop passenger profiles that could be used to calculate the appropriate fare premium that would maximize revenue from each generated trip.

7 MARKET ANALYSIS – MARKET IDENTIFICATION AND DEVELOPMENT

7.1 Travel Markets

In accordance with the legislative provision that prompted this study, the initial service being evaluated for the seasonal Berkshire Flyer service is focused on weekend travel from New York City to Berkshire County and is projected to serve two primary markets:

- Weekend tourists from New York City destined to the many cultural and other attractions in the Berkshires, and
- Visitors going to second homes in Berkshire County whose primary residences are in New York City.

There is significant interest among the Working Group in other markets (including Berkshire – based business travelers who go to New York City during the week and Berkshire County residents going to New York City for the weekend) but those markets are not the focus of this study, although they might be incidental beneficiaries of some of the contemplated service.

A summary of available data and information related to the size and attributes of each primary target market is being provided. The data does not provide a complete picture or size for each market as it is being compiled from data made available to or by the Working Group, including a Berkshire Flyer Market Research Report developed by students from the Massachusetts College of Liberal Arts, which is included as Appendix C.

7.1.1 Berkshire County Attractions Market

The tourist sector is an important component of Berkshire County economy. The Massachusetts Office of Travel and Tourism estimate that during the 5 year period (2010-2014) domestic visitors spent over $380 million in Berkshire County supporting 3,100 employees and $92 million in payroll. In addition to supporting jobs domestic visitors paid about $19 million in state taxes and $11 million in local taxes over that period.

Although specific data on annual visitors is not readily available, there are approximately 3,000 hotel rooms available in the county, plus countless smaller bed and breakfasts and inns and a growing number of Airbnb rooms available. Based on an accounting of occupancy of the approximately 3,000 hotel rooms, it is estimated that over 500,000 room nights each year are sold in Berkshire County. In addition, at least another 10,000 guests are hosted in Airbnb rooms each year (See Appendix F), especially during the summer time when demand soars. Based on data provided by the Massachusetts Office of Travel and Tourism and survey data collected by the Working Group, it appears that 12% to 18% of visitors come from the New York metropolitan area, although some anecdotal information indicates and Working Group members believe that New York metropolitan area visitor counts are higher. See MCLA Report in Appendix C for a sample of the information collected.

Tourism in Berkshire County has two primary peak seasons, one in the summer and the other in October, focused around the fall foliage season and Columbus Day weekend. Lodging information and occupancy rates, as shown in Figure 14, indicate that the peak tourism season

extends from July through October. Based on this data it appears that demand for travel may be greater in September and October than in late May and June.

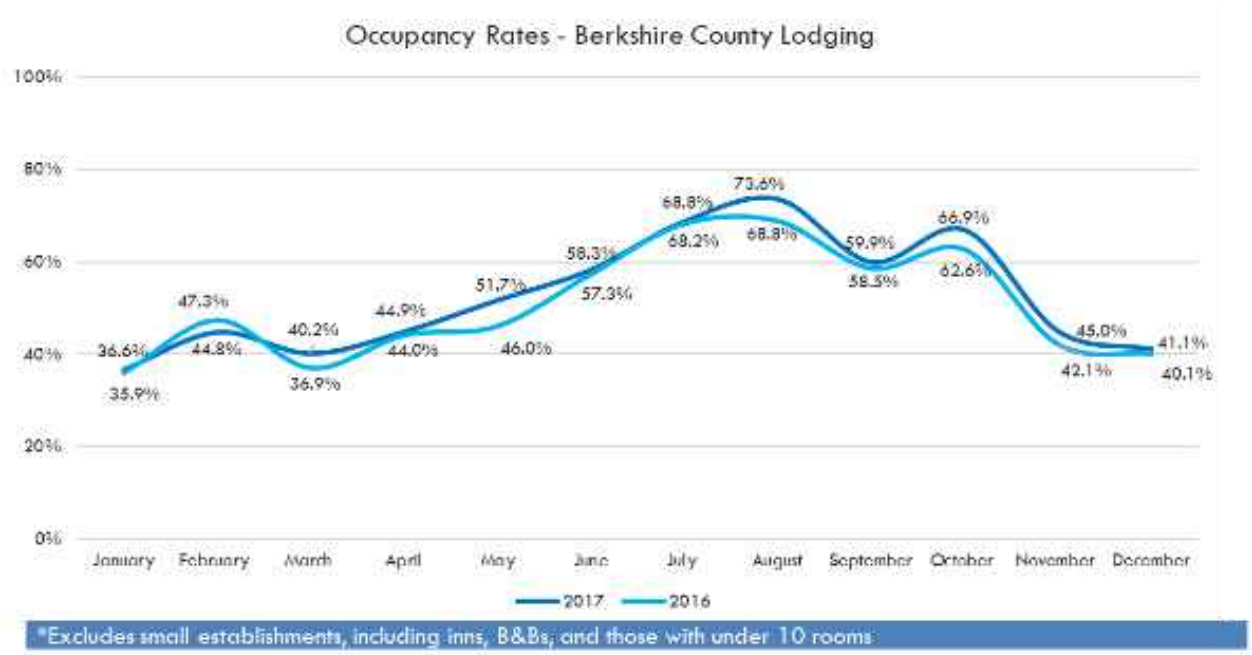


Figure 12: Berkshire County Monthly Occupancy Rates

7.1.2 Second Home Market

One of the travel markets of interest are owners of second homes in Berkshire County with their primary residence in the New York metropolitan area. In this context, "owners" includes visitors and renters. As can be seen in Table 6 and Figure 15 there are about 2,500 second home owners in Berkshire County with primary residences in the New York metropolitan area. When only considering the New York City area and the immediately surrounding counties, the number drops to approximately 1,630. When the area under consideration is matched up with a core area of projected rail ridership demand, which would be limited to New York County (Manhattan), the number of second homeowners is 1,239.

