10.0 TRANSPORTATION AND CIRCULATION

10.1 Introduction

Transportation systems are critical Town assets that facilitate movement and circulation within Lincoln and on a larger, regional scale. Limited access highways, Interstate 295, and Route 146 are the primary access routes to the Town of Lincoln. At the same time, state-numbered roads and other minor arterials allow residents and visitors to move throughout the municipality easily.

Rhode Island Public Transit Authority (RIPTA) bus routes and railroad stops are located throughout Lincoln, providing commuters with easy access to Providence, and additional public services are available through government funding.

The Transportation and Circulation Element outlines existing transportation conditions in the Town and provides a roadmap for future changes. Goals, policies, and actions have been developed to address challenges and opportunities that the Town has identified as recurring or expected threats to movement intra- or inter-regionally. This element will inform planners, engineers, and government officials on how best to meet the needs of the local community.

10.2 Existing Conditions

Lincoln's proximity less than ten miles away from the Providence Metropolitan Area makes it a critical artery for commercial and residential development. Many commuters from the Lincoln area work in Providence and use Route 146 to reach the heart of downtown.

10.2.1 Transportation Modes and User Preferences

Residents rely on a community's transportation network to get in and around Town, so it is important to understand the typical trends of the network's users. Some parts of Lincoln may experience higher levels of congestion due to development patterns and user preferences. Approximately 96.2% of households in Lincoln own at least one vehicle (U.S. Census Bureau, 2021). Table 10-1 provides insight into the modes of transportation most often used by Lincoln commuters.

Table 10-1. Means of Transportation to Work

Transportation Mode	Total Number of Commuters	Percentage of Total Commuters
Car, truck, or van (drove alone)	7,972	87%
Car, truck, or van (carpooled)	373	4%
Public transportation	137	2%
Walked	52	<1%
Other means	72	<1%
Worked from home	510	6%
TOTAL	**9,116**	**100%**

Source: American Community Survey B08301, 2021

The overwhelming majority of commuters in Lincoln drive alone by car, truck, or van (87%) to get to work. Only 4% of the commuting population carpool to work. The limited public transit system operated by RIPTA keeps the number of commuters taking buses and trains to get to and from work small.

Less than 1% of commuters walk or use alternative means to get to work.

Available data shows that in 2017, only 237, or less than 3%, of the population at the time, worked from home. The years between 2017 and 2021 may be skewed due to the COVID-19 pandemic, but there was a nearly two-fold increase in the number of employees reporting themselves as working from home in those five years (United States Census Bureau, 2021).

Proximity to work and commute time are important factors affecting individual decisions on the mode of transportation taken to work. Route 146 cuts through Lincoln and provides a direct route between the Town and the City of Providence, where many residents work. Table 10-2 provides detailed information related to commute times for Lincoln residents.

Table 10-2. Travel Time to Work

Travel Time	Total Number of Commuters	Percentage of Total Commuters
Less than 5 minutes	150	2%
5 to 9 minutes	915	9%
10 to 14 minutes	1,352	13%
15 to 19 minutes	1,821	18%
20 to 24 minutes	2,101	21%
25 to 29 minutes	707	7%
30 to 34 minutes	1,057	11%
35 to 39 minutes	228	2%
40 to 44 minutes	314	3%
45 to 59 minutes	609	6%
60 to 89 minutes	591	6%
90 minutes or more	232	2%
TOTAL	10,077	100%

Source: American Community Survey B08303, 2021

The largest percentage of commuters responded that their travel time to work was between 15 and 25 minutes (39%). Very few commuters travel less than 5 minutes or greater than 30 minutes to get to work.

10.2.2 Roadways

Roadways are important transportation networks that facilitate travel into and out of Lincoln. The significant number of commuters that travel alone by car, truck, or van to work makes the road system critical to both economic prosperity and social welfare. Most roadways in Lincoln are small, rural two-lane roads that only offer short-distance travel, but several larger routes enable residents to work in Providence and other places in Rhode Island and Massachusetts with relative ease. Interstate highways, including I-295, are maintained by the Rhode Island Department of Transportation (RIDOT) as well as the other major routes. Smaller arterials and local roadways are maintained by the Town of Lincoln's Department of Public Works (DPW). Additional information on Lincoln's DPW can be found in Chapter 8 Services and Facilities. Map 10-1 Transportation Map illustrates all state and Town-owned roads in Lincoln.

