

Addressing Reluctant Traffic Engineers at NYSDOT

Many traffic engineers are reluctant to change roads they control. Be prepared to address common concerns. (While this document focuses on the New York State Dept. of Transportation, most concepts apply to any DOT.)

NYSDOT Has Built 2-way/1-side Cycle Paths

A 2-way mobility lane on one side of a street is the best option under certain circumstances. A key advantage of this configuration is the space savings from only needing one buffer/barrier, instead of the two required by 1-way lanes on both sides of the street. If your local engineer is wary of this layout, inform them that NYSDOT recently built protected cycle tracks on four State roads.



Route 266 (Niagara St), Buffalo
DOT Region 5. Completed November 2021.
Note: design integrates many driveways.
Credit: GObike Buffalo



Route 32 (Broadway), Kingston
DOT Region 8. Completed January 2022.
Credit: Tania Barricklo/The Daily Freeman



Route 100, Briarcliff Manor
DOT Region 8. Completed November 2020.
Note: box beam median barrier; strong protection, only needs a little width.
Credit: Bike Tarrytown

Not pictured is Rt 5 (Erie Blvd) in Syracuse between N Beech St and Teall Ave. It is similar to Buffalo's facility.

USDOT and AASHTO Say “Narrow” Lanes are OK

Fitting active transportation facilities within existing rights of way may necessitate making some motor vehicle lanes less than 12 feet wide. Fortunately, narrower lanes *are* kosher -- even on truck routes.

“The width of travel lanes is limited by the physical dimensions of automobiles and trucks to a range between 2.7 and 3.6 m (9 and 12 ft). Generally, as the design speed of a highway increases, so must the lane width to allow for the lateral movement of vehicles within the lane. However, constricted right-of-way and other design restrictions can have an impact on this decision. Chapter IV of the Green Book recognizes the need for flexibility in these cases:”

Although lane widths of 3.6 m [12 ft] are desirable... there are circumstances that necessitate the use of lanes less than 3.6 m wide. In urban areas where right-of-way and existing development become stringent controls, the use of 3.3 m [11 ft] lanes is acceptable. Lanes 3.0 m [10 ft] wide are acceptable on low-speed facilities. Lanes 2.7 m [9 ft] wide are appropriate on low-volume roads in rural and residential areas.¹

In populated areas, narrower lanes are actually preferable; they persuade people to drive more carefully.²

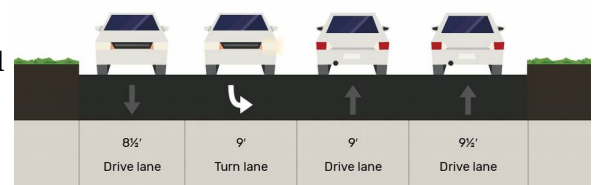
Turn lanes are an easy places to trim space from, particularly in locations where few people turn.

Sub-12-foot travel lanes are easiest to pull off in areas with one or more of the following: painted medians, turn lanes, no parking. These give drivers some extra margins for wavering.

NYSDOT Frequently Uses “Narrow” Lanes

There are numerous locations where the State DOT has installed lanes less than 12' wide. One example is US Route 9 at Hemlock Dr in Sleepy Hollow (diagram, right), which has 4 lanes, ranging from 8.5 to 9.5 feet wide.

US 9 @ Hemlock Dr (north), Sleepy Hollow, NY
(facing south)



1 USDOT, Flexibility in Highway Design, 2004, p 76. <https://www.fhwa.dot.gov/environment/publications/flexibility/>
2 NACTO, Urban Street Design Guide, “Lane Width.” <https://nacto.org/publication/urban-street-design-guide/street-design-elements/lane-width/>

Better Design Guidelines

The bicycle facility design specifications published by AASHTO in 2012³ and NYSDOT in 2015⁴ are targeted toward the small number of people who are already confident cycling with motor vehicles. Modern standards aim to get cautious people cycling for local trips. Some examples include:

- USDOT's *Separated Bike Lane Planning and Design Guide* (2015)⁵
- NACTO's *Urban Bikeway Design Guide*⁶
- An improved version of AASHTO bicycle facility guide is in the works⁷

The welcome mat for using better guidelines was laid in January 2022, when the Federal Highway Administration adopted regulations that say “public entities may wish to also reference other documents to inform the planning and design process [in order to develop] transportation projects that incorporate safe and convenient walking and bicycling facilities. Such projects improve safety for all modes, create more equitable access to transportation, and combat climate change.”⁸

Several organizations wrote Governor Hochul in January 2022 requesting the DOT improve its manual.⁹