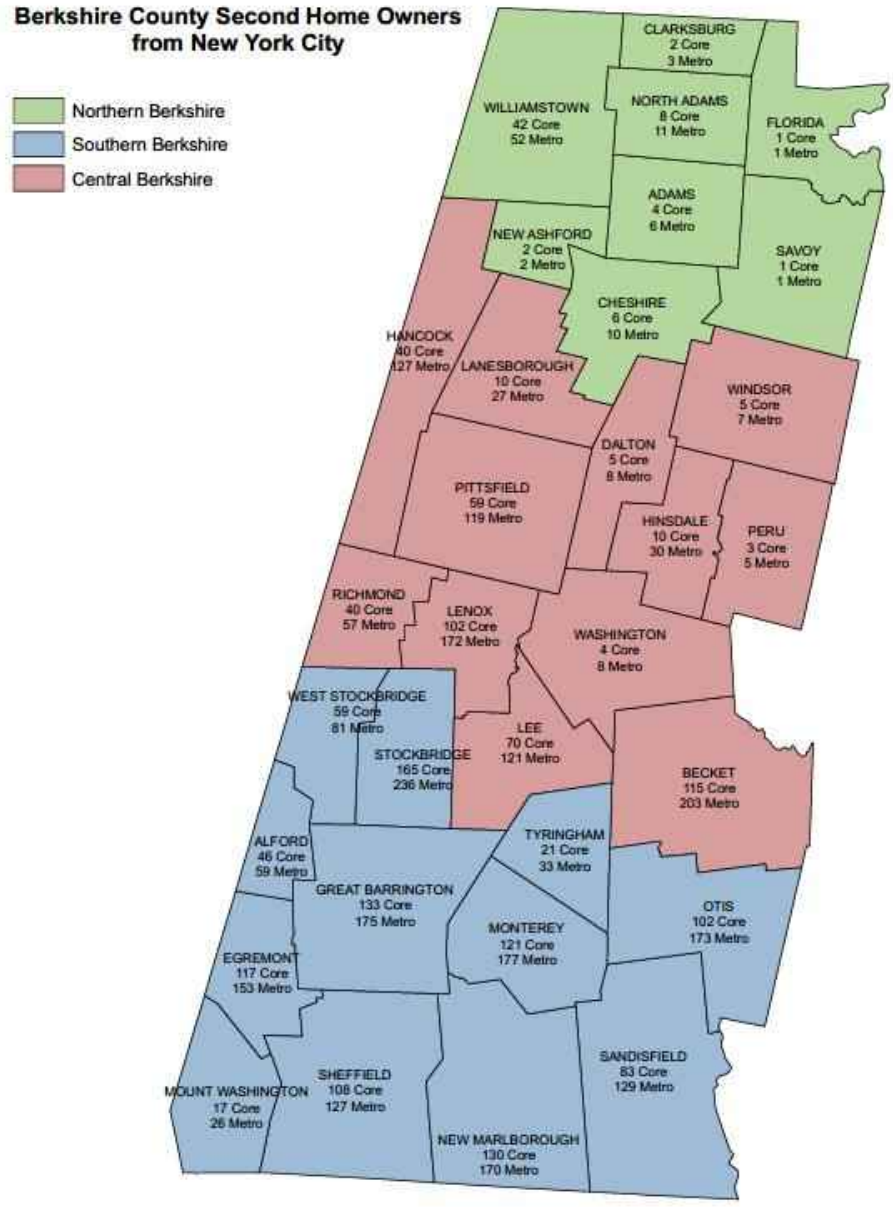
7.1.3 Zero Car Households

The New York residents who are most likely to use seasonal, direct rail service to Berkshire County are Manhattan residents. In Manhattan, there are approximately 582,100 zero-vehicle households.[6] Other portions of the New York metropolitan areas, such as Brooklyn, also have sizable numbers of zero-vehicle households and may be potential Berkshire Flyer riders; however, data indicates that riders of comparable services north of New York are dominated by Manhattan and Westchester County residents.

[6] U.S. Census Bureau (2018). 2012-2016 American Community Survey
https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml

The large population of zero-vehicle households from Manhattan are most likely to travel where a vehicle is not required. Improving transportation options for travel to, and within Berkshire County would be an important component of improving the attractiveness of the county as a tourist destination. Although specific numbers of travelers from zero-car households cannot be specifically calculated, economic benefits can be inferred if this population chooses the Berkshires as their vacation destination.

Figure 13: Berkshire County Second Home Owners from New York City Metropolitan Area



(Source: Berkshire Regional Planning Commission)

Table 6: Number of Second Home owners from New York area by town

Berkshire County Community	New York City Core Area	New York City Metropolitan Area
Adams	4	6
Alford	46	59
Becket	115	203
Cheshire	6	10
Clarksburg	2	3
Dalton	5	8
Egremont	117	153
Florida	1	1
Great Barrington	133	175
Hancock	40	127
Hinsdale	10	30
Lanesborough	10	27
Lee	70	121
Lenox	102	172
Monterey	121	177
Mount Washington	17	26
New Ashford	2	2
New Marlborough	130	170
North Adams	8	11
Otis	102	173
Peru	3	5
Pittsfield	59	119
Richmond	40	57
Sandisfield	83	129
Savoy	1	1
Sheffield	108	127
Stockbridge	165	236
Tyringham	21	33
Washington	4	8
West Stockbridge	59	81
Williamstown	42	52
Windsor	5	7

(Source: Berkshire Regional Planning Commission)

7.2 Destination Transportation Options (Last Mile)

The Working Group identified that although travel to Berkshire County from New York may be difficult during weekend periods, travel to destinations within the County is not difficult if a vehicle is available. Because train passengers would arrive in Pittsfield without a car, it would be essential to provide some way for tourists to get from destination to destination. Most major destinations in the county are not easily accessible from the Pittsfield Station by foot and therefore it would be important to consider how tourists would travel upon arrival and to proactively address this function as part of the project.

During development of the Cape Flyer, these same types of last mile issues were evaluated. Although the Cape Cod travel issues are different from those in Berkshire County, such as weekend bridge congestion and the ferry connections to the Islands, an understanding of the connections that were made or enhanced with the Cape Flyer can be instructive.

The Hyannis Train Station is located at the Bus Station, which has multiple routes operating from Hyannis to destinations across Cape Cod. Passengers can easily transfer from the train to a bus. Because the train service is sponsored by the regional transit authority, they were easily able to assess how service connections could be made.

The Hyannis Ferry Terminal is within a 10-minute walk from the train station. The Ferry Terminal provides frequent services to both Martha's Vineyard and Nantucket. This connection is an important one for the Cape Flyer, because many visitors to the Islands prefer to go car-free and the train provides that easy connection, without the need for a car or the expense of parking.

For visitors that are more focused on Hyannis as a destination, the Cape Cod Regional Transit Authority (CCRTA) operates a Hyannis Trolley during the summer months. The trolley is operated every 30 minutes throughout the day, and provides connections between the Hyannis Train Station and other destinations in Hyannis.

In addition to the service connections listed above, the CCRTA worked with area businesses and hotels to market the service and provide travel packages that included both train travel and lodging. Many partners will provide local transportation for their guests. The CCRTA worked to facilitate the integration of car rental and transportation network companies (such as Uber) into the local transportation network so that travelers using the Cape Flyer had numerous options for local travel.

Implementation of the Berkshire Flyer would require the same type of diligence and coordination to ensure that train travelers have options for local travel. The success of the train service would depend on how easily connections can be made without a car across Berkshire County.

Potential opportunities for improvements to local car-free travel in Berkshire County could include:

- Working with local destinations and hotels to develop tourist packages that include shuttles/vans for local transportation.
- Considering partnerships with TNCs to make local travel cheaper and easier. In some cases, localities and transit agencies have collaborated with TNCs to provide discounts for transit users and to integrate the companies' app into the public transit agencies' websites.

- Integrating car rental and/or car sharing options (such as Zipcar) into the transportation network. Since in some cases automobiles would be the best transportation option for a local trip, providing easy access to an auto may be beneficial. Some car sharing companies, similar to Zipcar, will locate cars in new areas if they are sponsored so that they can ensure the car will generate enough revenue to support the maintenance and upkeep. Future actions around the replacement of the Columbus Avenue parking garage in Pittsfield should be considered when examining integrating car rental and car sharing options in the region.
- Local bus coverage, both in terms of geography and schedule, may be re-evaluated to accommodate more car-free travelers during the peak season. Support for local travel could include seasonal modifications to existing routes or deploying a new service, as was done in Hyannis with the Hyannis Trolley.
- Bicycle rentals may be able to be provided in the City of Pittsfield, providing passengers with a potential travel option during their visit. While Amtrak did not provide information on bicycle storage possibilities on its existing trains, this may be something that could be further examined.

Identifying ways for travelers to get around Berkshire County to their desired destinations would be as important for the success of the seasonal rail service as getting the passengers on the train. There are many successful examples that could be evaluated, such as the ones identified above, and could be successful within the context of Berkshire County.

7.3 Peer Comparisons

There are a number of Amtrak services that operate to tourist-focused destinations that can provide insight into the level of demand passenger rail services can support.

