
ALTERNATIVES ASSESSMENT

Burlington Amtrak Train Servicing and Storage Facility Assessment

PREPARED FOR



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Introduction

The Chittenden County Regional Planning Commission (CCRPC), the City of Burlington, and the Vermont Agency of Transportation (VTrans) collaborated on this study to evaluate potential overnight storage and servicing locations in Burlington for the planned arrival of the Amtrak Ethan Allen Express passenger train in 2021 or 2022. The Amtrak train's storage and servicing location might change in the future depending on potential upgrades to the Burlington to Essex line that could facilitate the travel of the Ethan Allen Express to Essex Junction and beyond. This study identifies potential locations and evaluates each location based on the costs, impacts to existing rail operations, noise and visual impacts, impacts to public and private right-of-way, and other issues. Ultimately, this study will be used by VTrans to make the final selection on the preferred servicing and storage site for the Amtrak train, taking into consideration the results of the technical evaluation and public input received over the course of this study.

1.1 Project Background

Starting in 2021 or 2022, Amtrak's Ethan Allen Express train, which currently travels from New York City to Rutland, VT via Albany, NY, is anticipated to extend service beyond the current line's terminus in Rutland and continue north to Burlington, with planned stops in Middlebury and Vergennes. The current plans are for the Ethan Allen Express to arrive in Burlington in the evening and depart southbound in the morning for New York City.



The new northern terminus for the Ethan Allen Express line will be Burlington's Union Station, which is located at the foot of Main Street on Burlington's waterfront. Once all passengers have disembarked the train in the evening, the train will be serviced and stored overnight before beginning its southerly trip the next morning. Train servicing includes cleaning, emptying of water and wastewater, and refilling water, supplies, including food and beverages, and fuel. These tasks will be completed using water, sewer, and refueling trucks or with direct hookups into the municipal water and sewer system. The train crew is expected to be lodged overnight in Burlington.

The servicing and storage location needs to accommodate the full 680-foot length of the Amtrak train (two locomotives and five passenger cars) and should be located close to Union Station, have access to a three-phase power connection, an access road for service vehicles, while limiting impacts on adjacent homes and businesses.

1.2 Project Schedule

Planning for this study began in August 2017, with a project team Kick-off Meeting, attended by representatives from the City of Burlington, the Chittenden County Regional Planning Commission (CCRPC), Vermont Agency of Transportation (VTrans), and the consultant, VHB.

The study included project team meetings, technical evaluation, and stakeholder input and proceeded along the following schedule:

- Kick-Off Meeting August 2017
- Field Assessment September 2017
- Identification of Locations September - October 2017
- Project Team Meeting #2 October 2017
- Burlington Public Works Commission Meeting November 2017
- Site Evaluations December – May 2018
- Second Public Meeting June 2018
- Final Report June 2019

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Alternatives Identification

Potential train servicing and storage locations were identified through a combination of input from the project team members, Vermont Rail System staff, and the public. In general, the study area ran from Burlington’s Urban Reserve in the north, south to Queen City Park Road. A total of seven sites were initially identified during the course of the study, with five of the sites advancing for a more detailed assessment and public input.

This chapter presents an overview of the train storage and servicing locations that were identified and evaluated in this study.

Overview of Alternatives

Following an evaluation of the existing rail corridor in Burlington and discussion with the project team about potential sites, VHB and Vermont Railways Inc (VTR) staff met in October 2017 to visit specific locations along the rail corridor and identify train storage and servicing sites which warranted further analysis.

The following locations were identified for initial evaluation (listed from north to south):