Liability is Not a Problem

“Designers may be tempted to be very conservative and avoid innovative and creative approaches to design problems. Avoiding unique solutions is not the answer. Adherence to standard practices [does not] automatically [establish] that reasonable care was exercised. Deviation from guidelines does not automatically establish negligence. The best defense is to present persuasive evidence that the guidelines were not applicable or could not be reasonably met. It is highly recommended that designers document their rationales for decisions.”¹⁰

Not Changing Roads is the Liability

New York State's highest court found New York City liable in the death of a child who was cycling because, in part, there “was a rational process by which the jury could have concluded that traffic calming measures deter drivers from speeding, and that the City's failure to conduct a traffic calming study and to implement traffic calming measures was a substantial factor in causing the accident.”¹¹



A crashed car on Broadway (Route 9) in Irvington, NY.

Similarly, the high court found New York State liable for a person's death at a treacherous intersection because “once on notice of the dangerous condition, it was the State's burden to take reasonable steps in a reasonable amount of time. Instead, it did nothing.”¹²

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- 3 AASHTO, *Guide for the Development of Bicycle Facilities*, 4th ed, 2012. <https://njdotlocalaidrc.com/perch/resources/aashto-gbf-4-2012-bicycle.pdf>
 - 4 NYSDOT, *Highway Design Manual*, Chapter 17, *Bicycle Facility Design*, 2015. <https://www.dot.ny.gov/divisions/engineering/design/dqab/hdm/chapter-17>
 - 5 USDOT, *Separated Bike Lane Planning and Design Guide*, 2015. https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/separated_bikelane_pdg/page00.cfm
 - 6 NACTO, *Urban Bikeway Design Guide*. <https://nacto.org/publication/urban-bikeway-design-guide/>
 - 7 Sagar Onta (Toole Design), presentation to Western ITE's Annual Meeting, 2018. https://www.westernite.org/annualmeetings/18_Keystone/Presentations/5B/5B.SagarOnta.AASHTO%E2%80%99s%20%20Green%20Book%20for%20Bikes.pdf
 - 8 FHWA, *Design Standards for Highways*, 2022, p 36. <https://www.federalregister.gov/documents/2022/01/03/2021-28236/design-standards-for-highways>
 - 9 Coalition letter to Governor Hochul, 2022. <https://biketarrytown.org/new-york-state/bicycle-facility-design-manual-nysdot-hochul.pdf>
 - 10 USDOT, *Flexibility in Highway Design*, 2004, p 40. Edited for brevity.
 - 11 NY Court of Appeals, *Turturro v City of New York*, 2016, p 20. <https://www.nycourts.gov/ctapps/Decisions/2016/Dec16/196opn16-Decision.pdf>
 - 12 NY Court of Appeals, *Brown v State of New York*, 2018, pp 4-5. <https://nycourts.gov/courts/appeals/Decisions/2018/Jun18/66-67opn18-Decision.pdf>

NYS DOT Projects Must Consider Cycling Improvements

“Roadway conditions should be examined during scoping and design whenever highways are being constructed, reconstructed or resurfaced... Adaptations that are responsive to bicyclists' requirements should be discussed in the scoping and design approval documents. These documents should discuss any decisions made regarding whether or not improvements that would better accommodate bicycling are incorporated.”¹³

Prioritizing Cycling is a Strategy in the State's Climate Plan

Dramatically growing utilitarian cycling is necessary to meet NY's ambitious emission goals. The NYS Climate Action Council's recently released draft plan includes Strategy T8, calling on the State to “prioritize, incentivize, and expand access to funding for bike, pedestrian, transit, and complete streets projects”¹⁴

Complete Streets Policy

Projects subject to Department of Transportation oversight “shall consider the convenient access and mobility on the road network by all users of all ages, including motorists, pedestrians, bicyclists, and public transportation users through the use of complete street design features in the planning, design, construction, reconstruction and rehabilitation, but not including resurfacing, maintenance, or pavement recycling.”¹⁵

Cultivating New Cyclists

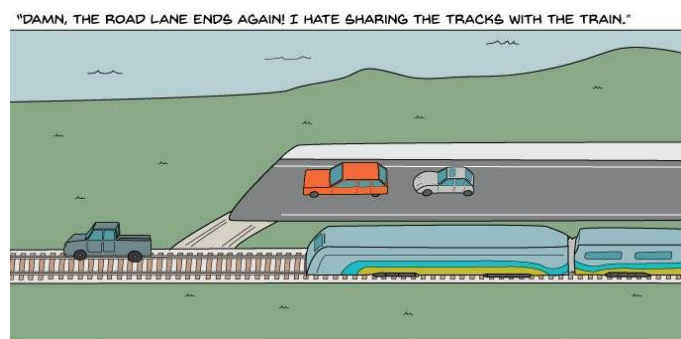
Plenty of public officials think we're asking them to placate some fixed number of constituents who cycle already. Nope. What we're really requesting is to create the conditions that will cultivate new cyclists from folks who are presently too scared to bike. Making streets safe will get many more people biking for short trips, like school, soccer practice, and shopping. Journeys like these make up most trips people take.¹⁶