Major Highways

Interstate 295, Route 146, and Route 99 (extension of Route 146 to Route 120 in the north) are the three primary limited access highways, which are all part of the National Highway System. Interstate

295 is the only roadway in Lincoln that is part of the Eisenhower Interstate System (U.S. Department of Transportation, 2020). It provides connections to West Warwick and I-95 to the south and Attleboro, Massachusetts to the north. This route is used for reaching T.F. Green Airport and the Boston metropolitan area to the north. Route 146 and its northeastern extension, Route 99, are limited access highways that directly connect the Town of Lincoln to the City of Providence. Beginning in Providence, Route 146 continues northward through Lincoln and splits as Route 146 to the northwest toward Worcester, Massachusetts, and Route 99 heading northeast. This is the most useful route for commuters who work in Providence. Route 99 was originally designed as a truck bypass route of Route 146 and continues to serve as an efficient route for larger commercial vehicles.

Other Arterials and Collector Roads

Five smaller arterial roads support local commercial districts and travel within the Town of Lincoln. These routes are part of the National Highway System but have less of a regional impact than the major highways (U.S. Department of Transportation, 2020). Routes 116, 122, 123, 126, and 246 are smaller roadways of varying importance to the community. Route 116, also known as George Washington Highway, is slightly larger than the other four as it is a four-lane arterial road within Lincoln that provides access to the Lincoln Mall and Industrial Corridor. Route 122, or Lonsdale Avenue, connects with Pawtucket to the south. Route 123, also known as Jenckes Hill Road, Breakneck Hill Road, and Front Street, crosses the entire Town, beginning at Route 116 to the west, traveling through Smithfield shortly before coming back into Lincoln and exiting at the Cumberland line of the Lonsdale neighborhood. Route 126, also known as the Old River Road or Smithfield Avenue, is a two-lane artery that runs north-south from Central Falls toward Woonsocket. Smithfield Avenue also runs south to meet Route 246, which serves as an alternative route to Route 146. Route 246 provides an alternative for commuting to Providence.

Local Roadways

Many smaller roadways exist within the Town boundaries that do not facilitate commerce or large-scale circulation and movement. Some of these smaller collector roads include Angell Road, Cobble Hill Road, Higginson Avenue, Martin Street, Moshassuck Valley Industrial Highway, Great Road, Wilbur Road, Whipple Road, and School Street. These roadways also offer connections to residential neighborhoods and local commercial districts.

Breakneck Hill Road/Great Road is a state-designated Scenic Roadway. The Scenic Roadway begins at the Route 146 exit on Breakneck Hill Road, to the intersection of Great Road, and down Great Road to the intersection with Manchester Print Works Road. There is a Stewardship Plan, prepared for the Town in 2003, which characterizes the rural and historic character of the roadway and identifies opportunities for maintaining and preserving these scenic qualities.

10.2.3 Traffic Volumes

Traffic volume data was collected from the Rhode Island Department of Transportation (RIDOT) and is represented in Figure 10-1. This data is collected by RIDOT through permanent counting stations and represents the 2016 annual 24-hour average daily traffic flows. Figure 10-1 shows that Route 99 had the highest volume of traffic (26,000) within the Town while Route 146 followed closely behind (17,000). The map also demonstrates the trend toward higher traffic volumes to the south of Lincoln. As roads converge on the City of Pawtucket and, further south, the City of Providence, totals into the six digits can be found.

RIDOT also uses temporary traffic volume counting devices that are moved from location to location. The results of an annual 48-hour average daily traffic volume in 2016 are depicted in Figure 10-2. Interstate 295 experiences the greatest count of vehicle traffic (30,800).