Rutland, Vermont is a destination easily reached by train from New York and is the major commercial center for many of the Central Vermont tourist-based destinations. From Rutland, Amtrak Thruway bus connections are made to the Killington Grand (ski) Resort. The 5- to 6-hour train trip on the Ethan Allen Service from New York Penn Station to Rutland can be made on Friday and Sunday afternoons with schedules made to accommodate weekend travelers. During 2017, it is estimated that there were 1,950 one-way trips to and from Rutland on Fridays/Sundays during the summer/early fall season.[7]

Lake George/Fort Edward-Glens Falls, New York is another tourist-focused destination that can be reached from New York City on the Ethan Allen service or the Adirondack service. The trip between New York Penn Station and Fort Edward Station is 4 to 4 ½ hours long. Lake George, which is the primary tourist draw in the area, is about a half hour from the Fort Edward-Glens Falls train station and can be accessed via a van/car service that is advertised and promoted by

[7] There were 14,267 boardings and alightings made at Rutland Station in 2017. 45 percent of Amtrak trips to Vermont were made during the summer/early fall season. Based on a review of Amtrak data for other New England services, typically 30 percent of trips are made on Fridays/Sundays/

Amtrak. During 2017, it is estimated that approximately 1,500 one-way trips were made on Fridays/Sundays during the summer/early fall season.[8]

Freeport, Maine is yet another tourist-focused destination accessible by train in New England. Freeport is accessible from Boston on the Downeaster Service. The three-hour trip from Boston can be made on Fridays/Sundays. The train station is located in downtown Freeport and is within walking distance to hotels and outlet stores. In 2017, the station had about the same number of total annual boardings and alightings as the Fort Edward station, so the estimated summer/early fall season weekend trips would also be about 1,500 one-way trips.

Williamsburg, Virginia is a highly visited tourist destination in the Mid-Atlantic that is accessible via train. Williamsburg is a four-hour trip from Washington DC with two or three trips available each day between the two destinations. Williamsburg has multiple cultural attractions, such as Colonial Williamsburg with about 1 million visitors annually, a college, and hosts sporting events that also brings in visitors. The train station at this major tourist destination serves over 60,000 boardings and alightings annually, and if travel patterns are similar to those in the Northeast, it is expected that about 8,000 one-way trips are generated on Fridays/Sundays during the summer/early fall travel season.

Based on comparisons of Amtrak ridership to tourist-based destinations in New England that are a similar distance from a major metropolitan area, it is reasonable to expect a seasonal weekend Berkshire Flyer train service to provide 1,500 to 2,000 one-way trips.

7.4 Travel Demand

Even though comparable markets provide an example of the possible demand for a service, the best way to estimate travel demand is with detailed data and modeling of that specific trip. However, travel data for long-distance travel is not easily available and typically involves detailed surveying and trending analysis to get accurate data. The Federal Highway Administration developed a data set titled the Traveler Analysis Framework, which provides estimated volumes of origins and destination across the country for trips over 100 miles on all modes of transportation. Although the dataset is developed using 2008 information, it is still the most valid source of long-distance travel data. To develop the data, FHWA blended multiple data sets, including the American Travel Survey and the National Household Travel Survey, all with varying levels of detail.

It is also worth noting that most long-distance travel volumes, especially in the Northeast, have not changed dramatically from where they were in 2008. Although total travel dropped significantly in 2009 and 2010, volumes for travel on all modes has been generally increasing since that time, so that we are now at a place where volumes are within 5% to 10% of the 2008 volumes.

[8] There were 9,917 boardings and alightings made at Fort Edward Station in 2017. It is estimated that this station had a focus on summer travel and therefore about 50 percent of trips were made during the summer/early fall season. Based on a review of Amtrak data for other New England services, typically 30 percent of trips are made on Fridays/Sundays/

The Traveler Analysis Framework (TAF) is countywide data and includes traveler information between the New York metropolitan area counties and Berkshire County. This data was assessed by the study team and compared to known rail ridership volumes in the area to understand how well the data is calibrated.[9]

Using the TAF data, total travel between some of the peer locations discussed above was compared to gain an understanding of the percentage of total trips that the rail mode could reasonably expect to serve for these types of longer distance trips.

In assessing the data, it was first important to understand what counties should be considered for the origin and destination locations. A careful review of rail travel data was made to understand which counties generated significant ridership for trips out of the New York area to the north. It was determined that rail ridership was dominated by travelers from New York County (Manhattan) with over 95% of all ridership.. The remaining counties (Boroughs) of New York generated less than 1% each, which include Kings County (Brooklyn), Bronx County (The Bronx), Richmond County (Staten Island), and Queens County (Queens). In addition, ridership for Nassau County (Long Island) was also assessed and showed negligible ridership on train trips north of New York City. This reflects typical ridership responses to cost and travel time because New York Penn Station is located in Manhattan and travelers from other Boroughs would incur additional travel cost and time to access Penn Station before boarding and traveling northward. Based on this information, it is reasonable to narrow the focus of travel demand analysis to primarily New York County (Manhattan).

Table 7: Annual Trips New York County to Central Vermont (Ethan Allen Service)

Mode	Trips	Percentage of Total Trips
Auto (non-business)	232,000	70.5%
Auto (business)	46,000	14%
Bus	35,000	10.5%
Rail	16,100	5%
Total	330,000	

Source: Traveler Analysis Framework, 2008

[9] TAF data is a compilation of actual ridership counts, traffic counts, and aircraft enplanements and travel surveys; and provides counties of origin/destination and primary mode of travel. When travel survey data indicates trips are made by multiple modes, such as both rail and car, the traveler identifies the primary mode.

Table 8: Annual Trips New York County to Lake George/Fort Edwards (Ethan Allen/Adirondack Service)

Mode	Trips	Percentage of Total Trips
Auto (non-business)	100,000	68%
Auto (business)	23,000	16%
Bus	15,000	10.5%
Rail	8,000	5.5%
Total	147,000	

Source: Traveler Analysis Framework, 2008

Using that typical mode share and an understanding of the total trips between New York and Berkshire County, a useful estimate of rail ridership demand can be made. Analysis of the TAF data identified that the rail mode generally achieves a five percent mode share when rail service is readily and easily available

The TAF data identified that an estimated 435,000 annual trips are made between New York County and Berkshire County. Currently 1.5 percent of those trips are made via rail. These trips may be on the existing rail services or made predominately (but not entirely) by rail, such as a train trip from NYC to Albany/Rensselaer with a family pick-up/drop-off for the remainder of the trip. Increasing the rail mode share to the five percent rail mode share achieved in other markets would total 23,500 one-way trips. Achieving this level of ridership would require frequent rail service that is easily accessed. Based on the same level of demand, the target for the 20-week seasonal weekend service would be approximately 3,200 one-way trips.

Table 9: Annual Trips New York County to Berkshire County

Mode	Trips	Percentage of Total Trips
Auto (non-business)	334,000	77%
Auto (business)	66,000	15.5%
Bus	26,000	6%
Rail	7,000	1.5%
Total	435,000	

Source: Traveler Analysis Framework, 2008

These travelers would include a mix of those who would be shifting their mode travel (they would make the trip even if the train were not available) and new travelers (they would not travel to the Berkshires if they could not take the train). Surveys of Amtrak passengers regularly report that approximately eight percent of all Amtrak passengers would not have made a particular trip were it not for the availability of Amtrak service.

7.5 Amtrak Travel Model

In addition to assessing the travel market, MassDOT requested Amtrak to estimate the anticipated level of ridership anticipated on the seasonal service. Amtrak has a nationwide intercity travel demand model that is uses to evaluate new services and service changes on its network. Amtrak has been using and improving their ridership methodology for decades. Amtrak has estimated that the service would serve approximately 2,600 passenger trips (one-way) for the 20-week season.

The three methodologies that were used to estimate demand provided similar results with the following:

- Peer service information estimate 1,500 to 2,000 trips
- Amtrak model estimate 2,600 trips
- Traveler Analysis Framework data, 3,200 trips.