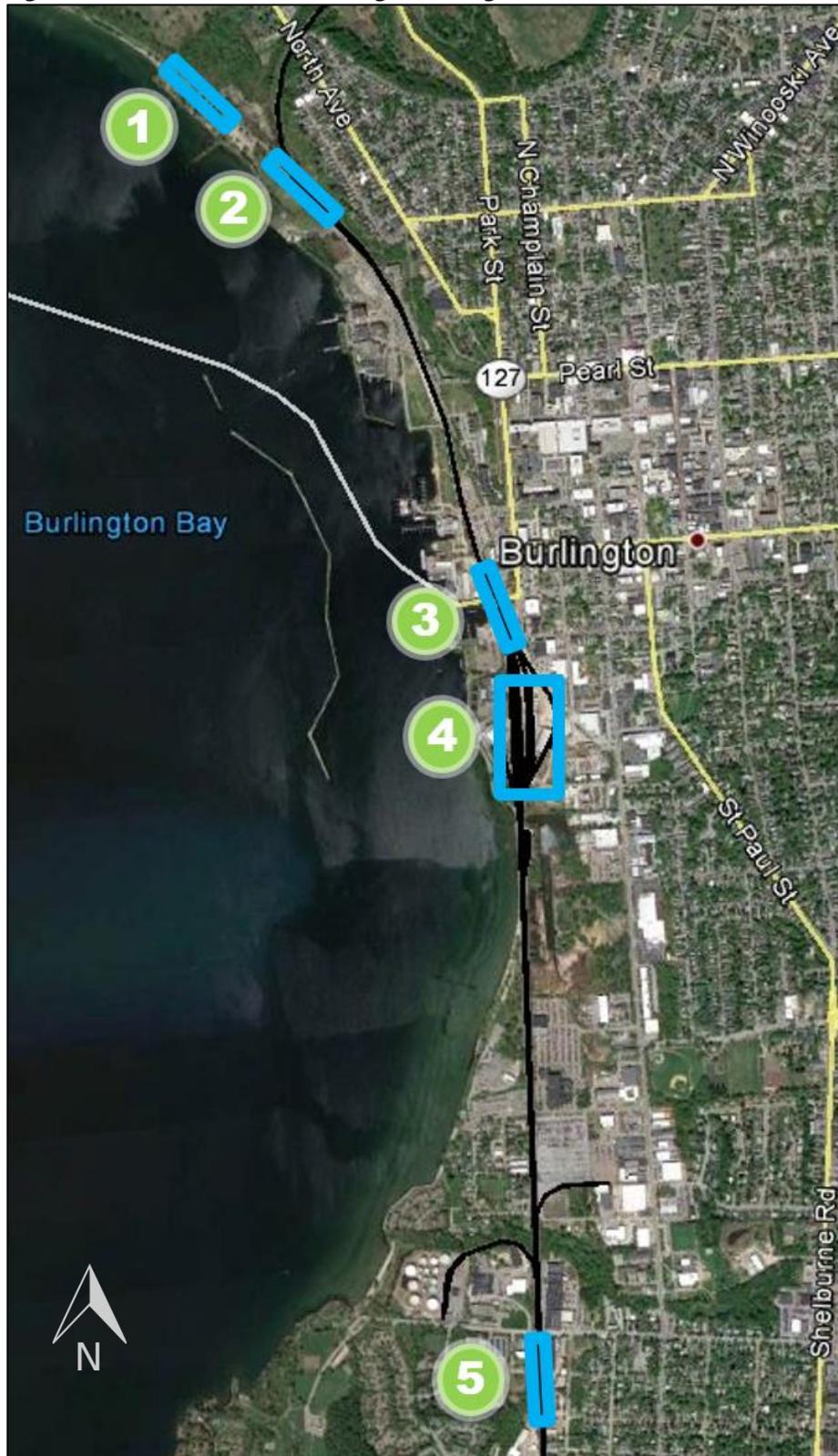
1. Northern Urban Reserve
2. Southern Urban Reserve
3. Union Station
4. Vermont Rail System Railyard
5. Blodgett Ovens Siding
6. Flynn Avenue/Briggs Street (South End City Market)
7. Home Ave/Champlain Parkway

Following a preliminary assessment of the locations identified above, Site 5 (Blodgett Ovens) was removed as the length of the siding was shorter than the minimum required length and located on a curve. In addition, the property was sold and is currently being redeveloped. Site 7 (Home Ave/Champlain Parkway) was removed due to the long distance from Union Station (approximately two miles) and the need for additional train warrant requests to cross Home Avenue.

The remaining five sites are listed below and described in more detail in the following sections. A graphic of the alternative sites is shown in **Figure 1**.

1. Northern Urban Reserve
2. Southern Urban Reserve
3. Union Station
4. Vermont Rail System Railyard
5. Flynn Avenue/Briggs Street (City Market)

Figure 1: Potential Train Servicing & Storage Location Sites



2.1 Northern Urban Reserve

The first location examined as part of this study is adjacent to the recently built VTR siding at the northern end of the Urban Reserve. This property is owned by the State of Vermont with VTR operating on the siding. For Amtrak to access this site, track rights from New England Central Railroad (NECR) would have to be acquired as the passenger train would use a portion of NECR mainline track, beginning north of College Street. This site would be located on a new siding along the former Burlington Bike Path alignment. This location is just under one mile north of Union Station. This site is located at the foot of the waterfront bluff, which provides a moderate level of noise and visual screening from adjacent homes and businesses.