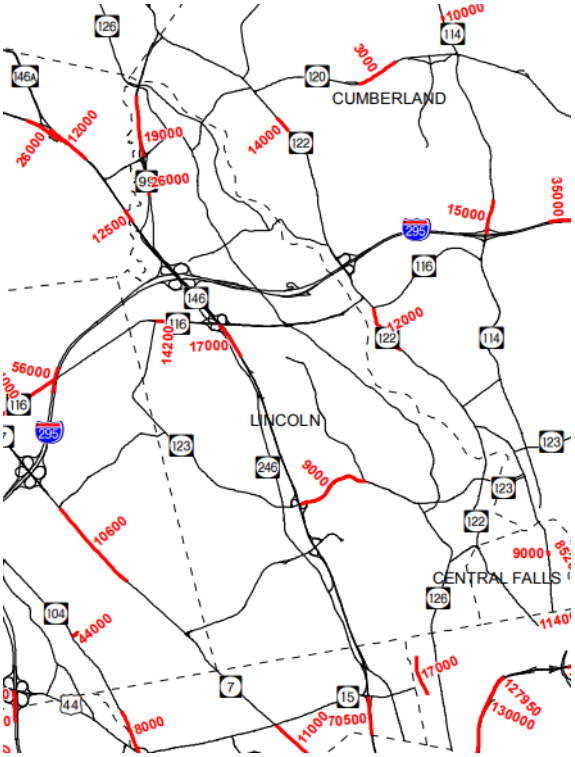

Figure 10-1. RIDOT Permanent Statewide Highway Systems Traffic Flow Map
Source: RIDOT, 2016

Traffic Generators

Traffic generators may include large facilities or locations where a significant number of people frequently gather. The Lincoln Mall, located along Route 146 could be considered a traffic generator. However, few routes generate significant amounts of traffic.

10.2.4 Bridges

Bridges are critically important to maintaining the integrity of a road system as they facilitate movement over bodies of water and existing infrastructure where typical road designs would not suffice. Maintaining these structures is necessary to ensure structural integrity and safety for roadway users and the community at large.

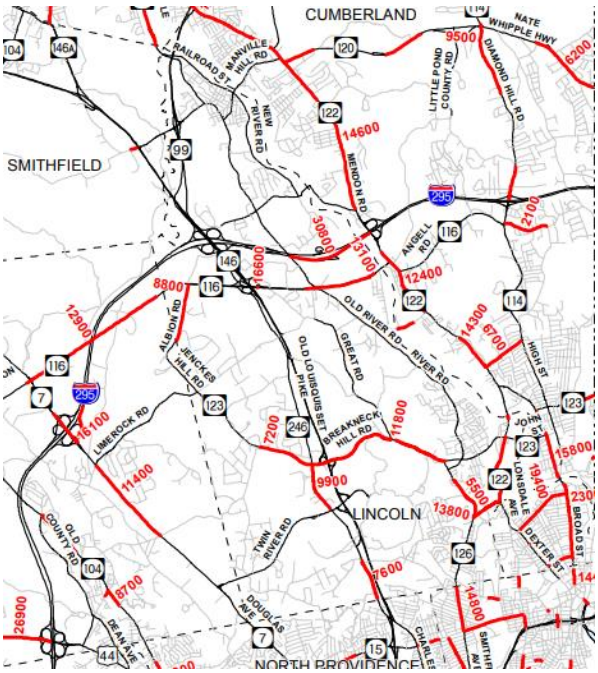

Figure 10-2. RIDOT Permanent Statewide Highway Systems Traffic Flow Map
Source: RIDOT, 2016

Table 10-3 provides an overview of the bridges located in Lincoln. and summarizes the status of all the bridges in the Town including location, year built, reconstruction date (if applicable), and current condition. Condition data was obtained from Bridge Status and can be classified as poor, fair, or good, based on the "lowest rating of the bridge deck, superstructure, substructure, or culvert" (Bridge Status, 2023).