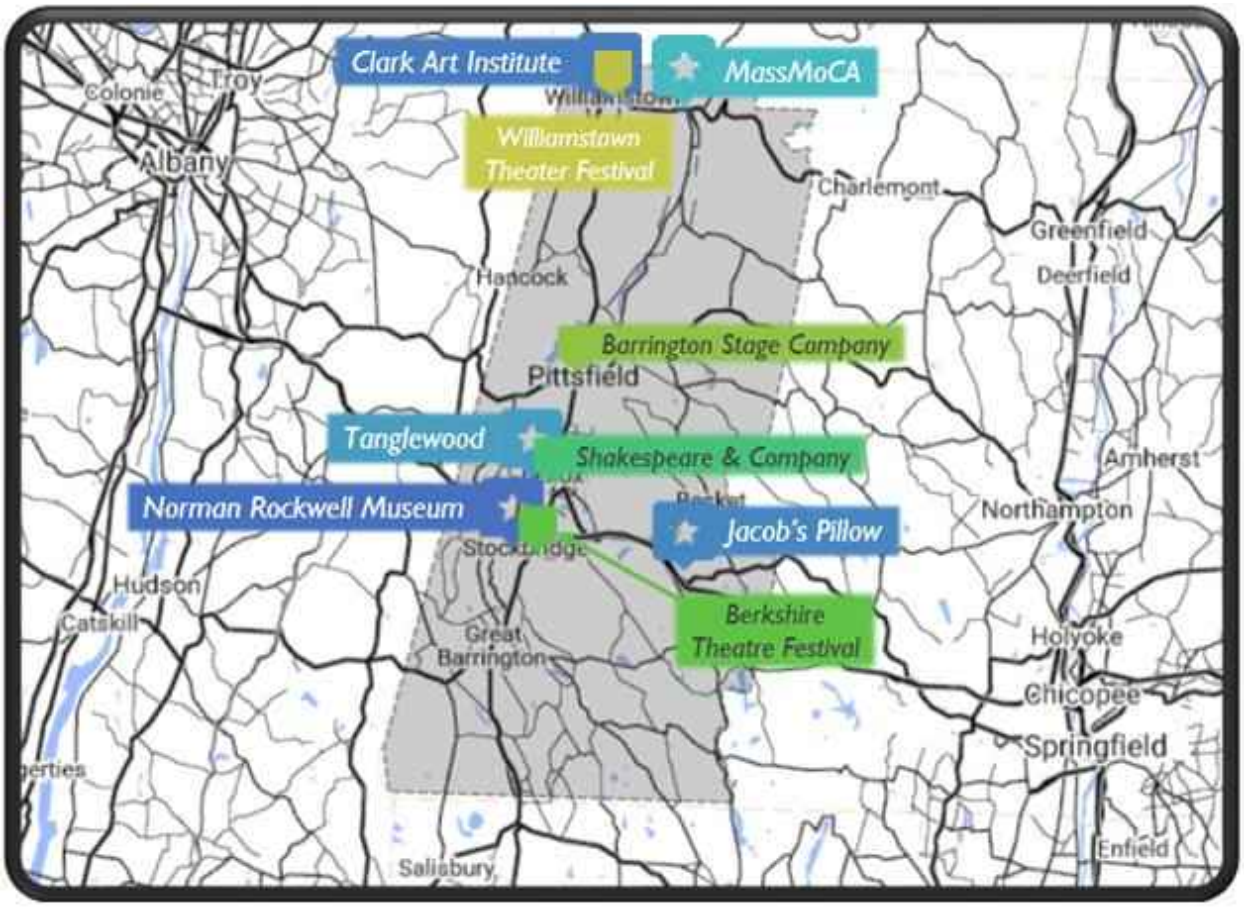
Therefore, using the median value, it is estimated that a well-run and -scheduled seasonal weekend service that provides reasonable connecting transportation would serve approximately 2,600 one-way trips.

7.6 Regional Benefits

7.6.1 Tourist Economy and Marketing

The Berkshires are a popular vacation destination, known for their natural beauty and recreational opportunities. According to the County's Comprehensive Economy Development Strategy (CEDS) 2017 report: "A large seasonal population of urbanites has second homes or stays in resorts and motels, camp at the numerous state parks, visit friends, or simply drive through the area."[10]{pg. 2} Natural landscapes are complemented by major cultural institutions throughout the area, such as the Clark Art Institute, Jacob's Pillow Dance Festival, Tanglewood, Massachusetts Museum of Contemporary Arts (MASS MoCA), Norman Rockwell Museum, and theatrical performances at: the Barrington Stage Company in Pittsfield, Berkshire Theatre Festival in Stockbridge, and Shakespeare and Company in Lenox, and Williamstown Theater Festival. Other large attractions may be added in the coming years, such as the proposed Extreme Model Railway and Contemporary Architecture Museum.

[10] Berkshire Regional Planning Commission (December 2017). *Berkshire County Comprehensive Economy Development Strategy (CEDS) 2017*. http://berkshireplanning.org/images/uploads/documents/BRPC_2017_CEDS_-_12.20_.17_FINAL_.pdf



(Source: MassDOT)

Figure 14 Major Attractions in Berkshire County

Information from 1Berkshire lists seeing museums or historic sites (79.5%), seeing performing arts (59.2%), and engaging in outdoor recreation (36.9%) as among the top reasons for visiting the area, as shown in Appendix A.

The County's CEDS illuminated areas of strength and opportunities to leverage and facilitate economic development. The CEDS also underscores the challenges facing the Berkshire County economy, namely population loss attributed to an outmigration of people within the age range of 18 to 35 years old. The region sees opportunities in promoting innovation, expanding fiber optic connections, enhancing passenger rail service, redeveloping industrial mills, generating entrepreneurial incubation, and capitalizing on development and the agriculture and forestry economies {pgs. 34-36}. [11]

[11] Berkshire Regional Planning Commission (December 2017). *Berkshire County Comprehensive Economy Development Strategy (CEDS) 2017*. http://berkshireplanning.org/images/uploads/documents/BRPC_2017_CEDS_-_12.20_.17_FINAL_.pdf

Expanding rail service is widely seen as beneficial to economic development. A survey conducted by realtors and community members reflected their local support for providing increased weekend rail service. The majority of those survey respondents said that a new rail service would be valuable, could contribute to higher property values, and be used as a marketing tool. The survey appeared to focus solely on the concept of rail. The survey did not specify the type of rail service, its scheduled duration, or its price range. [12] Additionally, expanding rail service through the City of Pittsfield, in particular, has the potential to enhance the city's economy around the station by attracting more visitors and businesses.

It would be important in the marketing effort for the Berkshire Flyer to target and focus on passengers that would be drawn to and supportive of Berkshire businesses. Tourist travel marketing often links together local institutions, attractions, lodging and the local/regional economic development efforts so that it can be both effective and provide the most benefit to the region.

7.6.2 Examples of Intercity Rail Service Marketing by Service Sponsors

Regional examples of intercity rail marketing effort include the Amtrak Downeaster's support of the Freeport, ME economy. The Downeaster started serving Freeport in 2012 and has been working cooperatively with the local Chamber of Commerce to create media campaigns about Freeport as a destination. The service sponsor (NNEPRA) also supports local tourism by marketing and supporting local events, especially during the holiday shopping season. The close cooperation between the service sponsor and local businesses leads to success for both organizations.

Another regional example is the 'Downtowns by Rail' program that is offered by the Vermont Agency of Transportation on the Amtrak Vermonter. This program if focused on supporting Vermont's downtowns, home to unique local businesses, historic architecture, and cultural and social activities. The program provides a discount for travel between Vermont stops and offers lodging packages that include other activities, from mountain bike rentals to cooking classes and horse-drawn carriage rides. The program has also arranged to include shuttle or taxi service from the train station in some of the travel packages

These are just two examples where the local and regional sponsors have worked closely with area businesses to market intercity rail service in ways that leverage local connections to maximize the service economic benefits. Similar efforts would be needed for the Berkshire Flyer, especially during the initial year of service, to ensure the service is linked with the attractions of Berkshire County.

