

TOWN OF LINCOLN ROADWAY ENGINEERING DESIGN FEATURES MATRIX

ROADWAY DESIGN ELEMENT/TRAFFIC CALMING	DESCRIPTION	ADVANTAGES	DISADVANTAGES	COMMENTS
Narrow Travel Lanes	Narrow vehicle travel lane either physically or with edge line	Provides driver with a more restrictive environment. Reduces vehicle speed.	Reduces roadway capacity. May eliminate adjacent bike lanes	The Town already has narrow pavement in many areas on the main roads. Good, natural traffic calming tool. Contributes to rural aesthetic.
Speed Hump	Raised area of roadway deflecting both the wheels and frame of traversing vehicle. (Typically 12-14 feet across)	Increased awareness of speed. Slows traffic	Increased noise and maintenance issues. Snow and ice removal issues.	Lincoln has already installed speed humps on its arterials including Sandy Pond Road, Old County Road, and Winter Street. ~\$3,500-\$4,000
Speed Bump	Raised area of roadway deflecting both the wheels and frame of traversing vehicle. (Typically 1 – 2 feet across)	Increased awareness of speed, slows traffic	Increased noise and maintenance issues. Snow and ice removal issues.	Speed bumps are typically installed on residential side streets and in parking lots. Can be treated as seasonal installation, with provision for storage and service.
Gateway Treatment	Creating an aesthetic, visual entry into town.	Increases awareness and Town aesthetics.	Increased maintenance, potential right-of-way costs.	Has the potential to put the driver in a different, more relaxed frame of mind. May bring out community pride.
Automated Traffic Enforcement Cameras	Cameras linked to traffic light signals to photograph and cite for traffic violation motorists that run red lights	Traffic enforcement measure is "self-supporting" through ticket revenue	No photo enforcement installations in Massachusetts; cost	Massachusetts legislators have opposed legalization despite popularity among many law enforcement officials; monthly fee ranges from \$4,500-\$8,000
Roundabout / Traffic Circle	A roundabout is a form of traffic control at an intersection. It accommodates traffic flow in one direction around a central island. A roundabout operates with yield control at the entry points and gives priority to vehicles within the roundabout.	Provides effective traffic control at busy intersections. Slows traffic and may provide safer operation for pedestrians and bicycles. Less maintenance than traffic signal. No electric use at roundabouts.	Limits preemption for emergency vehicles.	Roundabouts can be designed to accent and improve a community's aesthetics. ~\$50,000-\$300,000
Textured Crosswalk	Crosswalk with textured and/or patterned surface which contrasts adjacent roadway.	Increases awareness, permanent presence slows traffic and may be safer for pedestrians.	Cost, maintenance (depending on material used).	Textured crosswalks can enhance town aesthetics.
Raised Crosswalk	Elongated speed hump with flat section where pedestrians cross.	Increases awareness, permanent presence, slows traffic.	Increased noise, cost, and maintenance.	Provides desirable pedestrian "space".
Roadside Landscaping	Roadside landscaping includes design elements adjacent to the roadway and/or within the roadway shoulder. Items such as landscaped plantings, trees, stonewalls, planters and other such items are included.	Permanent and aesthetic qualities. Adds and protects the Town's character.	Right-of-way impacts, costs, maintenance.	Many of these items can be found in the Roadway Design Guidelines prepared for and adopted by the Town in 1997. The Town's Garden Club has also recently provided some roadside design guidelines. Roadside design treatments are an integral part of Lincoln's roadway network

Raised Intersections/Speed Table	Intersection (including crosswalk) constructed at a higher elevation than the adjacent roadway.	Increases awareness, permanent presence, slows traffic.	Increased noise, cost, maintenance.	May not be a typical Lincoln type roadway treatment. ~\$20,000-\$100,000
Pedestrian/Bike Pathways	Provides a multimodal system that promotes and accommodates pedestrians and bicycles.	Provides pedestrians and bicyclists a safe travel way and minimizes conflict with motorized vehicles.	Right-of-way impacts, costs, increased maintenance costs and demands.	Lincoln has made considerable effort in its trail and pathway system. The system is an important and integral part of the Town's character. Promotes non-motorized way of transportation. Provides physical activity.
Traffic Island	Raised, often landscaped, area between traffic lanes to control and channel vehicle turning movements.	Increases awareness, improves pedestrian safety, permanent presence.	Right-of-way impacts, costs, snow and ice removal issues.	Usually provides better delineation at intersections. ~\$4,000-\$30,000
Corner Radii Treatment	Reduces corner radii at intersections making turning movements tighter.	Slows turning vehicles, increases pedestrian safety.	Limits trucks and bus turning.	Reduces high speeds. Good application at high right-turn locations.
Diverter	Raised barrier diagonally across intersection creating two unconnected streets at an intersection.	Reduces pedestrian exposure, prohibits through traffic.	Emergency access, restricts movements on roadway.	Not a typical Lincoln type road feature. Used on residential streets.
Neckdown/Bulb-out	Narrowing the roadway by extending the curb at key intersections and mid-block locations.	Slows traffic, increases pedestrian safety, alters street environment.	Cost, maintenance, drainage, alters street environment.	Potential to be used at some intersection locations. ~\$5,000-\$20,000
Chicane	Narrowing and realigning the roadway through a series of curb extensions creating a slalom effect.	Slows traffic, diverts traffic, alters street environment.	Traffic delays, costs, maintenance, drainage, right-of-way, alters street environment.	Not a typical Lincoln type road feature. Used on residential streets. ~\$10,000-\$20,000
Median Barrier	Elevated median constructed on the centerline of the roadway to reduce width of travel lanes.	Reduces pedestrian exposure, creates landscaping area, reduces conflicts.	Right-of-way, costs, maintenance, restricts travel patterns.	Not a typical Lincoln type road feature. More of an urban type design. ~\$45,000-\$60,000
Traffic Circulation Changes	Altering traffic flows through a series of one-way circulation changes.	Limits access. Often requires additional vehicle circulation for local traffic.	Limits access, introduces circulating traffic patterns, emergency access, safety.	May adversely affect public safety routes. May add significant length to travel routes.
Increased Signage	Additional signs for motorists.	May increase driver awareness.	Unattractive, obstruct view, compete with pedestrian space.	Lincoln has avoided excessive sign use in the past.
Rumble Strip	Raised button, bars or grooves closely spaces on roadway to create noise and vibration.	Increases awareness, reduces speeds, permanent presence.	Increased noise, maintenance.	Not a typical Lincoln type road feature. MHD recommends against use as a traffic calming device.
Edge Treatment Bike Lanes	Provide uniform cross-section with identifiable edge treatments along entire corridor for bicycles.	Increases awareness, improves bike safety, defines corridor.	Right-of-way impacts, costs.	Results in wide roads. Typically not consistent with Lincoln's narrow pavement. By standard definition, a bike lanes require 4-5 feet adjacent to the travel lane. This extra width is atypical of Lincoln roadways. Widened roads would require removal of street trees to implement in Lincoln and may be limited by right of way.