

# Benchmarks for Improving Off- and On-Street Freight Loading Zones in City Centers

(STRIDE Project C2: Urban Freight Delivery and Loading Spaces)

## PROJECT OVERVIEW

Freight deliveries have grown exponentially in recent years, particularly with the expansion of e-commerce. Drivers dropping off or picking up freight seek to park off-street or on-street in designated areas near the delivery point. However, when there is not sufficient space to park, drivers may double park or park in bicycle lanes or sidewalks causing potential congestion and safety concerns. The research team reviewed zoning code requirements for loading zones in the 20 largest U.S. and the four largest North Carolina cities and interviewed professionals about loading zone policies and practices to understand how cities plan, manage, and enforce off- and on-street loading spaces.

## GOAL

The goal of this research was to identify the urban planning policies and practices that determine the supply of off- and on-street loading zones.

## FINDINGS

- 1) Minimum off-street loading requirements for commercial areas are widely used and are typically tied to gross floor area. Zoning regulations in most cities do not require off-street spaces for small and medium local businesses and apartment buildings.
- 2) On-street loading spaces are an important component of urban freight delivery—even when off-street loading space is available—but are less likely to be codified and are often highly dependent on the availability of curb space, competing with cars, buses, bicycles, and pedestrians.
- 3) Processes for designating off- and on-street freight loading zones have generally not been updated to reflect current demands for freight delivery.

These findings suggest a localized spatial mismatch between freight loading demand and overall loading supply. Such mismatch contributes to congestion delays for freight and people as well as road safety impacts.

## PRODUCT

The **city-level summary of off-street freight loading zone requirements** provides benchmarking information for cities to identify practices in other communities and assess how well current standards match needs.

## IMPACTS

Cities that provide adequate supply of off- and on-street freight loading zones can reduce congestion and improve safety. This project resulted in follow-on research with NCDOT around urban freight safety to identify key performance indicators to improve freight planning.

## WHO BENEFITS?

- Land use planners
- Local and state transportation planners
- Local businesses

## RESEARCH TEAM

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## PRODUCTS

### City-level summary of off-street freight loading zone requirements

This product provides benchmarking information for cities to identify practices in other communities and assess how well current standards match needs. It is available for use by site review/development approval planners and can improve congestion because freight deliveries currently cause significant congestion on urban streets.

Additional information on the benchmarks may be found in the following [article](#): McDonald, N. and Q. Yuan. 2021. Freight Loading Space Provision: Evidence from the U.S.A. *Journal of Urban Planning and Development* 147(2).

For more information on Project C2 (Urban Freight and Planning), visit the [STRIDE Project page](#).

## About STRIDE

The Southeastern Transportation Research, Innovation, Development & Education Center (STRIDE) is the 2016 Region 4 (Southeast) U.S. Department of Transportation University Transportation Center headquartered at the University of Florida Transportation Institute (UFTI).

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