Figure 2: Northern Urban Reserve Site (Looking South)



To service and store the train at this location, 700-feet of new rail siding, a new switch, 200-feet of additional (double) track north of College Street, approximately 1,200-feet of new access roadway, and new rail crossing signals and flashers at Penny Lane would have to be constructed. This construction would require earthwork to ensure that the roadway and track would be located at the same grade. A three-phase power drop would be needed to provide access from the existing power lines in the vicinity. The construction of this track, roadway, and related infrastructure is estimated to cost approximately \$2,290,000 – see Appendix E for more information on estimated costs.

Other notable features related to this site include:

- Additional Right-of-Way from the City of Burlington is needed for construction
- The new crossing at College Street and Penny lane will require the sounding of train horn warnings as the train moves to and from Union Station.

The location of this site is shown in **Figure 3** on the following page.

Figure 3: Northern Urban Reserve Site



2.2 Southern Urban Reserve

The Southern Urban Reserve site is located immediately north of the Burlington Community Sailing Center and is approximately 0.75 miles north of Union Station. There are currently two tracks in this location: the NECR mainline and a siding which is used by VTR for storage. In order to reduce conflicts with NECR and VTR operations, a new siding would be constructed for the Amtrak train west of the siding, along the former bike path alignment. This location is also under ownership of the State and would again require acquiring track rights from NECR. Similar to the Northern Urban Reserve location, this site is located at the foot of the waterfront bluff, which provides a moderate level of noise and visual screening from adjacent homes and businesses above.

Figure 4: Southern Urban Reserve Site (Looking North)



To service and store the train at this location, 700-feet of new rail siding and retaining wall, a new switch, 200-feet of additional (double) track north of College Street, approximately 500-feet of new access roadway, and new rail crossing signals and flashers at Penny Lane would have to be constructed. This construction would require earthwork to ensure that the roadway and track would be located at the same grade. A three-phase power drop would be needed to provide access from the existing power lines in the vicinity. The construction of this track, roadway, and related infrastructure is estimated to cost approximately \$2,240,000 – see Appendix E for more information on estimated costs.

- . Similar to the Northern Reserve site, the following will also apply at this site:
- Additional Right-of-Way from the City of Burlington is needed for construction
 - The new crossing at College St. and Penny lane will require the sounding of train horn warnings as the train moves to and from Union Station.

The location of this site is shown in **Figure 5** on the following page.

Figure 5: Southern Urban Reserve Site



2.3 Union Station

Union Station is located at the foot of Main Street between College Street and King Street. A siding is currently planned for this location to accommodate the loading and unloading of passengers from the Amtrak train and the City of Burlington is evaluating the relocation of the bike path to the west side of the tracks to avoid crossing the tracks at King and College Streets. This property is owned by the State of Vermont and the mainline track is operated by VTR through a mutual agreement.

