

**Chicago-South Bend-Toledo-Cleveland-Erie-Buffalo-
Albany-New York Frequency Expansion Report**

DISCUSSION DRAFT

(Quantified Model Data Subject to Refinement)

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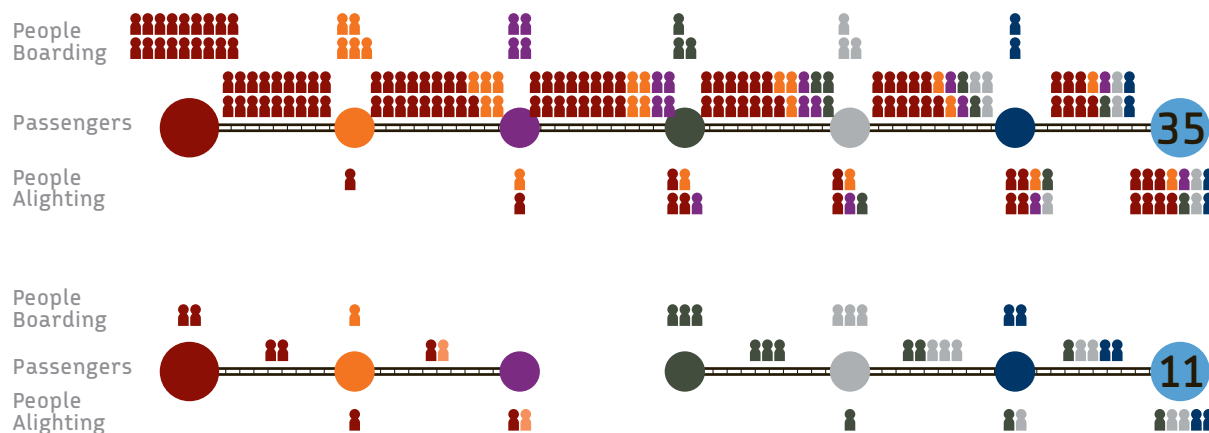
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1. Project Background:

ESH Consult was retained by NARP to perform a broad economic feasibility study of expanding (2-4 additional daily frequencies) East-West Intercity passenger service between NY and Chicago. The core concept is to provide attractive service to multiple city-pairs for short/medium distance travel while also offering new schedule options for longer distance passengers. The potential positive synergy is best described by the following creative graphic depicting such an end-to-end well patronized generic long-distance through train (top row) with its supporting, overlapping short-distance markets at both outer ends (bottom row). The new frequencies will open up many city-pair combinations not currently served at all at reasonable hours (e.g. Cleveland (CLE)-Chicago (CHI)), and add additional alternate departure options to those that have some reasonable existing service (e.g. Toledo (TOL)-CHI).



SOURCE: Midwest High-Speed Rail Association

This chart represents a very simplified description of the ridership pattern on the Lake Shore Limited. The Lake Shore offers the sole daily roundtrip that travels the entire distance of the Chicago - New York corridor. For clarity, we have shown just the largest cities and the ridership between those. Each peg, color coded to the city where they boarded, represents a group of passengers boarding and departing the train. The train is occupied by passengers taking a wide mix of trip lengths by the time it reaches New York. Removing the center link will cut the ridership by two thirds.

It was recognized by both NARP and ESH Consult that this very preliminary study is only the first step in a multi-phased process. The limited initial resources only allowed a relatively crude “sketch planning” level estimate of capital costs, running times, operating costs, ridership, revenue and likely required operating support. The study sought the most accurate possible range of capital costs and access charges required to operate the additional service recognizing that neither Amtrak nor the host railroads provided any direct technical input or review.

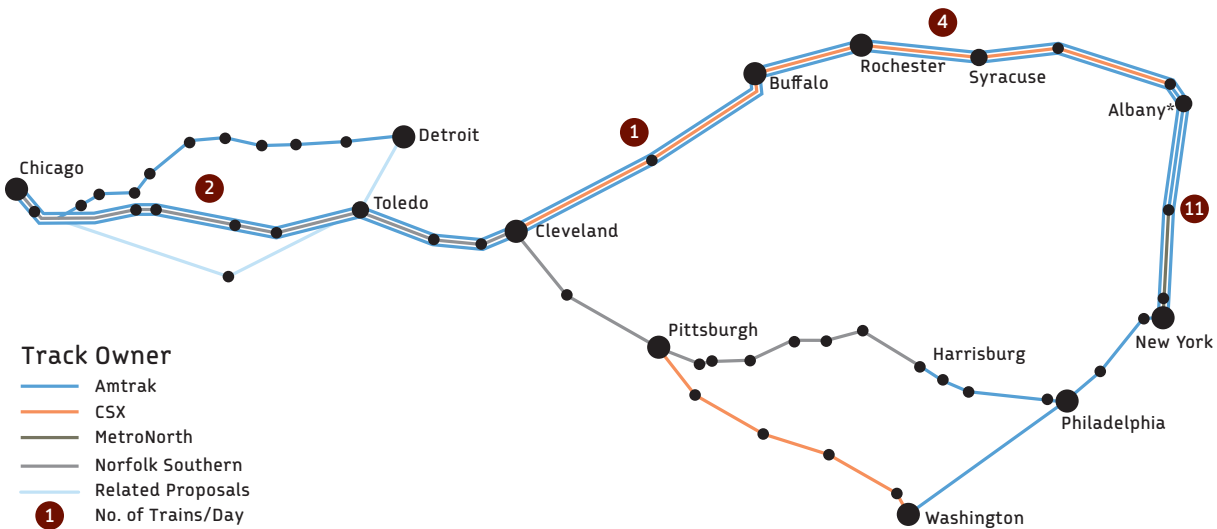
After reviewing the NARP-provided map of all potential New York-Chicago route options for consideration, it was discussed and agreed to narrow efforts in the current study to the existing route west of Cleveland and no more than two alternatives east of Cleveland.

It was recognized that there might be significant market or political benefits of utilizing the Chicago – Detroit Corridor (which will soon be largely controlled by Amtrak.) This route, even with the 110-mph upgrades underway, would add approximately one hour to the trip time and was not considered.

Alternately, a new route via Fort Wayne (as is being considered in Midwest Regional Rail Initiative studies,) would extend the introduction time-line and was not considered.

Similarly, a third eastern option was considered via Washington, DC. This option was deferred because of circuitous routing, longer distance and running times and the need to reverse direction and change engines at Washington.

Initial Map of Potential New York – Chicago Routes



SOURCE: Midwest High-Speed Rail Association

The initial two primary corridors considered for evaluation:

“Keystone West”: Amtrak Northeast Corridor from New York through Philadelphia to Harrisburg then the Norfolk Southern to Cleveland via Pittsburgh.

“Empire Corridor”: Metro North from New York to Poughkeepsie, then Amtrak to Schenectady and CSX from Schenectady to Cleveland via Buffalo.

Possible cost cutting (or sharing) could result from a creative "piggy-backing" onto existing Empire Corridor New York – Buffalo frequencies or even more “creatively piggy-backing” onto proposed (under study) new "Keystone West" New York – Pittsburgh frequencies. It is anticipated there might be positive market and economic synergy through this cost-sharing approach.

2. Early Study Efforts and Initial Findings:

Market Expectations:

Primary data sources were identified as: actual historic city-pair ridership data for short/medium distance trips on short-distance (SD) and long-distance (LD) trains; historic ridership growth as a function of frequency increase; forecasts for ridership increase in other studies examining frequency increase.

Initial expectation was a significant increase in SD trips on LD trains when frequency is increased from only 1 round-trip (RT) to 3 or 4 daily RT's. Several 3-4 RT broad schedule patterns were reviewed with a goal of serving each key intermediate point with a least 2 "reasonable hour" departures in each direction.

Operational / Routing Considerations:

Primary data sources identified were previous existing frequency-increase studies and informal interviews with knowledgeable parties. Tradeoffs recognized included higher number of additional frequencies on a single routing vs. fewer-per-route spread on two different routings.

One challenge immediately recognized was greater reliability risk of "handoffs" between two host RR's vs. single-RR routing as well as greater potential start-up opposition. Another challenge was whether to "push the speed envelope" (79 to 90) given the recognition that host RR's have greater challenges in mixed traffic with a larger speed differential. This would also trigger additional incremental maintenance-of-way costs solely dedicated to the passenger account. We also did not consider the potential favorable impacts that modern, high-performance trains would have on travel time, operating costs and passenger appeal.

An opportunity to reduce (or share) operating costs was identified to potentially "piggy-back" the increased LD frequencies on existing "Empire Service" (east of BUF) or proposed expanded "Keystone West" service (east of PIT) to limit new train-miles, a key cost-driver.

Capital/Operating Cost Impacts:

Data sources identified were: previous Amtrak, State DOT or other entity studies on frequency increases; specific studies on segments of our proposed service; informal interviews with knowledgeable sources on likely costs. The key areas of anticipated cost (and debate) were identified as: site-specific capital improvements (most notably station track and platforms) and linear capacity improvements (especially on high-density freight routes with only 1 or 2 current Amtrak LD trains) most likely to be reasonably demanded by host RR's.

