CONNECTICUT DEPARTMENT OF TRANSPORTATION

U.S. Department of Transportation
Federal Transit Administration

DANBURY BRANCH LINE

FINAL IMPLEMENTATION PLAN

FINAL DRAFT

STATE PROJECT 302-008

September 2016

Introduction

The Connecticut Department of Transportation (the Department) undertook a study to evaluate the Danbury Branch Rail Line (Figure 1) to determine the current and future needs of this corridor and to identify potential improvements to address those needs. During the course of the evaluation, the Department was able to initiate and fund several improvement projects to address needs identified in the study. Several additional projects were recommended and are either in the design phase or expected to start within the next few years. These recent improvements are having a positive impact, and in 2015, led to a more than 9% increase in ridership over the previous year.

Connecticut's long range transportation plan, outlined in Governor Dannel Malloy's bold vision for a transportation future, known as "*Let'sGoCT!*," outlines Statewide rail corridor strategies, including the Danbury Branch. As noted above, upgrades to the Danbury Branch are already underway, and future efforts will include additional system improvements, along with preserving the option for future extension of rail service to New Milford.

The purpose of this implementation plan is to summarize the work that has been completed; the work already underway as part of "*Let'sGoCT!*," including the current progress of those projects; and, the plan for future project development and implementation.

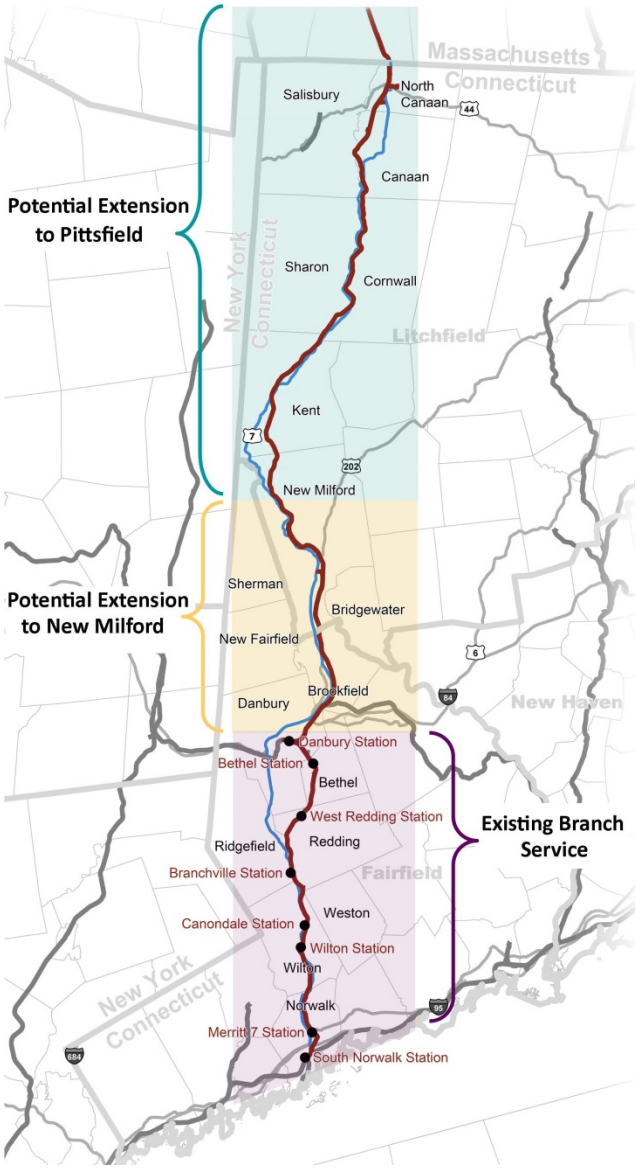


Figure 1. Rail Line

Study Area

The Danbury Branch Line study area (Figure 2) consists of nearly 38 miles of existing rail in western Connecticut between Norwalk and New Milford. Both passenger service, provided by Metro-North Railroad (MNR), and freight service, provided on a limited basis by the Providence & Worcester Railroad, operate between Norwalk and Danbury. This portion of the corridor (Norwalk-Danbury) is owned by the State of Connecticut. North of Danbury, the existing track accommodates only freight service, and is owned and operated by the Housatonic Railroad Company (HRRC). North from New Milford, to the Massachusetts state line, the tracks are owned by the State of Connecticut. Freight service is operated along this portion of the corridor by the HRRC.