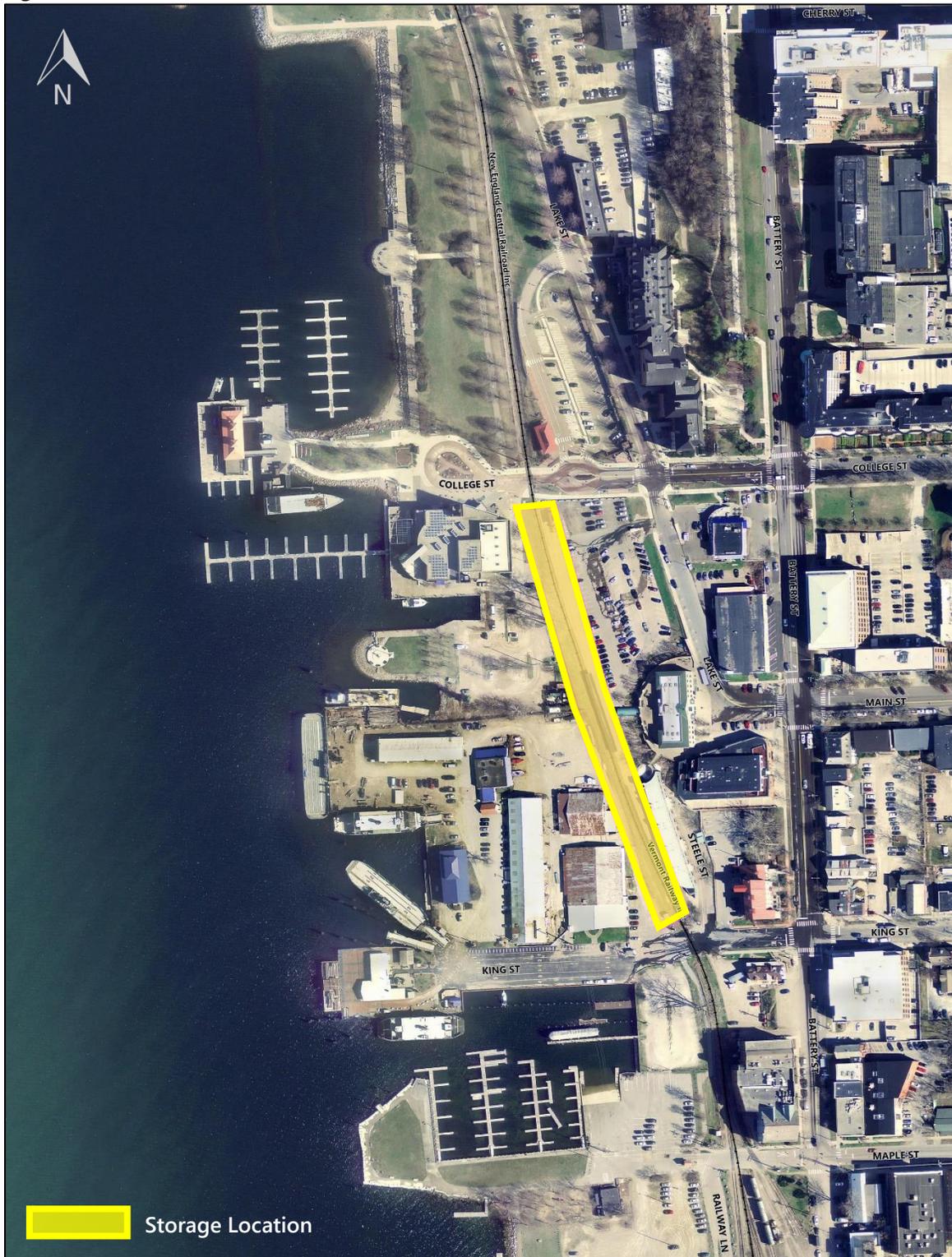
Figure 6: Union Station Site (Looking South)



This site currently has access to most necessary utilities as well as vehicular access. As noted above, a siding is currently planned to be constructed in this location, so no additional rail infrastructure would be needed. A three-phase power connection would need to be constructed and the associated costs for that improvement totals approximately \$300,000.

The location of this siding is shown in **Figure 7** on the following page.

Figure 7: Union Station Site



2.4 Vermont Rail System Railyard

The VTR Railyard is located approximately 0.15 miles south of Union Station. The railyard consists of 12 tracks and multiple stub tracks which are used for storage and material transloading by VTR. The railyard is accessed by vehicles primarily from Battery Street, Maples Street and Railway Lane.

Figure 8: VTR Railyard Site Aerial View



The State of Vermont owns the railyard property and leases the land to VTR for railyard operations. VTR has reported that overnight storage of the Amtrak train within the railyard would significantly interfere with daily operations and would overload the yard which is currently operating at capacity. The railyard is often used for loading, unloading, and building trains and the Amtrak train would likely disrupt these operations by occupying a rail line required for train maneuvering overnight. Discussions with VTR and research of similarly-sized railyard relocation projects have indicated that in order for the Amtrak Ethan Allen Express train to be stored in the railyard, a full relocation of the railyard operations may be necessary which could cost upwards of \$50,000,000. A study of the railyard relocation in 2000 concluded that a relocation could cost between \$30,000,000 and \$50,000,000 in 1999 dollars¹, not including engineering and design, land acquisition, and environmental mitigation.

The location of the railyard site is shown in **Figure 9** on the following page.

¹ *Burlington and Rutland Railyard Relocation Feasibility Study*, Vanasse Hangen Brustlin, Inc., January, 2000.