3. Background Data Collection Interviews:

A substantive series of interviews (both official “for-the-record” and confidential) were held over a two-month period to gain as much qualitative and quantitative information/data as possible from previous studies and analyses. Portions of these interviews are included as Appendix I.

Key findings from these interviews included the following:

- Affected states are concerned about and preparing for likely new/higher annual funding requirements under PRIIA 209
- PennDOT is studying several “West of Keystone” Corridor options for extending the successful New York – Philadelphia – Harrisburg service to Pittsburgh via intermediate Western PA cities.
- Early/prior studies for Harrisburg – Pittsburgh additional frequencies suggest likely very high capital costs due to severe grades and heavy freight traffic.
- Existing studies for increasing frequency and/or speed on Empire Service on the Albany – Buffalo segment suggest high capital costs for capacity and speed improvements, especially for signal/siding upgrades and grade crossing protection.
- Existing prior Cleveland-Hub Studies integrated into the Midwest Regional Rail Initiative Plan evaluated multiple frequency Cleveland – Chicago service on both the existing route as well as a new route via Fort Wayne.

4. Fixed-Facility Capital Cost Estimate Range Based on Existing Studies:

HARRISBURG-PITTSBURGH-CLEVELAND Sub-Segment:

Based on multiple prior studies (detailed for HAR-PIT; sketchy for PIT-CLE), then inflated to 2011 Cost levels, the rough range for fixed facility investment is \$200 - \$800 million. Low-end estimates assume adding 1-2 daily RT's at existing speeds, limiting fixed facility investment to minimal station platform improvements to allow passenger train processing on both sides; select spot capacity improvements particularly at yard throats and terminal areas, and possibly small sections of additional sidings. High-end estimates assume adding 3-4 daily RT's at higher than current speeds, providing significant station/platform investment, including new signaled station siding tracks, as appropriate; major track and siding improvements at yard throats and terminals; and major linear capacity improvements, with sizable sections of 3rd (or 4th, as appropriate) running track and multiple additional controlled sidings.

SCHENECTADY-BUFFALO Sub-Segment:

Based on review of several detailed earlier studies (most notably NYSDOT 2009 LR IC PSGR Investment Program), then inflated to 2011 Cost levels, the rough range for fixed facility investment on the Schenectady-Buffalo segment is \$500 million to \$1.6 billion. Low-end estimates assume adding only 1-2 daily RT's at existing speeds, limiting fixed facility investment to minimal station platform improvements to allow passenger train processing on both sides, select spot capacity improvements particularly at yard throats and terminal areas, and limited sections of additional sidings. High-end estimates assume adding 3-4 daily RT's at higher than current speeds, with improved schedule reliability, providing significant station/platform investment, including new signaled station siding tracks, as appropriate; major track and siding improvements at yard throats and terminals; and major linear capacity improvements, with sizable sections of 3rd (or 4th, as appropriate) running track with multiple additional controlled sidings

BUFFALO-ERIE-CLEVELAND Sub-Segment:

Given the lack of reliable existing studies on portions of this sub-segment, we were required to use extrapolation from other comparable segments, based on route length and density. The rough range for fixed facility investment is \$200 - \$500 million. Low-end estimates assume adding 1-2 daily RT's at existing speeds, limiting fixed facility investment to minimal station platform improvements to allow passenger train processing on both sides; select spot capacity improvements particularly at yard throats and terminal areas, and possibly small sections of additional sidings. High-end estimates assume adding 3-4 daily RT's possibly operating at higher than current speeds, providing significant station/platform investment, including new signaled station siding tracks, as appropriate; major track and siding improvements at yard throats and terminals; and

major linear capacity improvements, with sizable sections of additional running tracks and controlled sidings.

CLEVELAND-TOLEDO-CHICAGO Sub-Segment:

Given the lack of any existing studies on this sub-segment on portions of its specific proposed alignment, we had to use extrapolation from comparable segments. The very rough range for fixed facility investment is \$400 million to \$1.2 billion. Low-end estimates assume adding 1-2 daily RT's at existing speeds, limiting fixed facility investment to minimal station platform improvements to allow passenger train processing on both sides, select spot capacity improvements particularly at yard throats and terminal areas, and possibly small sections of additional sidings. High-end estimates assume adding 3-4 daily RT's, possibly operating at higher than existing speeds, providing significant station/platform investment, including new signaled station siding tracks, as appropriate; major track and siding improvements at yard throats and terminals; and major linear capacity improvements, with sizable sections of additional running tracks, some possible sections of "dedicated" passenger track in highly congested areas and multiple controlled sidings. The separately discussed fully "dedicated" passenger-only route from Chicago to Porter, IN is being designed as part of the Chicago – Detroit corridor and is not included in this analysis

5. Selection of Single Route for Refined Analysis and Potential “Proxy” for Other Routes:

It was recognized relatively early on that there would not be enough resources available to quantitatively analyze multiple routings, although there was a clear desire to do so. After discussion with the NARP Steering Committee it was agreed to narrow down the corridor to the Empire Corridor, via Metro-North, Amtrak, CSX and NS after reviewing tradeoffs.

The key reasons for selection of this route (coincidentally, almost identical to the historic NYC “Water Level Route”) are as follows:

- Better potential for sharing train-miles (and related costs) thereby lowering annual operating grant needs through “piggy-backing” onto existing Empire Service trains.
- Related potential to help NYSDOT in upcoming PRIIA 209 payment requirement by converting 1 or 2 Empire Service trains from short-distance to long-distance.
- More solid NYSDOT existing commitment to studying and funding infrastructure in the Empire Corridor than in PennDOT for Keystone West.
- Easier and more accurate operating cost forecasting because of ability to use Lake Shore Limited “actual” reported data (adjusted accordingly for BOS).
- No turn-around moves (all “head-on” moves) at all major stations vs. “changing ends” at PHL.
- Historic schedules (mid-1950’s) included more frequencies of fast NYC-CHI with multiple intermediate stops because of easier geography.
- Likely less opposition by host railroad CSX for Buffalo – Cleveland than on NS Harrisburg – Cleveland in part due to its severely mountainous terrain.
- Likely lower capital cost requirements than on NS Harrisburg – Cleveland due to both topography and freight traffic density.

6. Legal Opinion on Relevant Amtrak Enabling Legislation:

As one key supporting element of the NARP Long Distance Frequency Increase Study, it was decided to seek Legal Counsel advice on the topic of Amtrak “Right-of-Access” and potential use of existing Amtrak-Host RR Train-mile access fees. Another important concern is the differentiation in state-supported funding for “short distance” services (defined as routes under 750 miles). This analysis was performed for NARP by Walter Zullig, Esq., retired General Counsel of Metro-North RR, and longtime passenger rail advocate. His findings are briefly abstracted in the following paragraphs, while his full research is included as Appendix II.

Summary Legal Statement on Right-of-Access and Fees: “Congress has given Amtrak broad powers to use rail facilities and to have services provided to it by host railroads on an “incremental cost” basis. There is no distinction in the costing methodology between a single train and additional train frequencies operating over a line. In both situations “incremental costing” is to be applied with any additional or incentive payment based on good on time performance. When additional frequencies are requested, host railroads generally seek capital improvements, which become the subject of negotiations. In the event of failure to agree, the Surface Transportation Board can be the ultimate arbiter.”

Selected Excerpts from Supporting Legal Analysis: “The provisions governing Amtrak’s use of facilities and services of other railroads are found in 49 USC §24308. Amtrak is empowered to make agreements for use of such facilities or services; the terms of such agreements are to include a penalty for untimely performance. If the parties cannot agree, Amtrak may petition the Surface Transportation Board [“STB” or “Board”] for an order (1) directing that the requested services and/or facilities be provided and (2) fixing the terms of use and the compensation to be paid by Amtrak. Section 24308(a)(2)(B) requires that quality of service shall be “...a major factor when determining whether, and the extent to which, the amount of compensation shall be greater than the incremental costs of using the facilities and providing the services.”

Accordingly, Congress has empowered Amtrak to use facilities of other railroads upon payment of the “incremental costs.” In effect this was the (*initial*) “deal” made with the railroad industry in return for granting relief from the intercity passenger train deficits. Any payment above the incremental level must be based on service quality and most agreements between Amtrak and other railroads provide for incentive and penalty payments regarding on-time performance.

The law goes on to specify that intercity and commuter rail passenger transportation provided by or for Amtrak has preference over freight trains in using any rail line, junction or crossing except in case of emergency or certain findings by the Board. Amtrak also is empowered to apply to the STB for an order directing a rail carrier to allow accelerated speeds on a line as well as to require the operation of additional trains on schedules based on the legally permissible speeds. In such cases the STB is to consider (1) whether such an order would impair unreasonably the carrier’s freight service and (2) the statutory goal of Amtrak to implement schedules that attain a system-wide average speed of at least 60 mph that can be adhered to with a high degree of reliability and passenger comfort. Once the STB has issued an order for faster speeds or additional trains, it is required to fix the compensation payable by Amtrak using the “incremental costs” standard unless the parties have reached a voluntary agreement on the subject.