Figure 2. Danbury Branch Line Study Area

Study Phases

Phase I of this study identified and evaluated eight (8) preliminary improvement alternatives, which were developed from a pool of twenty (20) options. Five (5) alternatives were recommended for further consideration in Phase II.

The planning process for this study originally anticipated producing an Environmental Impact Statement (EIS) that evaluated the potential impacts of the five Phase II alternatives, including the possibility of introducing new passenger rail service north of Danbury. During the evaluation process, however, it was determined that an extension of rail service north of Danbury would be impractical during the forecast period (year 2030), due to the high capital and operating costs, and low ridership forecasts. As a result, this study then shifted its focus to the existing passenger rail portion of the corridor between Norwalk and Danbury.

Many of the improvements proposed in the Danbury Branch Study have been identified as having independent utility, enabling the Department to expedite their implementation. Some of these upgrades have been completed while others are currently under construction or are in the design phase.

In coordination with the FTA, this final documentation for the study presents an overview for improving the Norwalk – Danbury rail line. The focus of this report is to present improvements which have occurred on the line over the course of the Danbury Branch Study. These improvements include upgrades at the rail passenger stations, signalization and Centralized Traffic Control (CTC), bus service, and rail passenger and freight service. Further details about these improvements are presented below:

Recently Completed Improvements:

Signalization: Prior to 2014, the Danbury Branch Line operated without a signal system to control train operations on the tracks. Without a signal system it is difficult to operate and schedule trains in an efficient manner, and the number of trains that can be safely scheduled is much lower than with a signalized system. Signalization was recommended as a way to increase the safety, frequency and efficiency of service for Branch Line customers. The signal system and Centralized Traffic Control (CTC) was funded for $72 million and completed in December 2014. These improvements allowed the Department to increase train service on the branch line and add six trains to the daily schedule. In 2015, ridership on the Danbury Branch experienced a significant increase of 9.4%.

At-grade crossings were upgraded in conjunction with the new signal system to ensure reliable operation of the signals and to improve safety.

A new passing siding was installed in Bethel, also as part of the signalization project.

Ongoing or Near-Term Improvements:

Positive Train Control: The Department is committed to implementing Positive Train Control (PTC), which is an advanced train safety system. PTC is a highly effective safety system for monitoring and controlling train movements in a corridor to provide increased safety. Construction is expected to be completed in 2018.

Bethel Station Parking Expansion. The Department is currently designing a parking expansion at the Bethel Train station. This expansion will accommodate 121 new spaces for a total of 320 spaces. Parking will also be expanded for cyclists and the Department is working with the Town of Bethel who will be purchasing bike lockers to be installed at the station. Construction is expected to be completed August 2017.

Merritt 7 Station Enhancements. The Department has recently begun the final design for this project with will include the replacement of the existing low-level platform with a new 510-foot long high-level platform, and the addition of an up-and-over pedestrian bridge. This will allow passengers to access the station from either side of the platform, which is currently not possible with the single existing low-level platform on the west side. The enhancements also include an extended canopy, real time train information, and ticket vending machines among other amenities. Final Design is expected to be completed July 2017; currently this project is 70% designed and it will take approximately another 1.5 years to fully complete. There is no funding allocated for construction. This project will position Norwalk for an opportunity to expand upon Transit-Oriented Development (TOD) potential around the station.

Danbury Dock Yard Improvements: This project is located at the South Norwalk Station, at the base of the Danbury Branch Line, where it connects to the main New Haven Line. The project includes the addition of rail sidings, signal improvements, and electrification at the southern end of the Danbury Branch Line. Cost for the project is approximately $30 million, and the schedule is being accelerated so it is completed prior to the commencement of the Walk Bridge reconstruction. This project will allow more efficient train operations and improve service at the junction.

Bethel TOD Study. In 2014, Bethel was awarded $150,000 through the Transit-Oriented Development (TOD) Planning Grant Program by the Office of Policy and Management (OPM). These funds will be used to complete a TOD plan around the Bethel Train Station to aid the town in developing a Village District around the station. The TOD Study should be completed fall of 2016.