Figure 9: VTR Railyard Site



2.5 Flynn Avenue and Briggs Street Siding (City Market)

The final location examined as part of this study is the existing VTR siding located south of Flynn Avenue, parallel to Briggs Street and west of the newly constructed South End City Market Onion River Co-Op. This track and siding are owned by the State of Vermont and operated by VTR and the siding is currently used for train storage. Given right-of-way and property ownership constraints, a third siding track in this location was deemed to not be feasible.

Figure 10: Flynn Avenue/Briggs Street Site (Looking South)



As with the Railyard site, if the Amtrak train were to be stored on this existing siding, VTR would need to construct equivalent rail car storage elsewhere in its system. Based on research and conversations with VTR, the cost of finding and constructing an equivalent rail siding is approximately \$1,500,000.

The location of the existing siding is shown in **Figure 11** on the following page.

Figure 11: Flynn Avenue / Briggs Street Site



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Alternatives Analysis

The locations described in the previous chapter were evaluated using a number of quantitative and qualitative metrics to better understand the relative feasibility of each site. These evaluation metrics were identified by the project team and refined through public and stakeholder input. They included Amtrak’s specific siting criteria, and additional metrics such as design and construction costs, additional crew hours per day, impacts to VTR operations, and potential noise, air quality, and visual impacts. This analysis culminated with the creation of an evaluation matrix which is presented in this chapter.

Feedback on the individual sites, the alternatives assessment, and the evaluation matrix was received from the public at two formal public meetings and through direct stakeholder feedback from City and CCRPC staff.

3.1 Evaluation Criteria

The potential train servicing and storage locations were evaluated using the metrics listed below. These criteria were developed based on input from the Project Team members and Amtrak's layover facility siting guidelines, then refined based on public and stakeholder input during the project. A copy of Amtrak's design criteria can be found in Appendix B.

The following criteria were used to evaluate the potential sites:

- Design, Construction, and Property Acquisition Costs were calculated using unit costs from VTrans, VTR, and previously completed railroad construction projects. Estimated property acquisition costs were included anywhere private property would need to be acquired for construction. The Union Station site was found to have the lowest total costs, given its proximity to existing utilities, limited need for new rail construction, and lack of need to relocate existing VTR activities. The VRS Railyard was found to have the highest total cost, given the need to relocate most if not all of the railyard operations to accommodate the train servicing and storage activities.
- Electrical Power Availability was based on the proximity of the nearest three-phase power supply and the necessary infrastructure required to connect the train to the grid. Three-phase power is required for the "hot start" device to keep the diesel fuel from gelling without having to idle the locomotive all night. Three-phase power is available immediately adjacent to both the Union Station and VRS Railyard sites.
- Additional Crew Hours were calculated and included as a criterion because of federal regulations which restrict the number of consecutive hours a crew can work to 12 hours. After this period of time, a minimum break of ten hours is required. The calculations were based on the amount of time it would take to bring the train from Union Station to its overnight storage and servicing location, then have the crew travel to downtown Burlington, where it is assumed the crew would be lodged overnight. There is also additional morning delay of travelling back to the train and bringing it to Union Station for passenger pick-up. As it is located closest to downtown Burlington hotels, the Union Station site resulted in the fewest additional crew hours. The Flynn Avenue site, which is located the farthest from downtown Burlington hotels generated the highest level of additional crew hours.
- Property Acquisition is required anywhere that the property is not already owned by the State or locations that would require a lease agreement with VTR. All of the sites require lease arrangements with VTR. The Urban Reserve sites require additional coordination with NECR as well.
- Natural Resource Constraints were measured based on a desktop review of the sites and adjacent mapped natural resources such as wetlands, rare,

threatened, and endangered species, river corridors, and floodplains. All sites were found to be located away from any significant identified natural resources.