Protected Facilities are Key

Paint is not protection. People who don't bike, scoot, or wheelchair now are looking for physical barriers on busy roads. They don't want to encounter people driving who (intentionally or inadvertently) park, drive, or crash into the mobility lane.



Kid holding a sign saying "I want to bike to my friends houses but I'm #2scared2bike on Route 9."



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Drawing: road merging into train tracks. Caption: Damn, the road lane ends again! I hate sharing the tracks with the train.

Connect to Detestations

Would you build a bridge to nowhere? Or one that goes only 3/4 of the way across a river? Make sure each cycling facility reaches all the way to a key destination. Otherwise, people won't use it.

13 NYS DOT, Highway Design Manual, Chapter 17, Bicycle Facility Design, 2015, p 17-5.

14 NYS Climate Action Council, Draft Scoping Plan, 2022, p 114. <https://climate.ny.gov/Our-Climates-Act/Draft-Scoping-Plan>

15 NYS Legislature, S5411A, 2011. <https://www.nysenate.gov/legislation/bills/2011/s5411/amendment/a>

16 Bike Tarrytown's tabulation of the USDOT's National Household Travel Survey, 2017. Cumulative person trips: 19% are < 1 mile, 34% < 2 miles, 43% < 3 miles, 54% < 4 miles, 61% < 5 miles, 66% < 6 miles, 78% < 10 miles, 86% < 15 miles.

It Works

Dedicated infrastructure investments by Seville, Spain resulted in 5.5 times more people cycling from 2006 - 2011.¹⁷ Paris' automated counters saw 2.4 times more people cycling in 2021 than in 2015 due to that city's dramatic changes.¹⁸ NYC's concerted street changes created 5.7 times more riders from 2001 to 2013.¹⁹



8 people cycling in a protected mobility lane on 2nd Ave in NYC. This still is from a video in which bikes were 26% of vehicles on the avenue.



Photo of skeleton driving a car.

Lives Over Level of Service

The way people talk about motor vehicle Level of Service (LOS) makes it seem like people get stuck at intersections forever. Have you ever seen a skeleton driving? Of course not. On the other hand, that obsession obliterates the convenience and safety of people outside cars. The result is crashes in 2020 killed 6,236 people walking and 891 people cycling.²⁰

It's time to place lives over Level of Service. Doing so is easy because travel choices are highly malleable. Before making a trip, people weigh each available mode and route for when it is best to go, how long it takes, cost, and safety. Because gas is cheap and streets are free, time spent in congestion or looking for parking are the only marginal cost people incur. For local trips, walking and cycling can be time competitive with driving... if we make it safe to do so.

A related line of thinking is “congestion increases emissions.” While true in the immediate sense, efforts that make it easier to drive lead to more driving, producing more pollution overall. In addition, emissions from idling are increasingly irrelevant due to the rapidly expanding deployment of automatic stop-start, hybrid, and electric technologies. These are some of the reasons California's environmental review law demoted LOS as a metric.²¹



Firefighters handling wheelchair struck by person driving a car.

17 Marques, How Infrastructures Can Promote Cycling in Cities: Lessons from Sevilla, 2015, p 34. https://personal.us.es/marques/Marques-Infrastructures_Sevilla_v3.pdf

18 Bike Tarrytown, calculated from graph on <https://www.paris.fr/pages/bilan-des-deplacements-a-paris-en-2020-8121> and text on <https://www.paris.fr/pages/paris-a-velo-225>

19 Bike New York and Bike Tarrytown, 2022. <https://biketarrytown.org/new-york-state/nyc-bridge-counts-2001-2020.pdf>

20 USDOT, National Roadway Safety Strategy, 2022, p 10. <https://www.transportation.gov/NRSS>

21 Streetsblog, “At Last, New Rules Are Final: Car Delay Is (Sometimes) NOT an Environmental Impact,” 2019. <https://cal.streetsblog.org/2019/01/04/at-last-new-rules-are-final-car-delay-is-sometimes-not-an-environmental-impact/>