Table 10-3. Bridge Inventory

Bridge ID	Bridge Name	Road Carried	Crossing	Year Built	Reconstructed	Condition[a]
016301	Albion Trench	School Street	Old Worc & Boston Canal	1887	1996	Fair
017901	Kelly House	Lower River Road	Blackstone Canal	1950	1998	Fair
018801	Reservoir	RI 146 Ed Dowling Highway	Crookfall Brook	1924	1941	Fair
019501	Front Street	RI 123 Front Street	Mill Pond	1885	1940	Fair
021901	Barney's Pond	RI 126 Smithfield Avenue	Moshassuck River	1887	1927	Fair
027601	Louisquisset Pike	RI 146 Ed Dowling Highway	RI 116 George Washington Highway	1942	N/A	Poor
027621	Louisquisset Pike Ramp	RI 146 NB Off Ramp	RI 116 George Washington Highway	2003	N/A	Fair
041501	Wilbur Road	Wilbur Road	RI 146 Eddie Dowling Highway	1953	2011	Good
041601	Breakneck Hill Road	RI 123 Breakneck Hill	RI 146 Eddie Dowling Highway	1951	1994	Poor
041701	Twin River Road	Twin River Road	RI 146 Eddie Dowling Highway	1969	1994	Poor
041801	Cobble Hill Road	RI 146 Ed Dowling Highway	Cobble Hill Road	1956	N/A	Poor
049301	Higginson Avenue	Higginson Avenue	Moshassuck River	1962	N/A	Poor
074801	Louisquisset Pike North	I-295 NB	RI 146 Eddie Dowling Highway	1969	N/A	Poor
074821	Louisquisset Pike South	I-295 SB	RI 146 Eddie Dowling Highway	1969	N/A	Fair
074901	Old River Road	RI 126 Old River Road	I-295 NB & SB	1969	N/A	Poor
098501	Blackstone River	RI 99 NB & SB	Blackstone River, P&W RR	1993	1988	Fair
098601	Sayles Hill	RI 99 NB & SB	Sayles Hill Road	1991	N/A	Fair
098701	RI 146 Ramp	RI 99 Ramp	RI 146 Eddie Dowling Highway	1991	N/A	Fair
098801	Table Rock Road	Table Rock Road	Barney Pond	1927	N/A	Good

Source: RIDOT, 2016; bridgestatus.com, 2023

Notes: [a] Bridge Condition data is from bridgestatus.com, which should only be used as a reference for the overall condition of the bridge and does not guarantee completeness or accuracy.

Many bridges are aging and require additional maintenance to ensure they continue to be safe for drivers. As of 2023, the Breakneck Hill Road bridge was in the process of being demolished and replaced (Cowperthwaite, 2023). Based on Bridge Status, seven of the total 19 bridges are in poor condition, which will likely be prioritized for reconstruction in the coming years.

10.2.5 Public Transportation Services

Public transportation services in Lincoln are provided by the Rhode Island Public Transit Authority (RIPTA). Five bus routes with 102 total stops are located within Lincoln offering service to surrounding municipalities, including Providence and Pawtucket. Routes 51, 54, 59, 73, and 75 all service the Lincoln area. Route 51 connects Providence's hospital district with Bally's Twin River Casino (and an extension to CCRI Lincoln). This route also provides direct access to the Providence Amtrak and MBTA stations. Route 54 extends from Downtown Providence to Woonsocket. This is the longest of the five routes, extending over 16 miles. Route 59x stretches over 14 miles from Providence to Slatersville near the southern border of Massachusetts. Route 75 begins in Pawtucket and extends to the Lincoln Commons with stops in Pawtucket, Central Falls, and Lincoln. There are currently no rapid transit or commuter rail services available in the Town. The Pawtucket/Central Falls train station is the closest rail stop for residents while Providence is the closest Amtrak stop. Although only a small portion of Lincoln residents commute to work by public transportation, it remains an important component of Lincoln's development trends.

Rider Survey Report

A passenger survey was conducted in 2020 that summarized rider preferences and gathered data on typical ridership trends. Each of the five routes was included in the report. According to the report, at least 70% of riders rode any of the five routes at least 3 per week (RIPTA, 2020). Most riders don't have access to a personal vehicle and commute to work or school using the bus. Although these numbers represent all riders, not just Lincoln residents, they provide an understanding of the overall trends. Most riders seek additional buses on weekends, overall faster service, and more late-night options.

Table 10-4. Rider Survey Report Summary						
Route Number	Route Name	Number of Surveys	Average Weekday Ridership	Percent with access to car	Most Common Destination	Most Significant Rider Preference
51	Charles Street	130	524	8.5%	Work	More weekend service/Faster service
54	Lincoln/Woonsocket	217	2,429	14.8%	Work	Faster service/More frequent service
59	North Smithfield/Lincoln Express	N/A	N/A	N/A	N/A	N/A
73	Fairlawn/CCRI/Lincoln	42	281	5.3%	Work/School	More weekend service/Faster service
75	Dexter St/Lincoln Mall	80	290	5.7%	Work	Improve existing service/more night service

10.2.6 Alternative Modes of Transportation

Vehicular transportation is the most prevalent form of long-range transportation, but active transit, including walking, biking, and other pedestrian-based modes is still important for maintaining healthy lifestyles and movement throughout the Town of Lincoln.