7.6.3 Regional Market Benefits

Market data has been hard to find, which makes it very difficult to project the regional benefits of the contemplated service. The Massachusetts Office of Travel and Tourism (MOTT) reports that the tourism economy in Berkshire County supports 4,008 jobs and provides a total economic

[12] SurveyMonkey (2017). *NYC to Berkshire Rail Service – Berkshire Weekend Flyer Train Working Group Feedback*. https://www.surveymonkey.com/r/trains2017

impact of $739 million. [13] Unfortunately, the number of visitors to Berkshire County is not tracked and it is not known what percentage of them come from the New York City area. According to the 2017 CEDS report and 1Berkshire "a large percentage of visitors to the region come from New York City or Boston {pg. 28}"[14] (see Appendix A), but the Working Group was unable to find definitive data from a range of attractions to quantify this intuitive assertion. A MCLA Berkshire Flyer Market Research report written by students at Massachusetts College of Liberal Arts (MCLA) found that roughly 55 percent of New York City area visitors surveyed specified they traveled for a few days and mainly visit for the cultural attractions in the area. [15] From the limited data provided from attractions that provided visitor counts, New York Metro area visitors appeared to represent between 12 to 18 percent of total tourism visitors.

If 18 percent of visitors are from the New York Metropolitan area, that would translate to roughly 110,000 tourism visitors annually to the Berkshires if statewide tourism data from the Massachusetts Office of Travel and Tourism is assumed to accurately reflect the economics of tourism in the Berkshires. Using those assumptions, tourism from the New York Metropolitan area would then account for $80.4 million in local spending each year and some 41,000 stays[16] per year.

The Berkshire Flyer concept could help support the tourism industry in Berkshire County if new visitors are drawn to the Berkshires because of a one-seat train ride. According to Amtrak surveys, around 8 percent of Amtrak riders would not have made the trip had it not been for Amtrak service. That suggests that a Berkshire Flyer service might add 8% to Amtrak's ridership, a metric that is useful in assessing potential ridership. However, unlike the Cape Flyer service that sought to address a longstanding highway chokepoint, the economic focus for the contemplated Berkshire Flyer service is an increase in visitors, not simply a mode shift. The basis for establishing how many new visitors would come to the Berkshires if there is a train remains uncertain and subjective, although it can reasonably be assumed that such a service would be appealing to some portion of New York City residents, particularly those who do not own a car, and that those new visitors would have a positive economic impact.

The strong support that the business community, residents, and visitors expressed in the two surveys, and the intuitive value that members of the Working Group see in train service, would be key to realizing regional economic benefits from the new passenger rail service that the Working Group identified as the most immediately viable rail option. This enthusiasm and support could be harnessed by a local marketing coordinator to establish the types of travel packages and service connections that are important to make a tourist-focused service successful.

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[13] Massachusetts Office of Travel and Tourism (2018). *Allocation of 2016 Domestic & International Spending of $20.7 B by RTC* (Note: Total economic impact is calculated based on direct, indirect, and induced spending)

[14] Berkshire Regional Planning Commission (December 2017). *Berkshire County Comprehensive Economy Development Strategy (CEDS) 2017*. http://berkshireplanning.org/images/uploads/documents/BRPC_2017_CEDS_-_12.20_.17_FINAL_.pdf

[151515] Massachusetts College of Liberal Arts, Math-444 Operations Research (December 2017). *Berkshire Flyer Market Research Report.* http://berkshireplanning.org/images/uploads/announcements/MCLA_Berkshrie_Flyer_Report_Jan_2018.pdf

[16] Note: a stay was calculated by the total number of room nights and an assumed average of 2.5 lodging nights, only calculated for establishments with 10 or more rooms, and excluding B&Bs and other smaller lodges

8 NEXT STEPS

8.1 Study Summary

The purpose of the Berkshire Flyer Study is to evaluate the potential for using a route through New York to provide seasonal, weekend-focused, passenger rail service between Pittsfield, MA and New York City. Specifically, the study goals were to document the political, legal and logistical challenges of implementing direct seasonal service, while also identifying and evaluating the economic and cultural benefits of such a service.

The study identified two potential routes between Pittsfield and New York Penn Station with three operating options. Based on an assessment of those routes and options, one combination was identified that could work within the preferred implementation approach of initiating the service using a regionally supported "pilot program" that would test the concept before significant investment or long-term commitments were made, as was done for the Cape Flyer service. The preferred option is a route using the same tracks as the existing Empire Corridor service and Lake Shore Limited service, connecting in Albany/Rensselaer. This Friday/Sunday seasonal service would not require capital improvements and could be operated by Amtrak utilizing their existing equipment.

It is estimated that the annual financial cost for train operations would be approximately $237,561 if the estimated service revenue could be captured and the service would carry 2,600 passengers over a 20-week season. In order to implement the Berkshire Flyer service, certain actions beyond funding for the service itself would be necessary to advance the project and develop an efficient service that provides the maximum benefits to the Commonwealth and Berkshire County. Those other actions are discussed below (for example, marketing and enhanced local travel options).

This study has outlined and evaluated alternative routes and service patterns that could be pursued if there were substantial interest in establishing a seasonal, weekend-focused, passenger rail service similar to the Cape Flyer between New York City and the Berkshires. Amtrak has been a helpful partner in this evaluation and the New York State Department of Transportation has informally indicated that it would be willing to discuss such a service being added to the routes that already exist on the Empire Corridor and using the Albany/Rensselaer Station.

8.2 Implementation Actions

The following are actions to consider in advancing implementation of the Berkshire Flyer seasonal passenger rail service concept.

<u>Identify Source of Operating Support</u>

Operation of the service as currently conceived would require approximately $421,561 in operating costs and an estimated $50,000 to $100,000 in service management and marketing costs, totaling approximately $520,000. This amount is based on the identified service schedule and season duration (20 weeks). Based on estimated ridership (2,600 trips), the estimated service revenue would be $184,000 which would be used to reduce the total costs to $336,000. The actual financial support needed would vary with changes to the season duration and actual ridership.

The service management cost is an estimate of ongoing (annual) costs, however initial year start-up costs may be greater. For example, in the CapeFLYER experience, roughly $110,000 to $120,000 was spent in the first year, but it became far less in later years.

It is possible the amount of financial support could be reduced. One approach would be to shorten the duration of the season. As noted in Chapter 7, the peak tourist season is in July and August, with a second smaller peak in the fall. In an effort to limit the required financial support, the season could be shortened to eliminate either the May/early June weekends, the weekends after Labor Day, or both. Another approach would be to consider increasing the fare to Pittsfield for the Berkshire Flyer trips. Although the existing Amtrak fare is appropriately priced at the top of the market, there may be room for increasing the fare without substantially affecting ridership. Tourist passengers are typically less sensitive to price increases than commuters or frequent travelers. For example, the financial support could be reduced by $20,000 with an increase in the fare by $10 per trip.

Alternatively, it may be prudent to consider requesting support from entities that would benefit from the increased accessibility. Financial support could be requested through contributions from individual institutions, business coalitions, or other local sources. The combination of reducing the needed support through service changes, along with some contributions, may bring the needed support down to a level that could be funded through reallocation of existing municipal or regional budget line items. Tourism entities may be able to offer some assistance with marketing and developing an understanding of the tourist market.

One potential source of operational funding is the Federal Railroad Administration's Restoration and Enhancement (R&E) Grants Program. A Notice of Funding Opportunity was recently released for this federal grant program, which is for "Operating Assistance grants for Initiating, Restoring, or Enhancing Intercity Rail Passenger Transportation". The program would fund between 40% and 80% of the net operating costs for up to three years. This is a national competitive discretionary grant program with only $4.7 million in annual funding, so funding is not assured. The Berkshire Flyer service would be evaluated in comparison to other intercity rail programs. Applications for funding are due May 22, 2018.

Pilot Program Evaluation

Prior to initiating any Pilot Program, it is important to understand the goals of the program, what outcome would be considered successful, and how long the pilot is intended to last. Last year, the MBTA developed a Policy on the Evaluation and Selection of MBTA Service Pilots to assist it with defining and evaluating successful service pilot projects. Although this policy is not directly applicable to the Berkshire Flyer, it does provide some components that should be considered before implementation of the Berkshire Flyer is advanced. The most notable components are:

- *Pilots need to have a clear and consistent sponsor* –A Service Sponsor needs to have the capacity to provide the financial support and focus necessary to pursue implementation of the concept, typically called a "project champion".
- *Pilots need to have demonstrated public support behind them* – The Service Sponsor and other stakeholders would need to justify the projected expenditures. Developing and/or compiling additional information on the tourist economy in Berkshire County and the related economic impacts and benefits would be helpful in that justification.