- Lighting Impacts were estimated based on Amtrak lighting requirements for overnight storage, the proximity to residential areas, whether there is already lighting in the location, or if new lighting is being introduced to an area. The servicing and storage area lighting would be a low-level light overnight which increases in brightness when being serviced. Most public concern for lighting impacts was expressed in relation to the Urban Reserve sites as there is currently no lighting in this area. All other sites have some level of existing ambient lighting overnight.
- Visual Impacts were evaluated using 3D modeling software and impacts were estimated based on how visible the train would be from various angles, with particular emphasis placed on potential visual impacts on views of Lake Champlain. Taking topography and adjacent land uses into consideration, the Northern Urban Reserve and VRS Railyard were determined to have the least amount of visual impacts. The Union Station site was determined to have the highest level of visual impact, as the train would partially obstruct some view of Lake Champlain from points immediately east of the train. Visualizations are provided in Appendix D.
- Noise Impacts from the idling locomotive was evaluated using Cadna-A² sound prediction software which utilizes the methods outlined in the International Standards Organization (ISO) Standard 9613-2:2006³. This prediction method considers the topography, ground cover, wind conditions, and intervening objects such as buildings. The following summarizes the principal assumptions of the noise model:
 - Moderate downwind conditions are assumed which conservatively predict efficient sound propagation from the source to receptors in all directions.
 - Sound attenuation is affected by shielding and diffraction provided by local buildings intervening the propagation path between the source and receptors.
 - Ground cover in the study area is dependent on site specific conditions. The Union Station and Railyard sites were assumed to be surrounded by packed soil, gravel and pavement which provide acoustically hard ground. The other three sites were assumed to be surrounded by earth, grass, and other vegetation which provide acoustically soft ground.

² Computer Aided Noise Abatement (Cadna-A). DataKustik GmbH. Version 2017. <http://www.datakustik.com/en/products/cadnaa>.

³ "Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation" ISO 9613-2:2006. 2006.

Noise was analyzed assuming one idling locomotive at each potential storage and servicing site. The reference sound level of the idling locomotive used in the study was determined using measurements of an idling Amtrak P32AC Locomotive at the Amtrak Station in Rutland, Vermont on September 7, 2018. Measurements were conducted using ANSI Type I sound level meter (Larson Davis Model 831) and employed best measurement practices. This is an older model of locomotive than will be used at the Burlington station. The newer locomotives are anticipated to be quieter than those currently in service, so the resulting analysis should be construed as an order of magnitude evaluation and not necessarily an exact estimate of noise at a given location.

Noise receptors were identified at all residential parcels experiencing sound levels 40 dBA and greater from the idling locomotives using a combination of available parcel data, aerial photography, and Google Street View™. Noise receptors were identified at single-family residences and multi-family residences and are tabulated according to the number of dwelling units. The number of residences that would be exposed to sound levels between 40 to 50 dBA, 50 to 60 dBA, and greater than 60 dBA were quantified.

The noise assessment was initially used to evaluate idling noise impacts overnight. However, new information was acquired during the course of the project that "hot start" equipment would be integrated into the locomotives which would eliminate the need for the locomotives to idle overnight. With this equipment in place, the train would only need to go through a 20-40 minute power up and power down sequence upon departure and arrival, limiting the duration of noise impacts. Please note that the idling noise impacts will occur at Union Station for boarding and detraining activities regardless of which of the sites is selected as the overnight storage location. The noise analysis is elaborated upon in more detail in Appendix C.

Given the existing noise generated at the VRS Railyard and relatively long distance to adjacent homes, the Railyard site was found to have the lowest level of noise impacts. The proximity of numerous homes adjacent to the Flynn Avenue site resulted in this site having the highest level of noise impacts.

- Horn sound impacts were assessed for all sites. Additional horn warnings will be required for storage sites other than the Union Station where passengers will be boarding and detraining. Additional horn warnings will be required at College Street and Penny Lane crossings for the two Urban Reserve sites and at King Street and Maple Street crossings for the Railyard and Flynn Avenue sites.
- Air Quality and Emissions were analyzed assuming one idling locomotive at each potential storage site for 40 minutes. Pollutant dispersion modeling

was conducted using the AERSCREEN dispersion model⁴ which is a screening model that uses worst-case meteorology to conservatively estimate pollutant concentrations. Additionally, models were developed with the appropriate geometry for homes along Lakeview Terrace and balconies adjacent to Union Station, as these receptors are elevated above the potential Storage Facility.

The results of the dispersion modeling for the Storage facility show that only nitrogen dioxide emissions from the locomotive have the potential to approach or exceed the National Ambient Air Quality Standards (NAAQS) under the 1-hour averaging period at Union Station. Elevated receptors (such as balconies) may experience nitrogen dioxide emissions greater than the NAAQS within 50 feet of the locomotive. Nitrogen dioxide concentrations at all ground level receptors at all sites and elevated homes along Lakeview Terrace would be well below the NAAQS. Pollutant concentrations from the idling locomotive for all other criteria pollutants and averaging periods are also well below the NAAQS criteria at all receptor locations.