Until the enactment of the Passenger Rail Investment and Improvement Act of 2008 [“PRIIA”] the Secretary of Transportation had jurisdiction over disputes regarding Amtrak priorities for use of rail lines and facilities as well as disputes regarding faster speeds and additional trains. PRIIA transferred those responsibilities to the STB.

Summary Legal Opinion on PRIIA Section 209: “The “bottom line” of this scheme is that uniform cost allocation methodology is to be developed for use throughout the nation to allocate some of the costs of “short haul” (*defined as not exceeding 750 miles*) trains to the states they serve and that such states will be required to pay those costs in order to retain or improve their train service. The impact of this scheme might be mitigated in some instances if Amtrak could be persuaded to convert a short haul route into a long distance one; e.g., if a train (*currently*) operating between New York City and Buffalo were to be extended to Chicago.”

7. Sample “Timetable-Format” Schedules of Four Frequency New York-Chicago Service:

As a key element of the NARP Long Distance Frequency Increase Study, particularly useful to help visualization of the impact on intermediate communities and highlight specific new city-pair schedule opportunities, it was decided to develop a timetable-format version of a potential four-frequency service underlying the related revenue, operating cost and statistical forecasts. A modified “best fit” timetable pattern, based on extending (and modifying) one Empire Service frequency is presented here.

Specific goals and assumptions of the proposed example timetable include the following:

- Use of existing Niagara Falls-destined Empire Corridor trains to the greatest extent possible, recognizing that redirecting those frequencies to Chicago would necessitate a replacement shuttle service (either by DMU or bus)
- Avoiding end-point departure or arrival times between Midnight and 6 AM to the greatest degree possible
- Providing at least two “market attractive” times in each direction for all intermediate cities west of Buffalo
- Maximizing the number of intermediate city-pairs with at least two attractive round-trip schedules
- Providing a useful overnight segment on as many schedules as possible to ensure good use and justification of proposed sleeper/diner-light equipment sets; sleeper could be sold as premium (parlor/drawing room) space for schedules that don’t run overnight

We have provided two sample schedules. The first assumes the new trains would run as fast as the fastest existing train in that segment. It is very difficult to achieve acceptable arrival and departure times at Chicago and New York with existing running times.

Therefore, we are presenting a second sample schedule has been added at the specific request of NARP. It assumes that the capacity enhancements needed to add additional frequencies might also allow a 5 mph increase in average speed. Although this speed increase would result in a much more favorable schedule, it has not been determined how the two major host railroads would react. It is very likely they would demand additional capital and/or operating contribution and might not agree to raising the maximum speed in mixed-use, shared track above 79 MPH.

New	New	#280	#30	#284	#48	#64	Station	New	#63	#281	#283	#29	#49	New	
7:00 AM	1:00 PM	5:00 PM	6:10 PM		10:00 PM		Chicago, IL	Ar	11:52 PM		7:09 AM	8:45 AM	9:45 AM	2:52 PM	
9:24 AM	3:24 PM	7:24 PM	8:34 PM		12:24 AM		South Bend, IN	Ar	10:56 PM		6:13 AM	7:52 AM	8:49 AM	1:56 PM	
9:43 AM	3:43 PM	7:43 PM	8:53 PM		12:43 AM		Elkhart, IN	Ar	10:32 PM		5:49 AM	7:29 AM	8:25 AM	1:32 PM	
10:34 AM	4:34 PM	8:34 PM	9:44 PM		1:34 AM		Waterloo, IN	Ar	9:40 PM		4:57 AM	6:36 AM	7:33 AM	12:40 PM	
10:59 AM	4:59 PM	8:59 PM	—		1:59 AM		Bryan, OH	Ar	9:12 PM		4:29 AM	5:22 AM	7:05 AM	12:12 PM	
11:49 AM	5:49 PM	9:49 PM	10:56 PM		2:49 AM		Toledo, OH	Dp	8:22 PM		3:39 AM	5:08 AM	6:15 AM	11:22 AM	
11:59 AM	5:59 PM	9:59 PM	11:06 PM		2:59 AM		Toledo, OH	Ar	8:02 PM		3:19 AM	—	5:55 AM	11:02 AM	
12:49 PM	6:49 PM	10:49 PM	11:56 PM		3:49 AM		Sandusky, OH	Ar	7:02 PM		2:19 AM	4:02 AM	4:55 AM	10:02 AM	
1:22 PM	7:22 PM	11:22 PM	12:29 AM		4:22 AM		Elyria, OH	Ar	6:25 PM		1:42 AM	3:29 AM	4:18 AM	9:25 AM	
1:52 PM	7:52 PM	11:52 PM	12:59 AM		4:52 AM		Cleveland, OH	Dp	5:52 PM		1:09 AM	2:59 AM	3:45 AM	8:52 AM	
2:01 PM	8:01 PM	12:01 AM	1:08 AM		5:01 AM		Cleveland, OH	Ar	5:34 PM		12:51 AM	2:53 AM	3:27 AM	8:34 AM	
3:33 PM	9:33 PM	1:33 AM			6:33 AM		Erie, PA	Ar	3:43 PM		11:00 PM		1:36 AM	6:43 AM	
5:09 PM	11:09 PM	3:09 AM			8:09 AM		Erie, PA	Dp	2:06 PM		9:23 PM		11:59 PM	5:06 AM	
5:19 PM	11:19 PM	3:19 AM		6:30 AM	8:19 AM	1:31 PM	Buffalo-Depew, NY	Ar	2:02 PM	3:10 PM	6:24 PM	9:19 PM		11:55 PM	5:02 AM
6:17 PM	12:17 AM	4:17 AM		7:28 AM	9:17 AM	2:33 PM	Rochester, NY	Ar	12:55 PM	2:04 PM	5:17 PM	8:12 PM		11:00 PM	3:55 AM
7:40 PM	1:40 AM	5:40 AM		8:51 AM	10:40 AM	4:11 PM	Syracuse, NY	Ar	11:31 AM	12:48 PM	3:53 PM	6:48 PM		9:41 PM	2:31 AM
8:21 PM	2:21 AM	6:21 AM		9:32 AM	11:21 AM	4:54 PM	Rome, NY	Ar	10:36 AM	11:58 AM	2:58 PM	5:53 PM		—	1:36 AM
8:42 PM	2:42 AM	6:42 AM		9:53 AM	11:42 AM	5:14 PM	Utica, NY	Ar	10:21 AM	11:42 AM	2:43 PM	5:38 PM		8:44 PM	1:21 AM
9:42 PM	3:42 AM	7:42 AM		10:53 AM	12:42 AM	6:12 PM	Amsterdam, NY	Ar	9:17 AM	10:43 AM	1:39 PM	4:34 PM		—	12:17 AM
10:02 PM	4:02 AM	8:02 AM		11:13 AM	1:02 PM	6:32 PM	Schenectady, NY	Ar	9:00 AM	10:26 AM	1:22 PM	4:17 PM		7:31 PM	12:00 AM
10:35 PM	4:35 AM	8:35 AM		11:46 AM	1:35 PM	7:00 PM	Albany-Rensselaer, NY	Dp	8:38 AM	10:03 AM	1:00 PM	3:55 PM		7:05 PM	11:38 PM
10:50 PM	4:50 AM	8:50 AM		12:01 PM	1:50 PM	7:15 PM	Albany-Rensselaer, NY	Ar	8:28 AM	9:45 AM	12:50 PM	3:45 PM		6:25 PM	11:28 PM
11:15 PM	5:15 AM	9:15 AM		12:26 PM	2:15 PM	7:40 PM	Hudson, NY	Ar	7:58 AM	9:15 AM	12:17 PM	3:15 PM		—	10:58 PM
11:36 PM	5:36 AM	9:36 AM		12:47 PM	2:36 PM	8:01 PM	Rhinecliff, NY	Ar	7:35 AM	8:52 AM	11:50 AM	2:52 PM		—	10:35 PM
11:50 PM	5:50 AM	9:50 AM		1:01 PM	2:50 PM	8:15 PM	Poughkeepsie, NY	Ar	7:21 AM	8:38 AM	11:36 AM	2:38 PM		5:15 PM	10:21 PM
12:30 AM	6:30 AM	10:30 AM		1:41 PM	3:30 PM	8:55 PM	Croton-Harmon, NY	Ar	6:41 AM	7:58 AM	10:56 AM	1:58 PM		4:29 PM	9:41 PM
—	—	—		2:00 PM	—	9:14 PM	Yonkers, NY	Ar	—	7:39 AM	—	1:39 PM		—	—
1:20 AM	7:20 AM	11:20 AM		2:31 PM	4:20 PM	9:45 PM	New York, NY	Dp	6:00 AM	7:15 AM	10:15 AM	1:15 PM		3:15 PM	9:00 PM

Color Codes Existing Train (Yellow) New Train (Blue) Modified Train (Pink)

