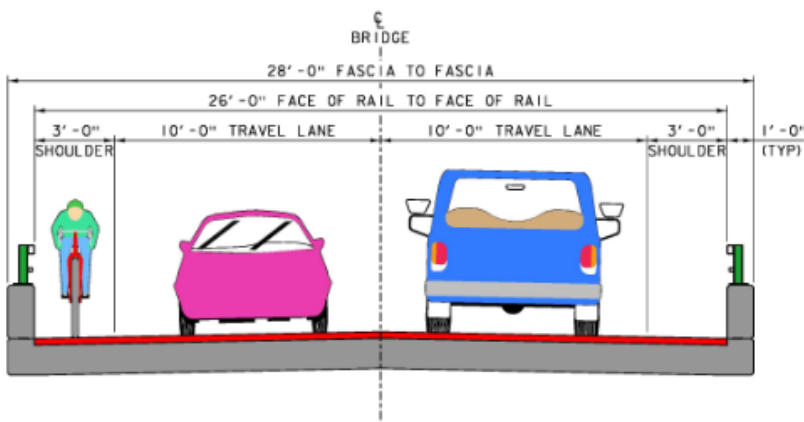


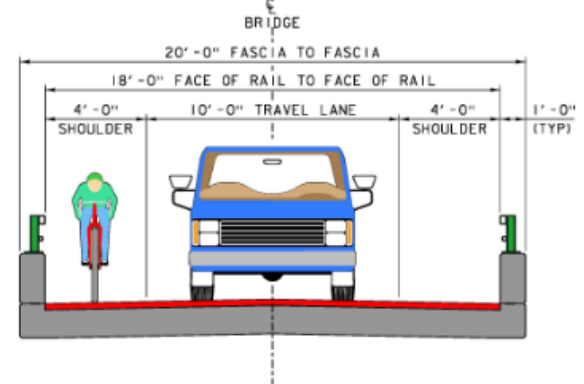


DESIGN CONSIDERATIONS: Two or One Lane Bridge?

- Traffic Volume:** The maximum traffic volume that can be safely accommodated on an alternating one-lane bridge is 1,500 vehicles per day. The 20 year projection (or design traffic volume) is 1,600 vehicles per day, which exceeds the 1,500 safety limit for a one-lane bridge.
- Emergency Management:** Depot Road is a vital connector when VT 30 is closed. During Tropical Storm Irene, seven bridges in Newfane were damaged leaving sections of VT 30 impassible. Bridge 12 served as the primary detour route. The average daily traffic volume on VT 30 is 5,000 vehicles per day, which grossly exceeds the maximum volume of traffic of 1,500 that can be safely accommodated on a one-lane structure.
- Sight Distance and Safety:** The original bridge structure featured a 36" tall solid concrete bridge rail. Over the years, the bridge has been repaved reducing the bridge rail to 18" height creating an unsafe condition for drivers and pedestrians alike. To meet safety standards, the new bridge will feature a 42" tall historic concrete combination rail. This will obstruct sight distance for vehicles turning onto the bridge from Grimes Hill and Dover Road creating an unsafe condition and increasing the risk for rear end and head on collisions. Two accidents of this nature have been documented by the Agency between 2008 and 2014. The VTrans Safety Engineer determined that more accidents are expected to occur with a one-lane bridge structure.
- Truck Turning Movements:** The daily truck volume over Bridge 12 is expected to increase from 65 to 110 trucks per day over the next 20 years. The Town of Newfane indicated that the current truck turning radius is inadequate and problematic. This problem could be greatly alleviated by replacing the one-lane structure with a two-lane structure.
- Winter Maintenance:** The Town of Newfane has raised concerns about winter maintenance practices along the bridge (snow removal). A two lane bridge will be safer, easier to navigate for emergency response vehicles, and could more easily be maintained in the winter.
- Bridge Width:** In order to meet Vermont State Design standards for a two lane structure, the bridge would only need to be widened by an additional 8 ft. This would result in a typical section of 3ft-10ft-10ft-3ft or an overall rail-to-rail width of 26ft.



Two Lane Bridge—28' Wide



One Lane Bridge—20' Wide

- Cost:** As this bridge is owned by the Town of Newfane, the Town is responsible for paying a share towards the total project costs. By closing the road, the Town reduces their share from 10 to 5%. A two-lane structure will add \$13,663 to the town share resulting in a total project cost of the town of \$120,328.