Branchville TOD Study. In 2015, Ridgefield, through the Western Connecticut Council of Governments (WestCOG), was awarded $256,000 in grant money to fund a TOD study. The study will be guided by a newly formed task force and will explore the feasibility of TOD around the existing Branchville Station on Route 7. In September 2015, a public charrette was held in Ridgefield and included open house sessions, focus groups, a workshop, and a concluding presentation with key findings of the charrette process. The next phases of this study will include a comprehensive review of existing conditions, production of development scenarios, an integrated mobility plan, a wastewater and storm water management plan, zoning recommendations and design guidelines and an implementation strategy. The TOD study should be complete by winter 2016.

Long-Term Improvements*:*

Two major improvements were evaluated as part of the Danbury Branch study:

1. *Extend Service to New Milford* – As part of the "*Let'sGoCT!*," this improvement includes all the estimated capital costs associated with extending passenger rail service from Danbury to New Milford without electrification.
2. *Electrify the existing passenger service line* - As part of "*Let'sGoCT!*," this improvement includes the electrification of the existing Danbury Branch Line service between the South Norwalk and Danbury Stations, which would allow for extended one-seat ride service on the New Haven Line.

The results of these evaluations indicated that the investment in these two improvements is not justified at this time. Capital costs were high and incremental increases in ridership were low. However, these remain long-term goals in the Corridor and the Department is preserving the option to further consider at a future time.

Rail Passenger Stations:

Summary of completed improvements or planned upgrades for the eight existing stations on the Danbury Branch Line.

Station	Ownership	Year Built	Year Renovated	Existing Parking Spaces	Planned Parking Expansion	Future Spaces Needed	Planned Improvements/Upgrades
South Norwalk	City	1994	2009	890	-	-	TOD Pilot Program has identified suggested improvements around this station, including sidewalk reconstruction and crosswalks. These upgrades have not moved forward to design or construction phase at this time.
Merritt 7	State	1985	N/A	88	-	200	Design is underway to upgrade this station with a new 510 foot long high-level platform, a pedestrian bridge, ticket vending machines and other amenities.
Wilton	State	1967	2009	216	-	-	Future planned upgrades at this station include a walkway and pedestrian bridge between the station and town center.
Cannondale	State	1892	2008	140	-	50	Future planned improvements include extending the high-level platform by 300 feet and expanding the parking lot by an additional 50 spaces.
Branchville	State	1905	N/A	168	-	-	A TOD Study, initiated in 2015, will explore development opportunities and improvements around the station.
West Redding	State	1972	2013	80	-	90	No planned improvements at this station.
Bethel	State	1997	N/A	199	121	-	Design is underway for parking expansion of 121 new spaces. Construction is expected to be finished in 2017. A TOD Study was initiated in 2014, and is expected to be completed in summer of 2016.
Danbury	State	1996	N/A	147	-	-	No planned improvements as this station.

Danbury Dock Yard

The Danbury Dock Yard (Figure 3) located in South Norwalk off of Crescent Street, will be upgraded in order to give trains a new location to turn. Currently, Danbury Branch trains, which terminate in South Norwalk, perform a reverse maneuver blocking mainline tracks. Improving the Dock Yard will also allow main line trains, which begin or end in South Norwalk, to maintain the existing turns.

Planned Dock Yard improvements include adding new passing sidings, improving signals and electrifying up to one mile of track so that New Haven line trains can use the turn around. Long term, this will add the potential for increased capacity on the Danbury Branch. It will prevent service line disruptions that take place when trains block the line with the current configuration causing delays on the branch line.

Figure 3: Crew Inspecting the Current Danbury Dock Yard

The Dock Yard improvements are part of the "*Let'sGoCT!*" 5-year ramp up plan to improve transportation statewide. The project is estimated to cost $50 million. In July 2015, the State Bond Commission approved $4 million for funds to begin the design. This is planned to be completed by winter of 2016 with construction starting in the Spring of 2017 and its anticipated to be completed by winter 2018. The Department is waiting on the FTA to approve the environmental documents to get the final design approved.