New Train	New Train	#30	#280	#284	#48	#64	Station	New Train	#63	#281	#283	#29	#49	New Train		
7:00 AM	4:00 PM	7:00 PM	7:55 PM		11:00 PM		Chicago, IL (Central Time)	Ar	9:34 PM		6:00 AM	8:05 AM	8:11 AM	12:24 AM		
9:17 AM	6:17 PM	9:17 PM	10:12 PM		1:17 AM		South Bend, IN	Ar	8:50 PM		5:16 AM	7:21 AM	7:27 AM	11:40 AM		
9:34 AM	6:34 PM	9:34 PM	10:29 PM		1:34 AM		Elkhart, IN	Ar	8:29 PM		4:55 AM	7:00 AM	7:06 AM	11:19 AM		
10:21 AM	7:21 PM	10:21 PM	11:16 PM		2:21 AM		Waterloo, IN	Ar	7:41 PM		4:07 AM	6:12 AM	6:18 AM	10:31 AM		
10:44 AM	7:44 PM	10:44 PM	11:39 PM		2:44 AM		Bryan, OH	Ar	7:16 PM		3:42 AM	5:47 AM	5:53 AM	10:06 AM		
11:30 AM	8:30 PM	11:30 PM	12:25 AM		3:30 AM		Toledo, OH	Dp	6:30 PM		2:56 AM	5:01 AM	5:07 AM	9:20 AM		
11:35 AM	8:35 PM	11:35 PM	12:30 AM		3:35 AM		Toledo, OH	Ar	6:25 PM		1:42 AM	4:56 AM	5:02 AM	9:15 AM		
12:20 PM	9:20 PM	12:20 AM	1:15 AM		4:20 AM		Sandusky, OH	Ar	5:31 PM		12:48 AM	4:02 AM	4:08 AM	8:21 AM		
12:50 PM	9:50 PM	12:50 AM	1:45 AM		4:50 AM		Elyria, OH	Ar	4:57 PM		12:14 AM	3:28 AM	3:34 AM	7:47 AM		
1:17 PM	10:17 PM	1:17 AM	2:12 AM		5:17 AM		Cleveland, OH	Dp	4:28 PM		11:45 PM	2:59 AM	3:05 AM	7:18 AM		
1:22 PM	10:22 PM		2:17 AM		5:22 AM		Cleveland, OH	Ar	4:23 PM		11:40 PM		3:00 AM	7:13 AM		
2:47 PM	11:47 PM		3:42 AM		6:47 AM		Erie, PA	Ar	2:42 PM		9:59 PM		1:19 AM	5:32 AM		
4:15 PM	1:15 AM		5:10 AM		8:15 AM		Erie, PA	Dp	1:13 PM		8:30 PM		11:50 PM	4:03 AM		
4:20 PM	1:20 AM		5:15 AM	7:15 AM	8:20 AM	1:31 PM	Buffalo-Depew, NY	Ar	1:08 PM	2:25 AM	5:30 PM	8:25 PM	11:45 PM	3:58 AM		
5:13 PM	2:13 AM		6:08 AM	8:08 AM	9:13 AM	2:24 PM	Rochester, NY	Ar	12:07 PM	1:24 AM	4:29 PM	7:24 PM	10:44 PM	2:57 AM		
6:29 PM	3:29 AM		7:24 AM	9:24 AM	10:29 AM	3:40 PM	Syracuse, NY	Ar	11:07 AM	12:24 AM	3:29 PM	6:24 PM	9:44 PM	1:57 AM		
7:06 PM	4:06 AM		8:01 AM	10:01 AM	11:06 AM	4:17 PM	Rome, NY	Ar	—	11:35 AM	2:40 PM	5:35 PM	—	—		
7:24 PM	4:24 AM		8:19 AM	10:19 AM	11:24 AM	4:35 PM	Utica, NY	Ar	10:05 AM	11:22 AM	2:27 PM	5:22 PM	—	—		
8:19 PM	5:19 AM		9:14 AM	11:14 AM	12:19 PM	5:30 PM	Amsterdam, NY	Ar	—	10:24 AM	1:29 PM	4:24 PM	—	—		
8:37 PM	5:37 AM		9:32 AM	11:32 AM	12:37 PM	5:48 PM	Schenectady, NY	Ar	8:52 AM	10:09 AM	1:14 PM	4:09 PM	—	7:29 PM	11:42 PM	
9:05 PM	6:05 AM		10:00 AM	12:00 PM	1:05 PM	6:16 PM	Albany-Rensselaer, NY	Dp	8:33 AM	9:50 AM	12:55 PM	3:50 PM	—	7:10 PM	11:23 PM	
9:10 PM	6:10 AM		10:05 AM	12:05 PM	1:10 PM	7:15 PM	Albany-Rensselaer, NY	Ar	8:28 AM	9:45 AM	12:50 PM	3:45 PM	—	7:05 PM	11:18 PM	
9:35 PM	6:35 AM		10:30 AM	12:30 PM	1:35 PM	7:40 PM	Hudson, NY	Ar	—	9:15 AM	12:17 PM	3:15 PM	—	—		
9:56 PM	6:56 AM		10:51 AM	12:51 PM	1:56 PM	8:01 PM	Rhinecliff, NY	Ar	—	8:52 AM	11:50 AM	2:52 PM	—	—		
10:10 PM	—		11:05 AM	1:05 PM	2:10 PM	8:15 PM	Poughkeepsie, NY	Ar	—	7:21 AM	8:38 AM	11:36 AM	2:38 PM	—	5:15 PM	10:11 PM
10:50 PM	7:53 AM		11:45 AM	1:45 PM	2:50 PM	8:55 PM	Croton-Harmon, NY	Ar	—	6:41 AM	7:58 AM	10:56 AM	1:58 PM	—	4:29 PM	9:31 PM
—	—		—	2:04 PM	—	9:14 PM	Yonkers, NY	Ar	—	—	7:39 AM	—	1:39 PM	—	—	
11:40 PM	8:35 AM		12:35 PM	2:35 PM	3:40 PM	9:45 PM	New York, NY	Dp	6:00 AM	7:15 AM	10:15 AM	1:15 PM	—	3:45 PM	8:50 PM	

Chicago-South Bend-Toledo-Cleveland-Erie-Buffalo-Albany-New York Frequency Expansion Report – Discussion Draft

8. Order-of-Magnitude Capital Cost Estimates for Platform-Related Improvements:

To understand the capital needed for capacity improvement on host railroads, it was recognized that definable, site-specific improvements would be necessary at many of the proposed station stops. Estimates for this work would raise the level of precision compared with the linear capital cost requirements explored earlier in this study.

Most stations on the route require a second platform, plus related track/turnout/signal reconfiguration and safe pedestrian access, to allow two trains to serve the station (in opposite directions) at the same time.

The “second platform” issue had been addressed effectively in a 2008 Study performed by the “All Aboard Ohio” organization (www.allaboardohio.org). Their well-detailed report, entitled “*Fix It First*”, is presented as Appendix IV. This study has used their analysis as the starting point for our estimates for several of the proposed OH station improvements. Further research of other existing intercity and higher speed rail studies for OH and IN were used to develop order-of-magnitude estimates for additional stations. Lastly, a report developed by Bill Hutchison, former President of “All Aboard Ohio”, provided useful resource information for several stations in NY, PA, OH and IN. Following is a table of rough estimates for intermediate stations west of Albany, noting that station/platform problems do not exist on the current relatively high-frequency corridor segment NYP-Schenectady.

Order-of-Magnitude Station/Platform Capital Cost Estimates

\$ Millions

Station	Current One track Platform	Platform/Track cost estimate		Station Facility cost estimate		Platform avg cost	Station avg cost	TOTAL avg cost	
		Low	High	Low	High				
NYP	NY								
Croton	NY	2							
Poughkeepsie	NY	2							
2-Albany	NY	2	\$3.50	\$5.00			\$4.25	\$4.25	
Schenectady	NY	2							
Utica	NY	2							
Syracuse	NY	1	\$3.50	\$5.00			\$4.25	\$4.25	
3-Rochester	NY	1	\$7.00	\$10.00	\$15.00	\$25.00	\$8.50	\$20.00	\$28.50
4-BUF-Depew	NY	1	\$10.00	\$25.00	\$1.00	\$3.00	\$17.50	\$2.00	\$19.50
Erie	PA	2						\$0.00	
5-Cleveland	OH	1	\$2.16	\$4.31	\$10.00	\$20.00	\$3.23	\$15.00	\$18.23
1-Elyria	OH	1	\$6.04	\$7.19	\$3.00	\$10.00	\$6.61	\$6.50	\$13.11
1-Sandusky	OH	1	\$4.30	\$7.20	\$0.50	\$1.00	\$5.80	\$0.80	\$6.50
6,1-Toledo	OH	1	\$2.90	\$4.30	\$1.00	\$2.00	\$3.60	\$1.50	\$5.10
1Bryan	OH	1	\$2.20	\$4.30	\$0.50	\$1.00	\$3.20	\$0.80	\$4.00
7-Waterloo	IN	1	\$3.90	\$4.70			\$4.30		\$4.30
Elkhart	IN	1	\$5.00	\$7.00	\$1.00	\$3.00	\$6.00	\$2.00	\$8.00
South Bend	IN	2							
Chicago	IL								
Total			\$50.50	\$84.00	\$32.00	\$65.00	\$67.24	\$48.60	\$115.74

Notes:

1. Elyria, Sandusky, Toledo and Bryan based on All Aboard Ohio “Fix it First”
2. Albany for track improvements to facilitate engine change switching
3. Rochester based on current ROC station improvement project including dual platforms
4. At Buffalo-Depew there are complex track issues that may require relocation to a more functional and attractive site.
5. Cleveland Station improvements based on potential city-proposed major new intermodal facility with pedestrian access from above
6. Toledo may require operational changes to allow use of both platforms
7. Waterloo based on recent approved station and dual platform project

9. Ballpark Station-by-Station Ridership Estimates:

A simple forecasting model was developed to estimate the likely individual station traffic growth to be generated by increasing frequencies to four daily round trips. This increase would open up countless new city-pair combinations with two or three daily round trip opportunities that are virtually impossible with a single daily LD train. Most notably for cities between Erie, PA and Waterloo, IN, the new frequencies would be the first service not in the dead of night, so we would anticipate even greater patronage growth over the Lake Shore base.