- *No pilot will be approved for implementation without a prior commitment …to the metrics below:*
    - *A ridership target for the pilot expressed as both total ridership over the pilot period and average daily ridership,*
    - *Projected revenue for the pilot service*
    - *A performance measure that best measures whether and by how much a pilot achieves the goals originally established for it.*

Prior to the start of the Pilot, it is important to establish a time frame for the pilot (1-2 years) and metrics related to ridership, revenue and other service-related outcomes (i.e. on-time performance, customer satisfaction, community support) to be able to gauge the results and to program financial support for future operating seasons.

Service Sponsorship

To replicate the success of the Cape Flyer, more would be required than just requesting that Amtrak provide the service. Local leadership would be essential for marketing, coordinating connecting services, wayfinding, and providing the local/regional support activities (parking, ticket sales, etc.) that customers would expect. As noted above, a local sponsor would be required to manage the service. This effort includes both advocating for the service and carrying out the support activities listed above. This sponsorship also requires some dedicated funding to operate and can add 10% to 15% to the gross operating costs of the service. It should be noted that the level of effort during the first year of service could double, requiring both additional staff time and associated financial resources.

Last Mile/Local Transportation

For the Berkshire Flyer, the success of the service would also require implementation of additional local transportation services. This study identified a number of opportunities but there are certainly additional services that could be considered. Prior to implementation of the service, the local transportation/last mile issues would need to be more fully vetted, evaluated and addressed. This would require significant local coordination to identify primary origins and destinations, existing services and service gaps, transportation opportunities and improvements, service partners, preferred modes/services and coordination on implementation. As an example, if the Berkshire Regional Transit Authority charged a special fare to cover all its costs, it might be able to provide some of the local connections, particularly on Friday afternoon when it offers service now, and it might help coordinate service provided by others.

Developing a vision and implementation plan for additional transportation options in Berkshire County is essential for the success of the Berkshire Flyer, but would also have benefits well beyond the rail service. As transportation changes progress in the coming years with the quickening implementation of autonomous and connected vehicles, TNCs, car/bicycle sharing, and other transportation technology advances, it would be important for the Berkshire County economy to react and respond. It may be easier to understand how many of the technologies listed above fit into urban locations, but proactively integrating those changes into transportation plans for rural tourist-focused economic development will be crucial for success, as the travelers and tourists move away from the current auto-ownership-focused system. Development of a plan for local last-mile transportation will be important for both the Berkshire Flyer and the wider tourist economy of the Berkshires.

8.3 Next Steps

There are numerous actions required to implement a successful passenger rail service. It is anticipated that it will take a minimum of nine to 12 months to carry out the activities needed for a seasonal Amtrak service, although it could take longer depending on the availability and programing of funds. Particularly important are supportive activities such as the development of "last mile' services for Berkshire Flyer customers and a robust marketing effort that would help establish partnerships with local stakeholders. This work could target a service start-up in the summer of 2019 or 2020. For a service to be widely supported there are a number of other actions that would be necessary.

- Identify a local Service Sponsor that would progress project implementation actions. The sponsor would organize the necessary implementation actions, such as compiling and documenting project justification data and information, developing a long-term sustainable financial plan, developing and implementing a marketing plan, and organizing local transportation connections. In addition, the Service Sponsor would hold the ultimate financial responsibility for the project, and could seek additional funds to bolster the initial viability of the service.
- Although the start of the financial plan has been established through information provided by Amtrak for the operating cost, the additional implementation costs, such as marketing and management, need to be refined and quantified to determine the overall service costs. MassDOT could provide support in coordinating with Amtrak and NYSDOT, but local financial support would be key to any steps.
- Estimated ridership and revenue has been included as part of the Feasibility Study based on a set of service assumptions. Upon completion of a financial plan and further service development, metrics that define success for the service would need to be established. Metrics that would lead to continued operation would include ridership and revenue targets as well as other metrics that will define and identify the benefits of the service to Berkshire County and the Commonwealth

APPENDIX A – Berkshire County Tourism Impact

1BERKSHIRE

2016 Berkshire County & Massachusetts Tourism Impact

Berkshire County:

Direct visitor spending: $462.1 million (Domestic-$420.7 million, International- $41.4 million)
State Tax Receipts: $24.17 million
Local Tax receipts: $13.41 million
Jobs Supported: 4,008
Payroll: $121.7 million

➔ **Total 2016 economic impact: $739 million**

State of Massachusetts:

Direct visitor spending: $20.7 billion (Domestic -$17.9 billion, International -$2.8 billion)
State Taxes: $859.2 million
Local Taxes: $518.2 million
Jobs supported: 138,984
Payroll: $4.8 billion

Berkshire Visitor profile:

Median age: 52
Median HHI: $100,200
Married: 80.3%
College Educated: 55%

Travel preference
- Travel as couple: 65%
- Travel with children: 20%

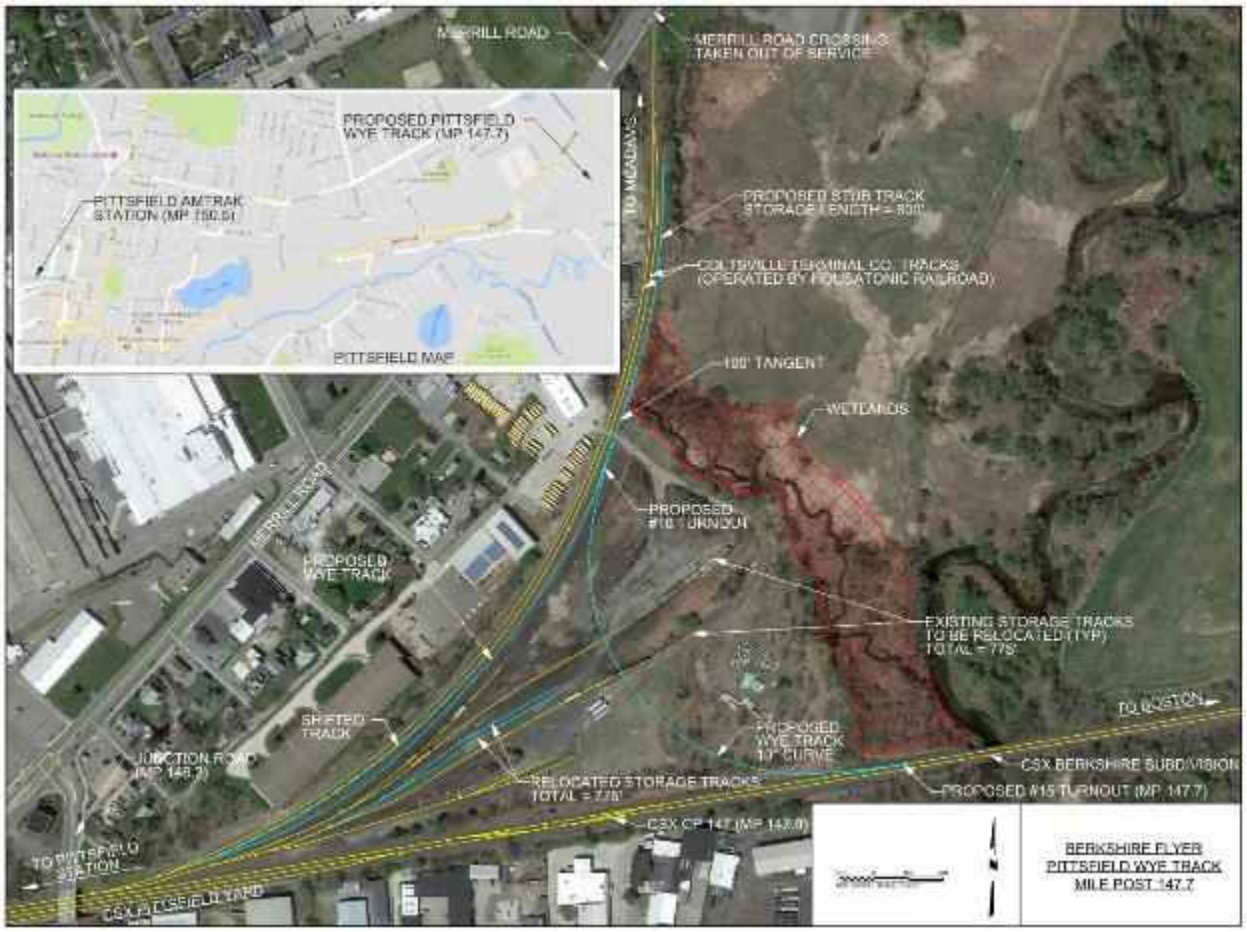
Top Places of Origin
- New York City metro
- Boston metro
- Hartford/New Haven
- Rest of Massachusetts & New England