Bikeways and Walking Paths

The Town of Lincoln also hosts a variety of alternative modes of transportation. The Blackstone River Bikeway has almost 7 miles of multi-use shared path within Lincoln and provides residents with recreational opportunities for walkers and bikers. Walking paths are also present in Lincoln Woods Park and other public open spaces around the Town. Additional information on walking paths and other pedestrian-based modes of transportation can be found in Chapter 3 Open Space and Recreation.

Residents have indicated that sidewalks should be installed within the Lonsdale, Saylesville and Lime Rock neighborhoods.

10.3 Goals and Policies

Goals and their corresponding policies reflect the desired changes of Lincoln residents for the next ten years, as gathered from a public workshop held in May 2024. Overall, residents are interested in improving road maintenance, pedestrian and bicycle access, and traffic management of Lincoln's transportation network. Town-wide, multi-modal transportation is embraced as the next step for Lincoln's future while ensuring that the Town's rural character is maintained.

Of Lincoln's villages, Albion is aligned with the goals of expanding a multimodal network, with an emphasis on pedestrian safety. The Industrial Corridor sees a unique opportunity to bring more public transit options to the area and balance the transportation network with the growth of commercial sectors. In Lime Rock, the rural nature of the village makes the adoption of Rural Road Design Standards, which includes multimodal transportation, a priority, and in Lonsdale, its residents

seek better pedestrian and bicycle infrastructure and regional connectivity. Manville's goals include reducing the impacts of truck traffic and similarly building out pedestrian and bicycle infrastructure sensitive to the village's mixed-use development. In Saylesville, residents aim to mitigate traffic impacts and upgrade road quality, and Fairlawn aims for enhanced circulation for tourism while preserving its historic character.

Goals	Policies
TP1. Town Wide Maintain and enhance a cost-effective, efficient, safe, and accessible multi-modal transportation system that is sensitive to and respectful of the Town's rural character.	TP1.1. Town Wide Implement road design and maintenance standards and procedures that protect, promote, and encourage existing development patterns and neighborhood character.
	TP1.2. Town Wide Maintain a formal program for road maintenance, new road construction, and accompanying drainage infrastructure that is economically responsible and implementable.
	TP1.3. Town Wide Promote cooperative state/local efforts in transportation planning, ensuring that the Town's rural qualities are maintained throughout any transportation planning and construction projects.
	TP1.4. Town Wide Implement traffic calming measures on key residential streets.
	TP1.5. Industrial Corridor Improve access and infrastructure within the Industrial Corridor to support business operations and growth.
	TP1.6. Town Wide Integrate rural road design standards and practices to manage vehicle speed, preserve scenic views, and promote multimodal travel.
	TP1.7. Lonsdale Facilitate sustainable transportation options within the industrial and commercial zones to reduce conflicts and integrate smoothly with the village's residential character.
	TP1.8. Lonsdale Collaborate on regional transportation projects that contribute to Lonsdale's role within the Blackstone Heritage Corridor, enhancing its appeal to both residents and visitors.
	TP1.9. Saylesville Upgrade and pave road infrastructure within Saylesville's industrial area to support business operations and future growth.
	TP1.10. Fairlawn Enhance circulation patterns to accommodate tourism to Kelly House, the

	canal, and bikeway, without compromising the residential quality of life.
	TP1.11. Fairlawn Protect and enhance the natural and historical character of Quinnville, particularly along Lower River Road, in the face of potential tourism development pressures.
TP2. Town Wide Support efforts to enhance and increase alternative modes of transportation such as ridesharing, bicycling, and public transportation with an eye towards reductions in greenhouse gases and air pollution.	TP2.1. Town Wide Encourage alternative modes of transportation and increase opportunities in Town for access to biking, walking, and carpooling.
	TP2.2. Town Wide Through traffic should be limited in residential neighborhoods.
	TP2.3. Town Wide Enhance pedestrian crossings and safety measures along Smithfield Avenue.
	TP2.4. Industrial Corridor Enhance public transit options for employees working within the Industrial Corridor to reduce traffic congestion, vehicle miles traveled, and parking demand.
	TP2.5. Lonsdale Strengthen pedestrian and bicycle infrastructure to improve access to Lonsdale's key natural and historic resources, including the Blackstone River and Chase Farm.
	TP2.6. Town Wide Prioritize pedestrian and bicycle infrastructure enhancements in line with mixed-use development goals.
	TP2.7. Manville Support the integration of Manville into the regional bicycle and pedestrian network, enhancing recreational and tourism opportunities.

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