Following is a detailed table containing summary results of the simple, ballpark (“order-of-magnitude”) ridership model. More detailed and complete data, including “low” and “high” ranges for each city are included in Appendix VI.

Sample Four Frequency City-Pair Specific Ballpark Demand Model Results

Station	State	Actual LSL FY11 on/off		4-Frequency Pattern Ridership	
		Annual	Average Daily	Annual Forecast	Ave. Daily Forecast
NYP	NY	108,799	298.1	345,437	946.4
Poughkeepsie	NY	4807	13.2	15,262	41.8
Albany	NY	37,420	102.5	118,809	325.5
Schenectady	NY	12,865	35.2	40,846	111.9
Utica	NY	18,280	50.1	58,039	159.0
Syracuse	NY	51,819	142.0	164,525	450.8
Rochester	NY	42,519	116.5	134,998	369.9
BUF-Depew	NY	40,701	111.5	129,226	354.0
Erie	PA	15,009	41.1	82,174	225.1
Cleveland	OH	28,149	77.1	154,116	422.2
Elyria	OH	3,134	8.6	17,159	47.0
Sandusky	OH	12,865	35.2	70,436	193.0
Toledo	OH	34,171	93.6	124,724	341.7
Bryan	OH	6,518	17.9	23,791	65.2
Waterloo	IN	11,706	32.1	42,727	117.1
Elkhart	IN	7,684	21.1	28,047	76.8
South Bend	IN	12,165	33.3	44,402	121.7
CHI	IL	180,746	495.2	659,723	1,807.5
Total Ons/Offs		629,357	1,724.3	2,254,440	6,176.5
Ridership		314,679	862.1	1,127,220	3,088.3

Notes:

- Existing annual on-off data from Amtrak for FY2011 Lake Shore Limited; excluding trips with endpoints between Albany and Boston
- Average forecast is the mean of low and high forecasts
- Low and high forecast for select cities raised to reflect removal of "middle-of-night" suppression factor
- High Forecast reduced to reflect partial "existing-service-redundancy" factor
- Low 4-frequency forecasts based on +70% for 2nd frequency; +49% for 3rd and + 35% for 4th reflecting frequency elasticity for LD trains and city-pairs
- High 4-frequency forecasts based on +100% additional for 2nd; +125% for 3rd and +150% for 4th reflecting frequency elasticity for SD trains and city-pairs

10. Scoping-Level Four Frequency Operating Cost and Revenue Model:

Model Methodology:

It was determined by mutual agreement to develop a simple linear, but still meaningful, operating cost and revenue forecasting model to estimate the operating cost and revenue or annual operating grant requirement of added frequency alternatives. Although the model was ultimately applied only to variations in frequency on the CSX-NS Lake Shore Limited routing, its basic concept could also be used as a “proxy” for likely frequency increase impacts on other (relatively similar) routes.

Since the most recent disaggregated Amtrak actual operating cost and revenue data available was for FY10, it was decided to use this as a base for all estimates. Existing Amtrak accounting categories were aggregated into larger, related categories, sufficiently discrete to allow cost distinctions between the actual, full-service Lake Shore Limited and the lower-cost added long-distance trains, proposed to carry only one sleeping car, and a combined “diner-light/lounge” for food and beverage service.

The most substantial initial model adjustment necessary was the identification and then removal (on a pro-rata basis) of all costs (and related revenues) of the Boston section, to allow cleaner and easier cost comparisons of the NY-Chicago Lake Shore Limited corridor with lower-cost, additional Frequency trains, as well as even further reduced-cost new trains representing diversion/extension of Niagara Falls Empire Services to Chicago.

Model Assumptions/Observations:

The initial simplified operating cost and revenue data column reflects actual FY10 Amtrak cost reporting for the existing Lake Shore Limited, including the through section operated to Boston. This contains the raw cost and revenue from which all subsequent estimates are derived. The second data column represents the model’s estimate of a “New York-only” version of the Lake Shore Limited, based on a primarily T-M-based adjustment, but still with full service dining car and multiple sleeping cars.

The model then, in the third column, provides an estimate of adding a single frequency over the full-length of the NY-Chicago route, but with the previously discussed cost savings of single sleeping car and simpler dining car service. This is justified on the basis of attracting more intermediate trips of shorter average length than those encountered on the primary Lake Shore Limited. The latter train is focused more on end-point traffic and long-distance connections.

The next model column reflects the further cost savings achievable by “piggy-backing” the added frequency on an existing Niagara Falls Empire Service train between New York and Buffalo. The assumption is that the substantial train-mile related costs over that half of the route would only increase slightly, with particular note that this would not be viewed by the host railroad CSX as “net new frequency” from a capacity or train-mile cost basis. We did not quantify the cost of providing substitute DMU rail (or shuttle bus) service clearly necessary to retain service to Niagara Falls.

Operating Cost and Revenue Model Results for Selected Service Patterns

\$ Thousands

Category	Lake Shore Ltd. incl BOS	Lake Shore Ltd. w/0 BOS	Single New Low Cost NYP-CHI	Single Low Cost Empire Svc Ext	L.S.L. plus 3 Low Cost NYP-CHI	L.S.L. + 2 New NYP-CHI plus 1 Emp. Ext.
MOW	\$966.00	\$821.10	\$1,642.20	\$903.21	\$5,747.70	\$5,008.71
MOE	\$17,188.00	\$15,469.20	\$12,375.36	\$8,043.98	\$52,595.28	\$48,263.90
OBS	\$10,135.00	\$9,121.50	\$6,385.05	\$4,788.79	\$28,276.65	\$26,680.39
T&E	\$7,162.00	\$6,087.70	\$6,087.70	\$3,348.24	\$24,350.80	\$21,611.34
Yard	\$1,648.00	\$1,400.80	\$1,260.72	\$819.47	\$5,182.96	\$4,741.71
Fuel	\$4,322.00	\$3,889.80	\$3,500.82	\$2,275.53	\$14,392.26	\$13,166.97
Transp-oth	\$5,111.00	\$4,344.35	\$3,909.92	\$2,541.44	\$16,074.10	\$14,705.62
Mktg/Res	\$3,713.00	\$3,156.05	\$2,524.84	\$1,641.15	\$10,730.57	\$9,846.88
Stns	\$5,474.00	\$4,926.60	\$3,448.62	\$2,241.60	\$15,272.46	\$14,065.44
ATK G&A	\$9,836.00	\$8,360.60	\$7,524.54	\$5,643.41	\$30,934.22	\$29,053.09
Police/secur	\$1,333.00	\$1,133.05	\$1,133.05	\$736.48	\$4,532.20	\$4,135.63
Op Cost TOT	\$66,888.00	\$58,710.75	\$49,792.82	\$32,983.30	\$208,089.20	\$191,279.68
"LD" Rev	\$20,528.90	\$17,449.57	\$8,724.78	\$8,724.78	\$43,623.91	\$43,623.91
"SD" Rev	\$8,798.10	\$7,918.29	\$15,836.58	\$11,877.44	\$55,428.03	\$51,468.89
Rev TOT	\$29,327.00	\$25,367.86	\$24,561.36	\$20,602.22	\$99,051.94	\$95,092.80
Net Loss	\$37,561.00	\$33,342.90	\$25,231.45	\$12,381.08	\$109,037.25	\$96,187.00

NOTES:

1. Existing LSL Rev and Cost from ATK 2010 Operating Cost and Revenue "Actuals" Report
2. Recast LSL reflects costs and revenues reduced by removal of Boston – Albany section.
3. Single additional full length frequency assumes reduced OBS from "Diner Light" and single sleeper
4. New Emp. Ext. assumes T-M's W. of BUF and only limited added C-M's on existing Emp. Svc.
5. High-Cost combination (LSL + 3 Full L) assumes adding 3 NYP-CHI Full L Frequency (as described)
6. Lower-Cost combination (LSL +2 Full L +1 Emp. Ext.) adds 2 NYP-CHI and 1 "Emp. Ext." frequency.

