#### 🇞 BIKE TARRYTOWN

# Addressing Reluctant Traffic Engineers at NYSDOT

When advocating to get safe street designs implemented, you will encounter traffic engineers who are reluctant to change the roads they control. Be prepared to address common concerns. (While this document is about New York State's Department of Transportation, much of it applies to any DOT.)

#### 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 federal DOT has no lane width requirements for National Highways that have speed limits of 50 mph or less.<sup>1</sup> The USDOT also says "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<sup>2</sup> facilities. Lanes 2.7 m [9 ft] wide are appropriate on low-volume roads in rural and residential areas.<sup>3</sup>

In populated areas, narrower lanes are actually preferable -- they persuade people to drive more carefully.<sup>4</sup>

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

Sub-12-foot travel lanes are even easier to implement when they are next to things like shoulders, painted medians, turn lanes, or no parking -- giving drivers extra margins for wavering.

#### NYSDOT Frequently Uses "Narrow" Lanes

The State DOT makes lanes less than 12' wide when it wants to. In Irvington, US Route 9's four lanes are each ~10' wide. US 9 at Hemlock Dr in Sleepy Hollow has lane widths of 8.5 to 9.5 feet after repaving ~2015. The Taconic State Pkwy in Putnam Valley was rebuilt Tacco with ~9' lanes up against a median barrier and stone walls, with a speed limit of 55 mph.



Taconic State Pkwy between stone walls, with barrier in middle

### **Better Design Guidelines**

The bicycle facility specifications published by AASHTO in 2012<sup>5</sup> and NYSDOT in 2015<sup>6</sup> are targeted toward the small number of people confident enough to cycle with motor vehicles on busy roads. Modern standards aim to enable everyone to cycle (and scoot, wheelchair, etc) for local trips. Some of the better documents include:

- USDOT's Separated Bike Lane Planning and Design Guide (2015)<sup>7</sup>
- NACTO's Urban Bikeway Design Guide<sup>8</sup>

<sup>1</sup> USDOT, Revisions to the Controlling Criteria for Design and Documentation for Design Exceptions, 2016 http://www.fhwa.dot.gov/design/standards/160505.pdf

<sup>2 45</sup> mph or less

<sup>3</sup> USDOT, Flexibility in Highway Design, 2004, p 76. https://www.fhwa.dot.gov/environment/publications/flexibility/

<sup>4</sup> NACTO, Urban Street Design Guide. https://nacto.org/publication/urban-street-design-guide/street-design-elements/lane-width/

<sup>5</sup> AASHTO, Guide for the Development of Bicycle Facilities, 4th ed, 2012. https://njdotlocalaidrc.com/perch/resources/aashto-gbf-4-2012-bicycle.pdf

<sup>6</sup> NYSDOT, Highway Design Manual, Chapter 17, Bicycle Facility Design, 2015. https://www.dot.ny.gov/divisions/engineering/design/dqab/hdm/chapter-17

<sup>7</sup> USDOT, Separated Bike Lane Planning and Design Guide, 2015. https://www.fhwa.dot.gov/environment/bicycle\_pedestrian/publications/separated\_bikelane\_pdg/page00.cfm

<sup>8</sup> NACTO, Urban Bikeway Design Guide. https://nacto.org/publication/urban-bikeway-design-guide/

An improved version of AASHTO bicycle facility guide is in the works<sup>9</sup>

The welcome mat for using better guidelines was laid in January 2022, when the Federal Highway Administration adopted regulations saying that "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."<sup>10</sup>



Photo of skeleton driving a car.

#### Lives Over Level of Service

The way some folks talk about motor vehicle congestion makes it seem like people get stuck at an intersection forever. (Have you ever seen a skeleton driving?)

There *are* skeletons piling up, though. DOT's obsession with Level of Service (LOS), a metric which solely cares about keeping cars moving, creates conditions that hamper and endanger people outside of cars. New York State saw 18,936 injuries and 352 deaths of

people walking and cycling in 2021.<sup>11</sup> Pearl clutching about LOS disproportionally impacts low income communities, degrades downtown economies, and complicates housing construction.

Helpful hint: USDOT "does not have regulations or policies that require specific minimum LOS values for projects," and directs agencies to "take into account the input of a wide cross section of project stakeholders."<sup>12</sup>

Placing lives over Level of Service is imperative. Doing so is easy, because travel choices are highly malleable. Before making a trip, everyone weighs each available mode and route for time, cost, and safety. Time spent in congestion is the main marginal cost people incur when driving -- that's because streets and parking are generally free, and gas is relatively cheap (compared to Europe, and it doesn't include costs of pollution). For local trips, walking and cycling are competitive with driving... if we make it safe to do so.