Signalization and CTC

Construction of the Danbury branch signalization and Centralized Traffic Control (CTC) project began in May 2010 and was completed in November 2013. This project was a $72 million investment in the line to bring the 150 year old branch into the 21st century. A new signal system was installed in 4 phases along all 24 miles of the branch line, which allows for improved safety and more efficient service. Metro North central command can now monitor the line from Grand Central Terminal whereas previously the line ran unsignalized. The new technology also controls the opening and closing of crossing gates through automatic detection. New gates were installed at the following at-grade crossings: Jennings Road, Norwalk; Cross Street, Norwalk; Portland Road, Ridgefield; Depot Road, Ridgefield; and Long Ridge Road, Redding.

Figure 4: Crew burying cables alongside track

As part of the project, the signal lines were buried alongside the track (Figure 4). Additional improvements to the line included modifying/improving 28 highway and 7 private crossings; installing two new signal power substations; improving 17 turn outs; installing new signal houses and a new passing siding in Bethel. The improvements made to the infrastructure resulted in both safer service and

increased service on the line. Since the majority of the branch is single tracked only one train can operate at a time. With these improvements two trains can now operate.

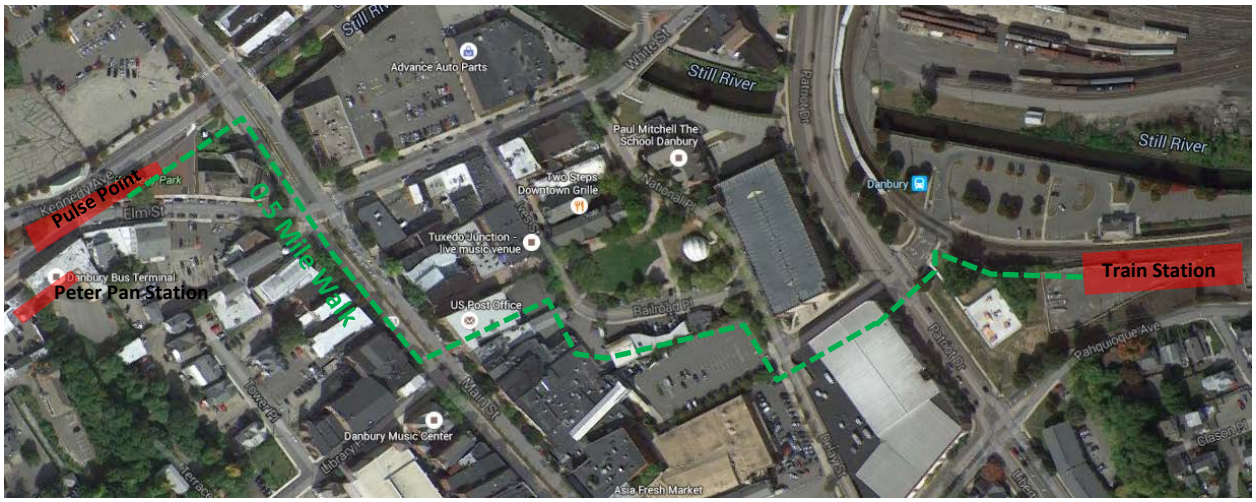
Rail Service

Improvements to the signalization and CTC allowed the Department to add service to the Danbury Branch Line. Effective November 17, 2013, six weekday trips were added, three are inbound to Grand Central Terminal (GCT) and three are outbound, bringing the total number of trips a day up to 26. The three inbound trains were added in the off peak to improve the headway from 2.5+ hours, to 1.5 to 2 hours. In the outbound, one train was added in the AM reverse commute peak, one in the mid-day off peak and one in the late evening. The increased service expanded the service hours, added through trains, one outbound in the AM and one outbound in the PM to/from GCT, eliminating the need to transfer in South Norwalk.

In 2015, ridership on the Danbury Branch Line experienced a significant increase of 9.4%.