Model Results Discussion:

For the purpose of evaluating the primary outcome for this study, increased ridership/revenue at the least increase in annual operating grant requirement, we will focus on forecast results for revenue and operating costs for two different assumptions as to types of additional frequency. The obviously higher cost and resultant annual operating grant requirement reflected in the fifth column will be for adding “end-to-end” additional frequencies that do not benefit from piggy-backing onto existing Empire Service train-miles. The lower cost and annual operating grant will be required for the scenario reflecting one of the new frequencies premised on extending an Empire Service train to Cleveland and Chicago. The most cost effective 4-frequency total package, reflected in the final column, consists of the existing “Lake Shore Limited” (NYP-section only); two completely new NYP-CLE-CHI trains, and one new train whose train mileage (and incremental revenue) begins west of Buffalo.

For the purposes of level-playing field comparative analysis, the hypothetical recast (NYP-only) Lake Shore is estimated to require a \$33 M annual operating grant reflecting \$59 M of annual operating cost offset by \$25 M in revenue. The lower cost NYP-CHI “clone” train, with simplified dining service and a single sleeping car is estimated to require a \$25 M annual operating grant, consisting of \$50 M in cost offset by \$25 M in revenue. The single “Empire Service piggy-back” train is forecast to require only \$12 M in annual operating grant with (primarily west of Buffalo) cost of only \$33 M yet still generating \$21 M in annual revenue.

If piggy-backing were not a viable option, or cost limitations were not a criterion, the “bundle” consisting of the recast LSL plus 3 full-length lower cost NYP-CHI trains would be the solution. This package would require \$109 M in annual operating grant, consisting of \$208 M cost offset by \$99 M in revenue. Because annual operating grant cost and cost-effectiveness *are critical to this study’s goal*, we would suggest the optimum “bundle” consists of the recast LSL, two new NYP-CHI trains and 1 frequency extended from an existing Empire Service train. This optimized 4-frequency service pattern would require only \$96 M in annual operating support, reflecting a total of \$191 M in operating cost, offset by \$95 M in revenue. What is most important to note, from a standpoint of productivity, or cost-effectiveness, is that in large part due to the substantial new short/intermediate distance markets, in a “best case scenario” this package is forecast to generate nearly four times as much revenue (*and parenthetically more than four times the ridership*, estimated separately) as the stand-alone Lake Shore Limited. Because of lower operating costs (simplified OBS and piggy-backing on Empire), this option only costs 3 1/4 times as much as the Lakeshore, and most importantly only requires three times the annual operating grant of the existing Lake Shore.

11. Study Findings and Conclusions:

- Linear fixed-facility capital requirements to allow existing passenger speeds for three additional frequencies on the route segment west of Empire Service (i.e. BUF-CLE-CHI) are likely to cost under \$1 billion largely for track infrastructure, signal and siding improvements and related capacity relief investment around freight bottleneck points.
- Linear fixed-facility capital requirements for higher speeds in addition to the increased frequencies for the same segment could reach double the above amount or roughly \$2 billion.
- Total station platform and related facility capital requirements for key served stations is likely to cost under \$200 million, portions of which funding are likely to be provided by local/regional jurisdictions and possibly from other federal resources. These costs are primarily associated with building functional second platforms to allow trains to avoid the need to make (often time-consuming) crossover moves to reach a single platform, as well as to permit passenger trains in both directions to stop at the same time.
- Ridership at select intermediate stations currently only served in the “dead-of- night” is likely to more than quadruple with the increase from one (or possibly two, for stops shared with the Capitol Ltd.) to four (or five) daily each-way trains.
- Total revenue for four frequencies on the NYP-CLE-CHI route in a “best case” scenario could nearly quadruple the current single NYP-CLE-CHI LSL stand-alone service.
- An “optimized” 4-frequency service pattern, consisting of the existing LSL, one new NYP-CLE-CHI through train and two (NYP) – BUF-CLE-CHI through Empire Service “piggy-back” trains could require only three times the annual operating grant of the stand-alone, existing LSL.

12. Potential Follow-On Issues for Study and Examination:

- Develop a detailed model to estimate City-Pair-specific forecasts for all major new short-distance and medium-distance markets served by proposed 4-frequency pattern.
- Research and estimate detailed sub-segment by sub-segment capital cost estimates for all necessary ROW, capacity, signaling and related infrastructure upgrades
- Research detailed infrastructure needs and related capital costs for mitigation at key passenger/freight operational “choke points,” such as: West of Hammond/Whiting; East of Toledo; East of Cleveland; adjacent to Ashtabula; etc.
- Research and estimate detailed station building, facility, platform and track/signaling capital requirements for each station upgraded from “single sided” to “dual platform” as suggested in this preliminary order-of-magnitude study.
- Analyze potential revenue, ridership, cost and operating impact of select additional intermediate stations that may be justified with multiple-Frequency service, such as: NW Indiana/Gary; Port Clinton; Painesville; Ashtabula; Dunkirk; etc.
- Analyze potential revenue, ridership, cost and operating impact of relocating the South Bend Station downtown adjacent to the hub of the city’s bus network and a short distance east of the historic New York Central Station.
- Research the costs and revenue impacts of either DMU shuttle or bus replacement service for Downtown Buffalo and Niagara Falls for the one or two Empire Service frequencies proposed to be realigned into NYP-BUF-CLE CHI through services.
- Analyze necessary fleet requirements (locomotives and specific rolling stock) and resultant capital cost estimate for potential dedicated new “high-efficiency” rolling stock.
- Perform an analysis of likely positive direct and indirect economic impacts at key served intermediate cities in Ohio and Indiana, including: transit-oriented-development; improved mobility; increased tourism; employment, etc.
- Develop a plan for a multiple route dedicated “AmBus” network similar to the highly successful service in California supporting the Capitol, San Joaquin and Surfliner corridors, and suggested in the “All Aboard Ohio” proposed Amtrak East-West Expansion Timetable.
- Seek official review and critical comment by as many of the following likely implementation participants as possible: Amtrak; host railroads; impacted state DOT’s; regional MPO’s; local economic development agencies; etc.
- Research the actual average net freight revenue yield from highest value intermodal trains on CSX or NS to provide a potential benchmark for “incentivized” (i.e. higher-than-Amtrak) access fees that would motivate Host Railroads to willingly offer better passenger performance. (Appendix I: Summaries of Background Interviews with State and Planning Organizations.)

Appendix I: Summaries of Background Interviews with State and Planning Organizations

Jan. 27, 2012 NY State DOT Interview Findings:

NYSDOT's Charles Poltenson showed interest in our project and willingness to provide some information available from previously developed NY Empire Corridor Studies. He did express significant concern over our "piggy-back" concept, i.e. combining 1-3 of our proposed trains with existing "Empire Service" frequencies because of how this might further complicate the PRIAA Formula 209 Funding issue, which is already a problem for NYSDOT. Mr. Poltenson suggested that the new mandate for full state-funding of SD trains will be a particular burden for NY and MI because the current Empire Service and Wolverine Service trains were not historically 403(b), and hence require significant new state financial contribution. He believes that combining trains could (unintentionally) increase their cost and the potential cost contribution required from the state. There will hopefully be a second conversation to review NYSDOT capital cost estimates for station platform and track upgrading along the corridor.

He also suggested a counter-alternative, which I don't believe meets many of our stated goals, namely to split the "Lakeshore" into separate BOS and NYP trains, on schedules roughly 6 hours apart, providing the desired benefits to the western end of the route, but still only one (through) train in its existing schedule NYP-CLE-CHI.

Feb. 1, 2012 PennDOT Interview Findings:

PennDOT's Robert Sharp, accompanied by Keystone West Consultant Rick Shannon of McCormick-Taylor, provided a wealth of information on the longer term and recent history of the "Keystone West," i.e. HAR-PGH Corridor. Because they are only now in the midst of a preliminary feasibility study for 2-3 additional NYP-PHL-HAR-PGH frequencies, there was less concern than in NY about our "piggy-back" concept (in this case, combining 1-3 of our proposed trains with their proposed added "Keystone West" frequencies. Since these would be new SD trains, they are conceived from the start as state-funded (noting that there is no likely known state funding source).

To the degree that the NARP proposal might convert one or more of their frequencies to a LD definition, this could actually help PA, assuming (as we do for OH and IN) that the trains would be viewed as "National System" trains and part of the basic Amtrak operating budget responsibility. Several prior studies over the last decade, including quantified capital cost estimate data, were subsequently provided by McCormick-Taylor.

Feb. 1, 2012 Chris Gleason (Keystone West "Champion") Interview Findings:

Chris Gleason, President of Gleason Financial, Johnstown, PA, former Amtrak Reform Council member and locally dubbed, "Champion of Keystone West," provided an interesting if somewhat contrarian perspective on Keystone West, as well as our proposed project. Mr. Gleason is impressed with the ridership/revenue growth of the HAR-PHL "Keystone Corridor" after incremental frequency and speed improvements, and strongly

believes comparable benefits could be achieved on Keystone West, if ways could be found to fund NS capacity requirements, noting that NS could benefit from public investment in the corridor as well.

Because his vision is more focused on inter-regional service, at least initially, this does not fit particularly well with our LD concept. Mr. Gleason is interested in looking at such sub-corridors as ALT-PGH, JHN-PGH or TYR-HAR. He also put special focus on the large potential demand that could be tapped by direct (or even just closer) access to State College. I sensed that he is not a big supporter of LD trains in general, and let it go at that.