It is recommended that a more detailed air quality assessment should be conducted for the selected Amtrak storage site in Burlington. Note that air quality impacts will occur at Union Station regardless of the storage site selected as the train will need to idle during passenger boarding and detraining. A copy of the Air Quality Assessment memorandum is provided in Appendix C.

- Proximity to Residential Areas is a straight-line measurement from each train servicing and storage location to the nearest residence. This distance was under 0.1 mile or 528 feet for all sites. The Union Station site is located the closest to residential areas as there are dwelling units located within and immediately adjacent to the train station. The two Urban Reserve sites are located the farthest from residences.
- Impacts to VTR Operations were based on conversations with VTR about their current use of the particular space, if any, and how it would impact their day to day rail operations. These operations include, but are not limited to, loading, unloading, servicing, building and storing trains. A new siding located at Union Station was determined to have the lowest impact to VTR operations, while servicing at storing the train at the VRS Railyard would have the highest impact to VTR operations.

⁴ AERSCREEN Dispersion Model, Version 16121r, US Environmental Protection Agency.

3.2 Evaluation and Scoring Matrices

An evaluation matrix was created to summarize the scoring assigned to each criterion for each location.

Table 1 shows the evaluation matrix with scores and explanatory comments for each criterion and location. Each evaluation criterion was scored on a scale of 0 to 3 with zero representing the lowest possible score and three representing the highest possible score for each metric. The highest possible score for a given site is 33 points.

Table 2 shows the scoring for each criterion and the total scoring for each site as well as the final ranking of the sites.

As the scores in **Table 1** and **Table 2** indicate, the Union Station site ranks the highest with a total score of 26, the Flynn Avenue site the lowest with a total score of 21, and the other sites rank in between.

Table 1: Evaluation Matrix

Location	Estimated Costs ¹		Electrical Power Availability		Additional Crew Hours		Property Acquisition		Natural Resource impacts		Lighting Impacts	
	Score	Comments	Score	Comments	Score	Comments	Score	Comments	Score	Comments	Score	Comments
Northern Urban Reserve	2	\$2,290,000 (new track and switch, electrical power, utilities, and new access road)	2	New electrical lines and connection required	2	44 minutes per day	1	Acquisition required from the City of Burlington	3	No anticipated impacts	1	Lighting will be added in an area where there are currently no lights
Urban Reserve	2	\$2,240,000 (new track and switch, earthwork, electrical power, utilities)	2	New electrical lines and connection required	2	40 minutes per day	1	Acquisition required from the City of Burlington	3	No anticipated impacts	1	Lighting will be added in an area where there are currently no lights
Union Station	3	\$300,000 (electrical power)	3	New connection to existing electrical line required	3	0 minutes per day	3	This is located within an existing railroad corridor owned by the State	3	No anticipated impacts	2	Brighter lighting will be required overnight
VTR Railyard	0	\$50,000,000 (relocation of Railyard to alleviate operational conflicts)	3	New connection to existing electrical line required	2	30 minutes per day	2	Lease agreements will need to be made with VRS	3	No anticipated impacts	2	Brighter lighting will be required outside of current Railyard operational hours.
Flynn Avenue	2	\$1,500,000 (relocation of VRS storage currently on this siding)	2	New electrical lines and connection required	1	60 minutes per day	2	Lease agreements will need to be made with VRS	3	No anticipated impacts	2	Brighter lighting will be required overnight

¹ Includes costs for design, construction, and property acquisition

Location	Train Visibility		Noise Impacts		Horn Impacts		Air Quality & Emissions		Proximity to Residential Areas		Impacts to VRS Operations	
	Score	Comments	Score	Number of Residences Impacted ²	Score	Number of Additional Horn Warnings ³	Score	Comments	Score	Comments	Score	Comments
Northern Urban Reserve	3	The train will be located down slope from most homes and will not be easily visible from the east	1	50 residences	1	4 Additional Horn Warnings	3	Does not exceed NAAQS ⁴	3	The train is less than 528 feet from residences but is significantly down slope	2	Minor impacts to VRS operations. The train would be stored on a new siding off of a VRS siding north of the railyard
Urban Reserve	2	The train will be located down slope from most homes and will be slightly visible from the east	1	62 residences	1	4 Additional Horn Warnings	3	Does not exceed NAAQS	3	The train is less than 528 feet from residences but is significantly down slope	2	Minor impacts to VRS operations. The train would be stored on a new siding off of the VRS main line north of the railyard limits
Union Station	1	The train will be located between Union Station and ECHO	2	26 residences	3	0	0	Potentially exceeds Nitrogen Dioxide standard	0	The train is less than 50 feet from residences	3	No impacts to VRS operations. The train would be stored on a new siding off of the VRS track
VTR Railyard	3	The train will be located within an existing railyard and will not significantly change the current views	3	12 residences	1	4 Additional Horn Warnings	3	Does not exceed NAAQS	2	The train is less than 528 feet from residences	0	Major impacts to VRS operations. The train would be in direct conflict with current VRS operations
Flynn Avenue	2	The train will be stored in an area which often has trains currently but it located close to many residences	0	160 residences	1	4 Additional Horn Warnings	3	Does not exceed NAAQS	2	The train is less than 528 feet from residences	1	Significant impacts to VRS operations. The train would be stored on a siding currently used by VRS or along a siding which would disrupt Railyard operations