Activities Engaged In While Visiting the Berkshires:
- Museums/historic sites: 79.5%
- Performing arts: 59.2%
- Outdoor recreation: 36.9%

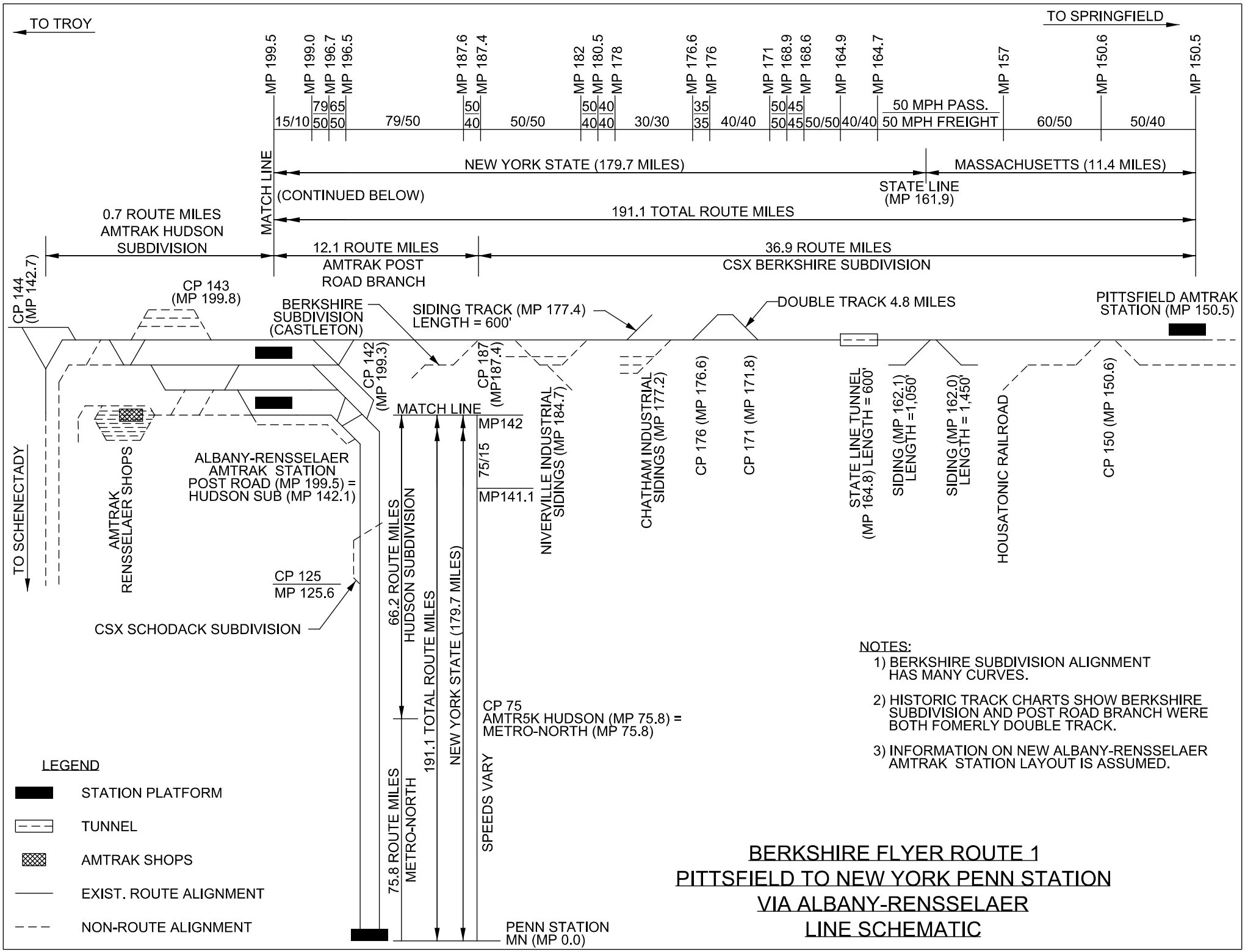
Updated: October 2017

APPENDIX B – PITTSFIELD WYE TRACK

There is currently not any way to turn trains at Pittsfield Station. All of the proposed service alternatives would terminate and begin at Pittsfield, so the consists would have to include two locomotives, one on each end of the train. Alternatively, a wye track could be constructed in the future near the Pittsfield Station to allow the trains to turn. Construction of this wye track would require coordination with multiple railroad entities including CSX and the Housatonic Railroad Corporation, and permitting through state and local regulatory agencies. A construction cost between $2 million and $5 million could be considered for planning purposes. This would include typical track construction, signalization if required, drainage, land acquisition, engineering, permitting, and contingency.



APPENDIX D –
Berkshire Flyer Route Alternative Schematic Plans



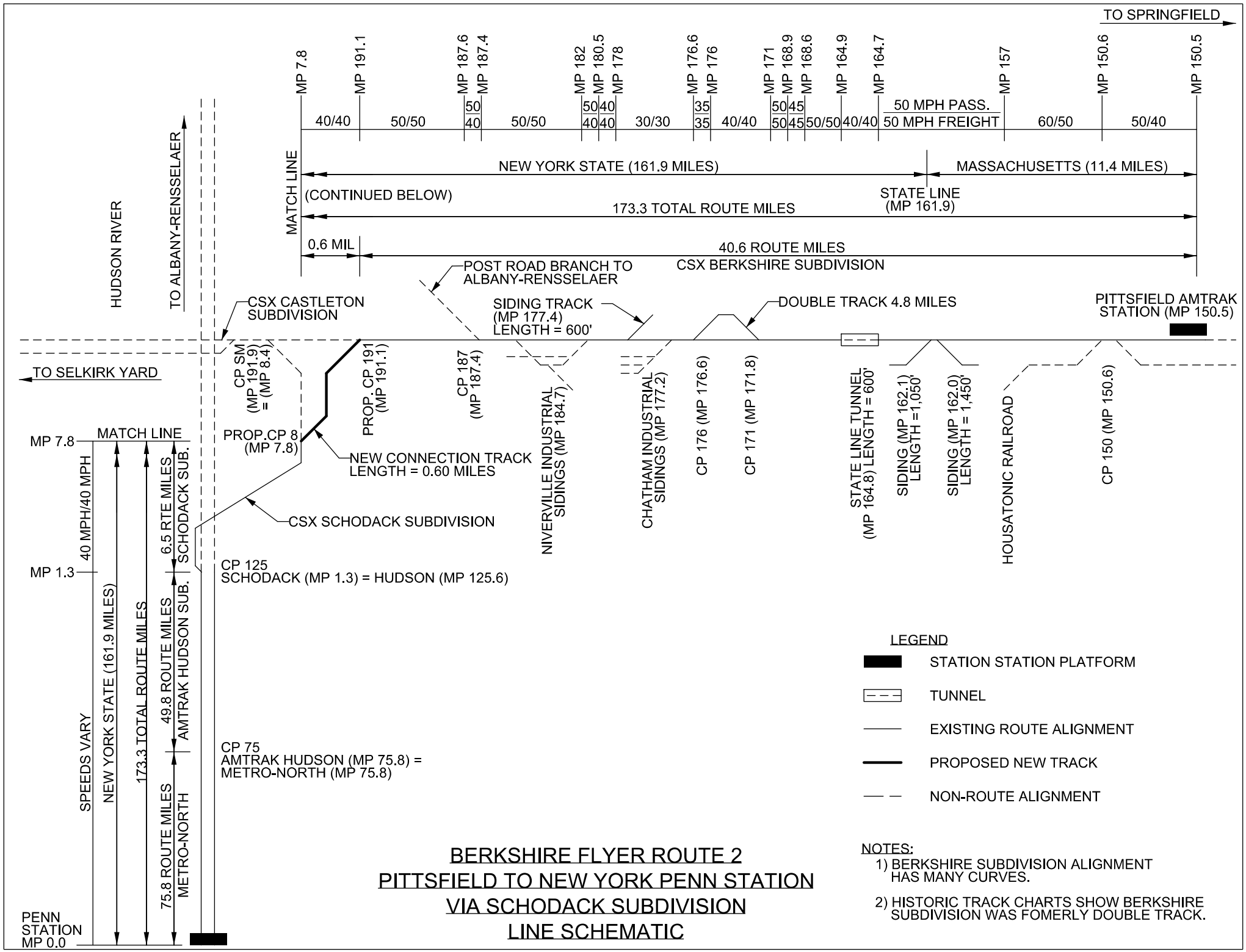
NOTES:

1) BERKSHIRE SUBDIVISION ALIGNMENT HAS MANY CURVES.

2) HISTORIC TRACK CHARTS SHOW BERKSHIRE SUBDIVISION AND POST ROAD BRANCH WERE BOTH FOMERLY DOUBLE TRACK.

3) INFORMATION ON NEW ALBANY-RENSSELAER AMTRAK STATION LAYOUT IS ASSUMED.

BERKSHIRE FLYER ROUTE 1
PITTSFIELD TO NEW YORK PENN STATION
VIA ALBANY-RENSSELAER
LINE SCHEMATIC



BERKSHIRE FLYER ROUTE 2
PITTSFIELD TO NEW YORK PENN STATION
VIA SCHODACK SUBDIVISION
LINE SCHEMATIC

NOTES:

1) BERKSHIRE SUBDIVISION ALIGNMENT HAS MANY CURVES.

2) HISTORIC TRACK CHARTS SHOW BERKSHIRE SUBDIVISION WAS FOMERLY DOUBLE TRACK.

APPENDIX E – CSX Passenger Train Access Principles

CSX Passenger Train Access Principles

America's freight railroads are critical to the nation's economy, providing safe, efficient, economical and environmentally beneficial freight service that is so vital to our communities, our businesses and industries and our way of life.

CSX recognizes the important benefits that passenger rail service can provide to the public, including reducing traffic congestion and avoiding expensive highway construction. At the same time, CSX has a responsibility to all of its stakeholders, including rail freight rail shippers, to preserve and protect the substantial public benefits it delivers through freight rail transportation.

The rail industry has been investing billions of dollars every year in privately-owned freight rail infrastructure. These investments resulted in significant improvements in service for the nation's shippers and considerable benefits to the overall US economy. As a result the industry has entered a "rail renaissance" characterized by new demand from shippers and public policy interest in moving more goods by rail.

Future agreements for passenger access to freight rail lines must therefore balance the nation's desire for additional rail passenger services with railroads' critical role in carrying freight that otherwise would be diverted onto an already crowded and often underfunded highway network.

Based on this expectation, CSX established the following protocols for working with public agencies interested in conducting feasibility studies and implementing passenger rail:

Studies

- CSX will consider reasonable proposals for new or expanded passenger rail service that are viable financially and operationally and do not adversely impact freight operations.
- Studies will be conducted by CSX, or consultants approved by CSX, and will be paid for by the requesting planning agency. A primary goal of the studies will be to preserve freight rail capacity while striving to accommodate any new proposed passenger service.

Feasible separation of freight and passenger operation

- Many freight corridors are already at capacity and require expansions to handle future freight growth. CSX cannot consider proposals for shared use of such corridors, or sell property along such corridors that would compromise CSX's ability to serve current or future customer needs. We will encourage planning agencies to consider a separate right of way for new or expanded services in such corridors.
- One way to achieve such separation is to move the majority of freight trains out of urban corridors. CSX will consider publicly funded relocations of freight operations if they preserve CSX's customer service, competitive position, and access to current and future freight customers.

Where separation or relocation is not feasible but freight operations can be protected, passenger trains may, in some cases, share CSX's tracks, provided certain principles for shared use operations are properly addressed:

Safety

- Adding passenger service must not compromise safety. Planning Agencies must meet and fund any required safety infrastructure.

Capacity

- Any addition or expansion of passenger rail service on the freight rail network must ensure that the capacity utilized for the new service is fully replaced at no cost to CSX. This capacity must allow CSX to safely and efficiently handle all current and future freight demand, not just enough to address current conditions or to cover a few years
- CSX's ability to locate new freight customers along the right of way must also be preserved. Service to freight customers must be protected and should not be compromised or limited by new passenger rail service.
- CSX will not participate in so-called Service Outcome Agreements.

Compensation

- CSX must be fully compensated for its costs in planning and hosting passenger rail service. The compensation should be sufficient to support future reinvestments in infrastructure to continue providing safe, efficient and environmentally-friendly freight service. CSX and its freight rail customers should not be asked to subsidize passenger service.

Liability

- CSX must be fully protected from any liability arising from the presence of passenger rail service on its freight lines. Any additional service introduces an element of risk and liability that is not related to CSX's core business as a freight rail carrier, and CSX should not be asked to assume such risk.
- Planning agencies should be prepared to carry and provide evidence of insurance covering liability exposure of at least $200 million, the current limit of liability under federal law for passenger rail claims.

Higher Speed Rail and High Speed Rail

- Higher Speed Rail refers to trains traveling at maximum speeds higher than 79 MPH. CSX requires that any passenger train operating at speeds above 90MPH, including High Speed Rail (defined as trains traveling at speeds higher than 125MPH) be on its own dedicated tracks and right of way, separated by at least 30 ft. from freight rail service . These standards are subject to change as new information and research becomes available consistent with CSX's core value to provide safe rail services to the communities where trains operate.

APPENDIX F – Airbnb Data

CITY	Trips Hosted Inbound	Total Guest Arrivals	Average Guest Stay Length	Average Guests Per Stay
Great Barrington	390	1,350	2.6	3.5
Williamstown	270	780	2.2	2.9
Pittsfield	250	810	2.8	3.2
North Adams	230	520	1.9	2.3
Lenox	140	390	2.4	2.8
Lee	140	420	2.5	3
Becket	120	360	2.6	3
Sheffield	110	410	2.8	3.8
Stockbridge	90	330	3.6	3.6
Monterey	70	300	2.6	4.2
New Marlborough	70	260	2.7	3.7
Otis	60	180	2.5	3
Sandisfield	60	260	2.6	4.3
West Stockbridge	50	130	2.4	2.9
Alford	40	150	2.4	4.3
Adams	30	90	1.8	2.7
Lanesborough	30	100	2.2	3
Hancock	30	110	3	3.9
Tyringham	30	60	2.3	2.2
Housatonic	20	80	2.7	3.3
Cheshire	20	80	2.3	4.7
Savoy	10	30	2.1	2.8
Hinsdale	10	50	2.3	4.4
Richmond	<10			
Dalton	<10			
New Ashford	<10			
Washington	<10			
Peru	<10			
TOTAL	**2,270**	**7,250**		

Source (Berkshire Regional Planning Commission)