Appendix II: Full Text of Legal Analysis by Walter Zullig, Esq.

Amtrak's Right of Access to and The Basis for Charges by Freight Railroads

The federal statutory scheme containing the rights and duties of Amtrak is found in the National Rail Passenger Service Act which took effect in 1971 but has been amended in many respects since then. Today the provisions governing Amtrak are codified in various parts of Title 49 of the United States Code ("USC"). Collectively these various provisions are referred to herein as the "Amtrak Statute."

The Amtrak Statute provides for the composition of Amtrak's Board of Directors and enumerates the powers of the corporation. It mandates that Amtrak be subject to the list of federal laws pertaining to railroads such as the Railroad Retirement Act, the Railway Labor Act and the Federal Employers' Liability Act. It also confers special powers on Amtrak regarding exemption from federal or state regulation for rates, routes and services, exemption from certain state and local taxes as well as from state laws regulating the size of train crews or governing pay periods or paydays.

The provisions governing Amtrak's use of facilities and services of other railroads¹ are found in 49 USC §24308. Amtrak is empowered to make agreements for use of such facilities or services; the terms of such agreements are to include a penalty for untimely performance. If the parties cannot agree, Amtrak may petition the Surface Transportation Board ["STB" or "Board"] for an order (1) directing that the requested services and/or facilities be provided and (2) fixing the terms of use and the compensation to be paid by Amtrak. Section 24308(a)(2)(B) requires that quality of service shall be "...a major factor when determining whether, and the extent to which, the amount of compensation shall be greater than the incremental costs of using the facilities and providing the services."

Accordingly, Congress has empowered Amtrak to use facilities of other railroads upon payment of the "incremental costs." In effect this was the "bargain" made with the railroad industry in return for granting relief from the intercity passenger train deficits. Any payment above the incremental level must be based on service quality and most agreements between Amtrak and other railroads provide for incentive and penalty payments regarding on time performance.

The law goes on to specify that intercity and commuter rail passenger transportation provided by or for Amtrak has preference over freight trains in using any rail line, junction or crossing except in case of emergency or certain findings by the Board. Amtrak also is empowered to apply to the STB for an order directing a rail carrier to allow accelerated speeds on a line as well as to require the operation of additional trains on schedules based on the legally permissible speeds. In such cases the STB is to consider (1) whether such an order would impair unreasonably the carrier's freight service and (2) the statutory goal of Amtrak to implement schedules that attain a system-wide average speed of at least 60 mph that can be adhered to with a high degree of reliability and passenger comfort. Once the STB has issued an order for faster speeds or additional trains, it is required to fix the compensation payable by Amtrak using the "incremental costs" standard unless the parties have reached a voluntary agreement on the subject.

1. Including, but not limited to, railroads and regional transportation authorities that did not enter into contracts with Amtrak in 1971. See *Metro-North Commuter Railroad v. Interstate Commerce Commission et al*, 792 F.2d 287, 294 (2d Cir. 1986).

Until the enactment of the Passenger Rail Investment and Improvement Act of 2008² [“PRIIA”] the Secretary of Transportation had jurisdiction over disputes regarding Amtrak priorities for use of rail lines and facilities as well as disputes regarding faster speeds and additional trains. PRIIA transferred those responsibilities to the STB.

Amtrak’s legal rights to obtain services and the use of facilities recently were tested when Amtrak and the Northern New England Passenger Rail Authority desired to reestablish rail passenger service between Boston, MA and Portland, ME. Guilford Rail System, owners of the railroad facilities in New Hampshire and Maine, resisted and Amtrak then applied to the STB for an order to compel the use and fix the compensation. In its decision³ the STB resolved many disputes as to what should be considered “incremental costs.” Since this is the most recent case on the subject it is worthy of detailed analysis. The main issues and their resolution are set forth below:

Liability Costs:

Amtrak was willing to assume responsibility for injury, death or property damage incurred by Amtrak employees, passengers (including “meeters and greeters”), Amtrak property and equipment and grade crossing collisions. It proposed to pay Guilford on the basis of \$0.0734 per train mile for the “residual liability”, i.e., damages Guilford might incur for injury/death of trespassers, environmental damage and injury/death of Guilford employees. The STB pointed out that this rate could not be sustained as it would result in an annual payment of \$17,000, whereas a single incident could cost Guilford far more than that. Thus the STB ordered Amtrak to either fully indemnify Guilford for these residual liabilities or obtain appropriate insurance to cover them. The subject of residual liability generally is included within the purview of existing agreements between Amtrak and host railroads.

The STB rejected numerous other Guilford requests that it be protected from punitive damages and that Amtrak’s access be conditioned upon the enactment of legislation in the three states to limit Guilford’s liability.

II. Maintenance of Way Costs

The parties had agreed that the track should be maintained to FRA class 3 level but could not agree on the incremental costs. Amtrak proposed to pay an incremental MOW cost of \$0.117 per locomotive and car mile based on an ICC determination in an earlier case involving Conrail. They argued that there will be little need for track maintenance for the first 6 to eight years after a \$39 million rehabilitation project sponsored by the State of Maine. Guilford proposed to pay based on the difference between actual costs under Amtrak operation and the costs recorded during a historic 2-year period. The STB concluded that neither party had presented sufficient evidence to enable an accurate estimate of the incremental MOW. It imposed the Amtrak proposal on an interim basis subject to reopening once the parties have had some experience with Amtrak operation over the line.

III. Line Rehabilitation Costs

Although the parties had agreed on most of the necessary rehabilitation work, issues remained as to bridge rehabilitation and construction of a bypass track around a freight yard near Portland. With regard

2. Public Law 110-432, October 16, 2008, 122 STAT. 4907.

3. Application of the National Railroad Passenger Corp. –Springfield Terminal Railway Company, Boston & Maine Corporation and Portland Terminal Company, STB Finance Docket No. 33381, decided May 28, 1998.

to the bridges, Guilford claimed \$21 million worth of work was needed while Amtrak's evidence showed the work could be performed for \$2 million. The STB rejected Guilford's claim since it was founded upon the assumption of greater speeds than Amtrak proposed to operate. STB also noted that several years earlier Guilford had made a proposal to operate this service at the higher speeds without any bridge rehabilitation.

Amtrak had proposed constructing a 2-mile yard bypass while Guilford contended that the track needed to be about 3/4 mile longer. Based on the facts, the STB decided the 2 mile track would suffice and would not impair the freight operations.

Host railroads often request specific capital improvements when Amtrak proposes additional train frequencies on a line. Generally Amtrak analyzes such requests and negotiates over them with the host railroad. If agreement cannot be reached, the STB will resolve the matter as it did in the Guilford case.

IV. Performance Incentive Payments

Although Guilford had requested some modifications, the STB imposed the normal Amtrak provision that monthly incentives begin when trains are operated 80% on time and that penalties become payable in any month that trains are operated less than 70% on time. This provision is in effect with nearly every other railroad.

V. Administrative Costs

The STB agreed with Guilford that Amtrak must assume responsibility for "incremental administrative costs" that the freight carrier might incur because of the passenger train operation. Examples of such costs would be dispatching, accounting and billing. The STB left the details to future negotiations.

VI. Miscellaneous Issues

The STB rejected Guilford's arguments regarding a requested order for unknown future costs, use of a different cost index and numerous jurisdictional matters no longer relevant because of statutory changes.

Guilford also objected to a proposal that would have allowed Amtrak's "successors or assigns" to receive the access rights granted to Amtrak in the case. The STB agreed with Guilford on this point, stating:

"We agree that the access rights that the Act allows us to grant to Amtrak belong only to Amtrak and may not be transferred to a third party "successor or assign" unless the Act ... specifically provides otherwise.

We see nothing in the access provisions of the Act that allows us to prescribe access terms for a party other than Amtrak...."

Accordingly the law is clear that the access rights enjoyed by Amtrak under 49 U.S.C. §24308 are exclusive to Amtrak and cannot be exercised by other entities.

Additional Amtrak Powers

Several additional powers of Amtrak are relevant to this research.

Amtrak has the power to object to the proposed downgrading of any facility it uses. In such a case the Secretary of Transportation is to determine "...those costs the rail carrier may avoid if it does not have to retain or maintain a facility in the condition Amtrak requests." Amtrak is required to pay such costs if it desires to continue maintaining the utility of the facility. *See* 49 USC §24309.

Finally, Amtrak has been given the right to acquire property interests by eminent domain. U. S. Code Section 24311 empowers Amtrak, *inter alia*, to acquire interests in property necessary for intercity rail passenger transportation. This provision authorizes Amtrak to apply to the STB for an order establishing the need of Amtrak for the property interest and requiring conveyance of the property interest on reasonable terms, including just compensation. The statute requires that such property interest be “necessary for intercity rail passenger transportation.” It mandates that the requested conveyance be ordered no later than 120 days after filing unless the STB finds that (1) the conveyance would impair significantly the ability of the carrier to carry out its common carrier obligations [i.e., impair its freight service] and (2) Amtrak’s interests can be adequately protected by acquiring an alternative property interest. Such an interest could be one of a lessor stature such as a lease, or the fee to some other property.