Bus Service

In 2010, Housatonic Area Regional Transit (HART) conducted a bus service plan to outline current service as well as goals and objectives to improve service. Many of the planned service improvements would provide better transit connections to commuter rail. Major planned bus service initiatives include replacing the limited loop service on Sundays with fixed route service on all routes, expanding weekday and Saturday service until 10 p.m. on all fixed routes, and improving mid-day headways from 60 minutes to 30 minutes. To date, HART has been unable to implement any of these initiatives due to funding constraints. HART is also exploring implementing a shuttle/circulator to connect the downtown pulse point on Kennedy Street with the Peter Pan bus terminal and the Danbury Rail Station (Figure 5). Only the HART Route 2 inbound route directly services the train station.



Norwalk Transit District (NTD) has improved several of their commuter routes to increase connectivity with the rail stations. The Norwalk Hospital/Belden Avenue Route now meets the last off peak train. The 10/20 Westport Road commuter shuttle extended service to the Wilton Corporate Center. NTD also

added a new shuttle called the CT Avenue/Norwalk Community College commuter route. It connects the South Norwalk station with Norwalk Community College and meets one Danbury train in the AM and 3 in the PM.

South Norwalk Train Station

Figure 5. South Norwalk Train Station

The South Norwalk Train Station (Figure 6) is located south of I-95 on State Street and is owned by the City of Norwalk. Amenities at the station include a waiting room, ticket windows, parking garage and a security office. In 2009, upgrades to the station were completed that included a new security system, new floors and seating, improved signage, lighting and landscape upgrades.

Other initiatives have been explored to further improve mobility around the station. In 2011, $486,000 was awarded to the City through the Department's Transit-Oriented Development (TOD) Pilot Program. The funds were used to conduct a study which explored a connection of the South Norwalk Train Station and Intermodal Center, to a multi-modal network of shuttles and city transit buses and routes to serve pedestrians and cyclists. The final report was presented to Norwalk in April 2014 for public comment and included recommendations such as sidewalk reconstruction, new lighting, painted or elevated crosswalks and bike sharrows. The report states that the design process would continue through 2014 and phased construction would begin in 2015. In January 2015, a request for funding to construct a staircase, one of the designs featured in the study, was denied. To date, there has been no further design or construction of the improvements presented in the study. According to the study concept plan, the first phase of construction would cost approximately $2,879,000 and the future phase would cost $2,605,000.

Merritt 7 Train Station

The Merritt 7 Station serves Norwalk residents and is located on Glover Avenue with close access to Route 7 and the Merritt Parkway. This station is owned by the Department. The existing station consists of a shelter, low level platform, and a small surface parking lot. Station amenities are minimal, and upgrades are needed to meet the growing service demands in the area. In July 2011, the State Bond Commission approved $5 million to fund design to transform the station into a larger transportation hub. As a result, in 2012, the Department initiated work on

Figure 6. Merritt 7 Train Station

upgrades for the station. In April 2015, an informational meeting was held to present conceptual plans (Figure 7) to the public for comment. The conceptual planning phase of this project was concluded in the summer 2015 and the final design will be completed July 2017. In addition to the $5 million allocated for the design of the station, it has been estimated that improvements will cost approximately $15 million to complete.

Proposed upgrades seek to make the station accessible according to the Americans with Disabilities Act (ADA) standards, improve safety, enhance service operations and provide increased access to the station through a variety of modes. Planned improvements for Merritt 7 include replacing the existing low level platform with a 510 foot long high level platform with a canopy, waiting shelter, access stairs and ramps. A pedestrian overpass would be constructed to provide access to the east side of the tracks where several office buildings are located. On the west side of the station, a 200 space parking lot would be constructed to provide more spaces for riders. Property acquisition would be necessary to complete these improvements. This project is currently in the design phase; however a schedule for the completion of these upgrades has not yet been established.

Figure 7. Preliminary Conceptual Drawings for the Proposed Merritt 7 Station (photo credit: NancyOnNorwalk.com)

Cannondale Train Station

This train station serves residents of Cannondale, a subsection of the Town of Wilton and is located on Cannon Road in close proximity to Route 7. This station is owned by the Department (Figure 8). Current amenities at this station are limited; the café that occupied the station building closed several years ago and there is no shelter for waiting passengers.

In 2008, the Cannondale Station underwent several upgrades, including a new restroom and supporting facilities, and pavement repairs at a cost of $450,000. Construction of these upgrades started in early January 2008 and was completed in October 2008 under budget.