² Number of Residences with dBAs more than 50

³ Additional horn warnings necessary at road crossings from and to the Union Station

⁴ National Ambient Quality Standards for specific pollutants

Table 2: Scoring and Ranking Matrix

Location	Estimated Costs	Electrical Power	Crew Hours	Property Acquisition	Natural Resources	Lighting	Train Visibility	Noise Impacts	Horn Impacts	Air Quality & Emissions	Proximity to Residences	Impacts to VRS	Total Score	Ranking
	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score	Score		
Northern Urban Reserve	2	2	2	1	3	1	3	1	1	3	3	2	24	2
Urban Reserve	2	2	2	1	3	1	2	1	1	3	3	2	23	3
Union Station	3	3	3	3	3	2	1	2	3	0	0	3	26	1
VTR Railyard	0	3	2	2	3	2	3	3	1	3	2	0	24	2
Flynn Avenue	2	2	1	2	3	2	2	0	1	3	2	1	21	4

3.3 Public Participation

Public engagement was an important part of the alternatives assessment process. The potential train servicing and storage locations, in some cases, are less than 50 feet away from homes and businesses, so getting input from adjacent property owners and other interested stakeholders was a key component of this evaluation. Public feedback was solicited at two formal public meetings, through a project webpage hosted on the CCRPC website, and through direct feedback to City and CCRPC staff.

A Local Concerns Meeting was held during a regularly scheduled Burlington Public Works Commission Meeting on November 11, 2017. After this meeting, additional public comments were compiled by the City of Burlington and CCRPC and distributed to the project team. One of the concerns expressed by those in attendance was that overnight train storage at the Union Station site would create a physical barrier between uses on either side of the tracks and would generate adverse visual, noise, and accessibility impacts.

Residents living close to the Urban Reserve and Union Station sites also expressed concerns related to the potential emissions impacts of a locomotive idling immediately to the west of their homes and businesses. This concern was largely driven by the initial understanding that the train would be required to idle overnight if the ambient temperature was under 40 degrees. This information was later corrected after conversations with Amtrak and VTrans confirmed that "hot start" equipment would be available on the locomotives servicing Burlington which would eliminate the need for the engines to idle overnight. Comments received at the Local Concerns Meeting prompted the preparation of an air quality assessment for all potential storage locations. This assessment is described in a previous section.

The second public meeting was held on June 6, 2018 in the Burlington Department of Public Works conference room. The presentation included an update on the "hot start" equipment (and elimination of the need for the locomotives to idle overnight), a summary of the decision process, and an overview of the alternatives evaluation. Many of the comments at this meeting focused on noise, emissions, and visual impacts caused by the stored train, particularly at Union Station. Residents and business owners expressed great concern regarding impacts to their quality of life and businesses because of the air and noise impacts of the train outside of the station. As a result of this meeting and the specific comments, additional noise analysis was completed using actual sound levels measured at an idling Amtrak locomotive in Rutland. This noise assessment can be found in Appendix C.

Meeting notices, agendas, minutes, and other materials for both public meetings can be found Appendix F. Public comments received by email are also provided in this Appendix.

3.4 Next Steps

This report, including the site evaluation, technical analysis, evaluation matrix, and public input, will be provided to the VTrans Rail Section as the final product of the Burlington Amtrak Train Servicing and Storage Facility Assessment. The results of this assessment will be used to help VTrans select an overnight servicing and storage location for the Amtrak Ethan Allen Express train. VTrans will then complete the design, permitting, and any necessary property acquisition before constructing the improvements prior to the Amtrak services arrives in 2021 or 2022.