Firefighters handling wheelchair struck by person driving a car. (Credit: Idaho News)

### The Congestion Con

DOT's like to say "congestion increases emissions." While true in the immediate sense, the flip side is making driving easier spurs more driving, worsening pollution overall. In addition, emissions from idling are increasingly irrelevant due to 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.<sup>13</sup>

### The Liability Lie

USDOT clearly states that simply following standards does not eliminate liability. "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."<sup>14</sup>

Sagar Onta (Toole Design), presentation to Western ITE's Annual Meeting, 2018. 9 https://www.westernite.org/annualmeetings/18\_Keystone/Presentations/5B/5B.SagarOnta.AASHTO%E2%80%99s%20%20Green %20Book%20for%20Bikes.pdf

<sup>10</sup> FHWA, Design Standards for Highways, 2022, p 36. https://www.federalregister.gov/documents/2022/01/03/2021-28236/design-standards-for-highways

<sup>11</sup> Institute for Traffic Safety Management & Research, Traffic Safety Statistical Repository. https://www.itsmr.org/TSSR/

<sup>12</sup> USDOT, Level of Service on the National Highway System, 2016. http://www.fhwa.dot.gov/design/standards/160506.cfm

<sup>13</sup> 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/ 14 USDOT, Flexibility in Highway Design, 2004, p 40. (Edited for brevity.)

# Not Changing Roads is the Liability

New York State's highest court found New York City responsible for 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."<sup>15</sup>

Similarly, New York's top judges found the 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."<sup>16</sup>



A crashed car on Broadway (Route 9) in Irvington, NY. (Credit: Journal News)

### NYSDOT Has Built 2-way/1-side Cycle Tracks

A 2-way mobility lane on one side of a street can be the best option under certain circumstances. A key advantage of this configuration is the space savings from only needing one barrier, instead of the two required by 1-way lanes on both sides of the street. Also, it provides room for passing, as well as "social cycling" (friends or family riding next to each other). If your local engineer is wary of this layout, let them know that NYSDOT recently built such facilities on three State roads.



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



Route 5 (Erie Blvd), Syracuse DOT Region 3. Completed November 2020. Credit: Google



Route 100, Briarcliff Manor DOT Region 8. Completed November 2020. Note: box beam median barrier -- provides strong protection, uses little road width. Credit: Bike Tarrytown

# NYSDOT 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."<sup>17</sup>

# 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"<sup>18</sup>

### **Complete Streets Policy**

Projects subject to NYSDOT 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

<sup>15</sup> NY Court of Appeals, Turturro v City of New York, 2016, p 20. https://www.nycourts.gov/ctapps/Decisions/2016/Dec16/196opn16-Decision.pdf

<sup>16</sup> 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

<sup>17</sup> NYSDOT, Highway Design Manual, Chapter 17, Bicycle Facility Design, 2015, p 17-5.

<sup>18</sup> NYS Climate Action Council, Draft Scoping Plan, 2022, p 114. https://climate.ny.gov/Our-Climate-Act/Draft-Scoping-Plan

rehabilitation, but not including resurfacing, maintenance, or pavement recycling."<sup>19</sup>

## **Cultivating New Cyclists**

Plenty of public officials think advocates are asking them to placate some fixed number of constituents who ride already.

Nope.

The goal is creating conditions that will cultivate new cyclists from folks who are presently too scared to bike. Making streets safe will get many more people riding to local destinations (school, sports, shopping, etc), because most trips are short trips.<sup>20</sup>

### **Protected Facilities are Important**

"DAMN, THE ROAD LANE ENDS AGAIN! I HATE SHARING THE TRACKS WITH THE TRAIN."

Paint is not protection. People who want to bike, scoot, or wheelchair (but don't #2scared2bike on Route 9." currently do so) 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.

#### **Connections are Key**

Would you build a bridge that only goes half way across a river? Cycling facilities work best when they link significant origins and destinations. Otherwise, few people will use them.

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

#### It Works

Dedicated infrastructure investments by Seville resulted in 5.5 times more people cycling from 2006 to 2011.<sup>21</sup> Paris' automated counters saw 2.4 times more people cycling in 2021 than in 2015 due to that city's dramatic changes.<sup>22</sup> NYC's street improvements drew out 5.7 times more riders in 2013 over 2001.<sup>23</sup>

(H)



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.



<sup>19</sup> NYS Legislature, S5411A, 2011. https://www.nysenate.gov/legislation/bills/2011/s5411/amendment/a

<sup>20</sup> 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.

<sup>21</sup> Marques, How Infrastructures Can Promote Cycling in Cities: Lessons from Sevilla, 2015, p 34. https://personal.us.es/marques/Marques-Infrastructures\_Sevilla\_v3.pdf

<sup>22</sup> 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

<sup>23</sup> Bike New York and Bike Tarrytown, 2022. https://biketarrytown.org/new-york-state/nyc-bridge-counts-2001-2020.pdf