Figure 8. Cannondale Train Station

In 2010, the Department released a Request for Proposals to reestablish concessions services, which was unsuccessful. Future improvements to the station include extending the high level platform by an additional 300 feet. This would allow the platform to accommodate a six car train. The existing parking lot would also be expanded to provide an additional 50 spaces, improving the station's capacity to meet the parking demands and bringing the total to 190 available spaces.

Branchville Train Station

The Branchville train station provides service to residents of Branchville, a section of Ridgefield. This station is owned by the Department (Figure 9). The station is located on Route 7 between the Norwalk River and Portland Avenue and currently houses a bakery and gift shop.

Figure 9. Branchville Train Station

Conceptual improvements for this station include the reconstruction of Portland Avenue and Depot Road to allow improved access to the station and expansion of the existing surface parking lot. Under this reconstruction, Depot Road would be terminated at the station parking lot and the existing at-grade crossing would be eliminated to improve safety. Portland Road and its' at-grade crossing would be relocated approximately 150 feet to the south to enter Route 7 opposite Old Town Road. Expansion of the parking lot would require property acquisitions. These upgrades would improve pedestrian and vehicle access and increase parking at the station. The Depot Road Bridge over the Norwalk River would be replaced and a new bridge for Portland Avenue would be required. The surface parking lot would be expanded between the existing and relocated Portland Road. No funding has been allocated for these projects.

In 2015, Ridgefield, through the Western Connecticut Council of Governments, was awarded $256,000 in grant money to fund a TOD study. The study will be guided by a newly formed task force and will explore the feasibility of TOD around the existing Branchville station on Route 7. In September 2015, a Charrette was held in Ridgefield and development concepts were discussed including phased plans, a market buildout, sidewalks, a bridge, and a consolidated septic system plan.

Danbury Train Station

In 1996, the Danbury Train Station was relocated from its original location on White Street to a newly constructed station off of Patriot Drive. This station is owned by the Department (Figure 10). Construction of the new station included features such as a high-level boarding platform and an enhanced at-grade crossing warning system. The station also provides a waiting area, restrooms, bike racks for passengers and is also ADA accessible. At this time there are no planned upgrades at this station.

Figure 10. Danbury Train Station

Wilton Train Station

The Wilton Train Station, owned by the Department, has undergone a series of improvements since 2005 (Figure 11). The first set of improvements occurred in 2005 when surface parking was expanded from 159 to 216 spaces and access to the station was improved. In 2009, renovations began on the train station after being closed for three years. The renovations included structural improvements, making the entrance and restrooms ADA compliant, providing sanitary hook-up to the sewer line, replacing the building's drainage, installing a new fuel oil supply line, adding a bicycle rack, upgrading the water service and painting both the interior and exterior of the building. The renovations were completed in fall 2010 at a cost of approximately $190,000.

Figure11: Newly Renovated Wilton Train Station

Future upgrades for the station include a walkway and pedestrian bridge over the Norwalk River from the station to the town center (Figure 12). In 2014, Wilton received a $500,000 Small Town Economic Assistance Program (STEAP) grant for the project. In the summer of 2015 work was initiated to design the new walkway and bridge. Construction has not yet started on this project.