Amtrak’s eminent domain powers were upheld by the Supreme Court of the United States in another case involving Guilford.⁴ That case arose when segments of Guilford’s line used by the *Montrealer* passenger train had fallen into such disrepair that some of it was restricted to a speed of 5 mph. When requests for better maintenance were unsuccessful and Guilford’s B&M Railroad spurned a purchase offer, Amtrak entered into an agreement with the Central Vermont Railroad [CV] pursuant to which Amtrak would condemn a 48.8 mile segment of Guilford trackage between Brattleboro and Windsor, VT. Upon acquisition Amtrak would reconvey the segment to CV which would maintain it to proper standards and grant Guilford trackage rights to serve its customers. Amtrak would contribute \$3.1 million toward the rehabilitation costs with CV funding the balance.

The ICC authorized the condemnation, holding that Amtrak had no alternative route for the *Montrealer* trains and that Guilford would be protected by the proffered trackage rights and would receive just compensation, fixed at \$2,373,286. Guilford petitioned for review in the U. S. Court of Appeals for the D. C. Circuit which held that Amtrak is not authorized to condemn property which it intends to reconvey to another railroad. Thus Amtrak’s needs could be satisfied by an easement or trackage rights. Shortly thereafter Congress amended the Amtrak statute to authorize the subsequent conveyance of condemned railroad property. Nevertheless, the D. C. Circuit denied rehearing. While recognizing that the new amendment applied to this case, the Court’s majority panel held that Amtrak had not established that the property was “required for intercity rail passenger service.”

The Supreme Court reversed, holding that the Court of Appeals’ interpretation would limit Amtrak’s condemnation authority to property that was necessary, in the sense of indispensable, to Amtrak’s operations. Citing an earlier case in American jurisprudence⁵ which interpreted the word “necessary” to mean “convenient or useful,” the Court found “plausible if not preferable,” the ICC’s interpretation that Amtrak can find that an acquisition is required when it is a useful and appropriate way to accomplish its goals. Since there was no dispute that Amtrak intended to use the condemned trackage for the *Montrealer* service, the ICC had held such use to be sufficient to satisfy the statutory command that condemned property be “required for intercity rail passenger service.” This was held to be a reasonable interpretation.

State Supported Routes

Sections 203 to 209 of PRIIA⁶ provide for a series of “Amtrak reforms and operational improvements” and are a cause for special concern with regard to state funded trains. Section 203 requires establishment of an improved accounting system. Section 207 requires the Federal Railroad Administration and Amtrak

4. National Railroad Passenger Corp. et al. V. Boston & Maine Corp. et al., 503 U.S. 407 (1992).

5. McCulloch v. Maryland, 4 Wheat. 316 (1819)

6. P. L. 110-432, October 16, 2008, 122 STAT. 4907, 4912, 4917.

to develop and recommend objective methodologies for Amtrak to use in determining what intercity passenger routes and services it will provide, including the expansion of services or frequencies.

PRIA Section 209 provides that within two years of enactment, or about October 15, 2010, the Amtrak Board, in consultation with enumerated entities including states, is to develop and implement a single, nationwide standardized methodology for establishing and allocating the operating and capital costs among the states and Amtrak on each short distance corridor or route not exceeding 750 miles. In the event of failure to agree on this methodology, the STB is to determine the appropriate methodology and require the full implementation of it “with regards to the provision of such service within 1 year after the Board’s determination.

The “bottom line” of this scheme is that uniform cost allocation methodology is to be developed for use throughout the nation to allocate some of the costs of “short haul” trains to the states they serve and that such states will be required to pay those costs in order to retain or improve their train service. The impact of this scheme might be mitigated in some instances if Amtrak could be persuaded to convert a “short haul” route into a long distance one; e.g., if a train operating between New York City and Buffalo were to be extended to Chicago.

Summary

Congress has given Amtrak broad powers to use rail facilities and to have services provided to it by host railroads on an “incremental cost” basis. There is no distinction in the costing methodology between a single train and additional train frequencies operating over a line. In both situations “incremental costing” is to be applied with any additional or incentive payment based on good on time performance. When additional frequencies are requested, host railroads generally seek capital improvements which become the subject of negotiations. In the event of failure to agree, the Surface Transportation Board can be the ultimate arbiter.

The Passenger Rail Investment & Improvement Act of 2008 contains provisions that could make states responsible for the costs of “short haul” routes serving them.

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February 28, 2012

Appendix III: All Aboard Ohio 2008 “Fix It First” Report

Available online at <http://www.MidwestHSR.org/LakeShore>

Appendix IV: All Aboard Ohio “East-West Multi-Frequency” Timetable with AmBus Plan

Appendix V: City-Specific Demand Model Details

BALLPARK CITY-SPECIFIC DEMAND ESTIMATES FOR 4-FREQ PATTERN										
Station		Actual LSL FY11 on/off				--Estim. Forecast 4-Freq NYP-CHI on/off--				NOTES
		annual	avg. daily	est. ann.	est. ann.	est. ann.	est. daily	est. daily	est. daily	
		actual	actual	low	high	avg.	low	high	avg.	
NYP	NY	108,799	298.1	277,437	413,436	345,437	760.1	1,132.7	946.4	2)
Yonkers	NY									
Croton	NY									
Poughkeepsie	NY	4,807	13.2	12,258	18,267	15,262	33.6	50.0	41.8	2)
Rhinecliff	NY	-	-	-	-	-	-	-	-	
Hudson	NY	-	-	-	-	-	-	-	-	
Albany	NY	37,420	102.5	95,421	142,196	118,809	261.4	389.6	325.5	2)
Schenectedy	NY	12,865	35.2	32,806	48,887	40,846	89.9	133.9	111.9	2)
Amsterdam	NY	-	-	-	-	-	-	-	-	
Utica	NY	18,280	50.1	46,614	69,464	58,039	127.7	190.3	159.0	2)
Rome	NY	-	-	-	-	-	-	-	-	
Syracuse	NY	51,819	142.0	132,138	196,912	164,525	362.0	539.5	450.8	2)
Rochester	NY	42,519	116.5	108,423	161,572	134,998	297.1	442.7	369.9	2)
BUF-Depew	NY	40,701	111.5	103,788	154,664	129,226	284.3	423.7	354.0	2)
Erie	PA	15,009	41.1	57,409	106,939	82,174	157.3	293.0	225.1	1)
Painesville	OH	-	-	-	-	-	-	-	-	
Cleveland	OH	28,149	77.1	107,670	200,562	154,116	295.0	549.5	422.2	1)
Elyria	OH	3,134	8.6	11,988	22,330	17,159	32.8	61.2	47.0	1)
Sandusky	OH	12,865	35.2	49,209	91,663	70,436	134.8	251.1	193.0	1)
Port Clinton	OH	-	-	-	-	-	-	-	-	
Toledo	OH	34,171	93.6	87,136	162,312	124,724	238.7	444.7	341.7	
Bryan	OH	6,518	17.9	16,621	30,961	23,791	45.5	84.8	65.2	
Waterloo	IN	11,706	32.1	29,850	55,604	42,727	81.8	152.3	117.1	
Elkhart	IN	7,684	21.1	19,594	36,499	28,047	53.7	100.0	76.8	
South Bend	IN	12,165	33.3	31,021	57,784	44,402	85.0	158.3	121.7	
CHI	IL	180,746	495.2	460,902	858,544	659,723	1,262.7	2,352.2	1,807.5	
total		629,357	1,724.3	1,680,286	2,828,594	2,254,440	4,603.5	7,749.6	6,176.5	
Ridership		314,679	862.1	840,143	1,414,297	1,127,220	2,301.8	3,874.8	3,088.3	

NOTES:

- 1) Low and high fcst raised to reflect removal of "middle-of-night" suppression factor
 - 2) High Fcst reduced to reflect partial parallel existingservice "redundancy" factor
- General Notes:
- a) "ridership" numbers (Annual or daily) = total "ons/off" divided by 2 to avoid "double counting"
 - b) existing annual on-off data from AMTRAK for FY11 LSL; excluding trips w/ endpoint ALB/BOS
 - c) all low 4-freq fcsts based on 70% for 2nd freq; 49% for 3rd and 35% for 4th reflecting freq elasticity for LD trains and city-pairs
 - d) all high 4-freq fcsts based on 100% add'l for 2nd; 125% for 3rd and 150% for 4th reflecting freq elasticity for SD trains and city-pairs

Glossary:

General Terms

MOW—Maintenance of Way
MOE—Maintenance of Equipment
T&E—Train and Engine
OBS—On-Board Service
G&A—General and Administrative
T-M—Train-Miles
P-M—Passenger-Miles
ROW—Right-of-Way

Station Codes

NYP—New York (Penn)
ALB—Albany (at Rensselaer)
SYR—Syracuse
ROC—Rochester
BUF—Mainline Station serving Buffalo, located at Depew, NY
ERI—Erie
CLE—Cleveland
TOL—Toledo
SOB—South Bend
CHI—Chicago (Union Station)
HAR—Harrisburg
PGH—Pittsburgh