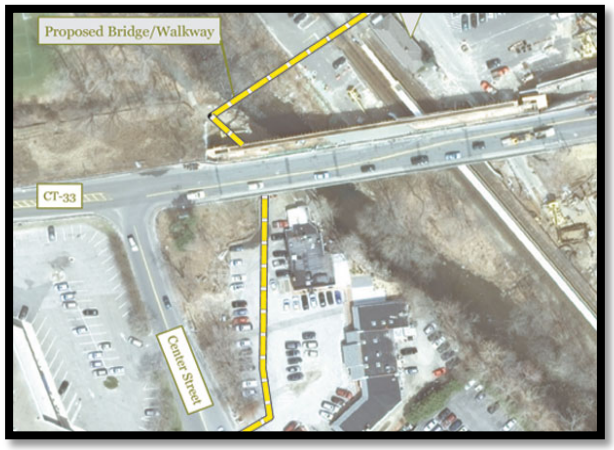


Figure12: Proposed Bridge/walkway

Redding Train Station

The Redding Train Station, owned by the Department, along with the surrounding roadways, have undergone safety improvements with more planned. In the summer of 2013 gates were added to the warning system on Long Ridge Road which previously only had flashing lights, a pedestrian bell, signage and pavement markings (Figure 13). The crossing near the train station is complex because three roads come together to form an awkward "Y" shape leading to poor visibility for motorists. To further improve safety the intersection will be redesigned to form a "T" intersection. The project is estimated to cost $1.48 million; however, funding has not been secured and there is no estimated schedule for the project. The Department is working closely with the Town, who is leading this project, to help with the design. Archaeological concerns have placed this project on hold for the past several years.

Figure13: Improved Grade Crossing

There were future plans to expand the surface parking lot from 80 to 180 spaces (Figure 14). The design required no property acquisition; expansion could occur within the existing station property boundaries. As there is sufficient parking at the moment, it was determined this money would be better spent on funding the parking lot expansion at Bethel Train Station which has a higher parking demand than Redding. As a result, this parking expansion project has been cancelled.

Figure14: Planned Parking Lot Expansion for Redding Station

Bethel Train Station

The State Bond Commission allotted $2 million in 2009 to expand parking at the Bethel train station. In 2011, the Department awarded Bethel a grant for $750,000 to begin design, engineering and construction work on the parking expansion at the station. To further improve pedestrian connections surrounding the train station, the town applied for and received a Small Town Economic Assistance

Program (STEAP) grant in 2014 for $430,000. This funding will be used specifically to install and repair sidewalks and ADA ramps between the train station and the downtown business district.

On September 4th, 2014 the Department held a public information meeting on the proposed improvements to the station (Figure 15). The preliminary design calls for an additional 121 parking spots by expanding the surface lot to the north; repaving the entire lot; installing new sidewalk ramps, modified lighting and drainage; and installing a new curb pull out for a "kiss-and-ride" and bus stop. New sidewalks along Durant Avenue will be added to connect the train station. Final design was submitted in May 2016. When this design is approved, funds are to be requested from the Office of Rails and construction is to begin in spring of 2017.

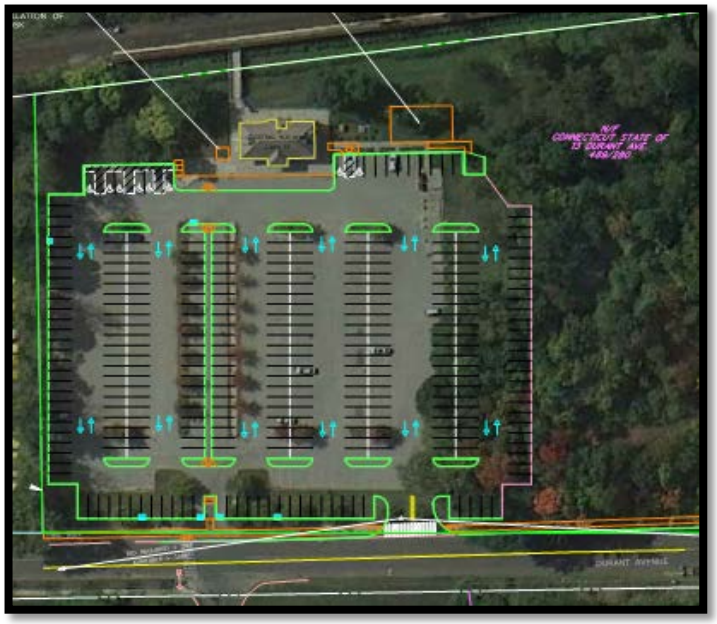


Figure15: Plans for Expanded Parking at Bethel

To further the TOD initiative, Bethel applied for and received a $100,000 TOD planning grant in 2014 through the Office of Policy and Management (OPM) to conduct a TOD technical analysis around the train station. The analysis will focus on transportation planning, sewer capacity, environmental impact and economic markets in order to guide future planning and development around the train station. In the spring of 2015 Bethel released a Request for Proposals (RFP) seeking a consultant to conduct the study. In April 2016 the TOD study was presented to the public for comment and has now been completed.