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**III-1. INTRODUCTION**

The Transportation Element replaces the Traffic Circulation Element that was part of the City’s Comprehensive Plan adopted pursuant to the 1985 Growth Management Act. In an effort to broaden the scope of transportation planning, Rule 9J5.007 Traffic Circulation was repealed and replaced with Rule 9-J5.019 Transportation which recently was repealed and replaced with CS HB 7129. The purpose of the Transportation Element is to provide policy guidelines which promote multimodal transportation solutions to mobility problems. The primary emphasis is geared toward promoting effective public transportation systems including roads, public transit, cycling, walking and parking facilities. The location and capacity of such systems are directly linked to the density and intensity of land use designations contained in the Future Land Use Map Series.

The City of Lake Helen is required to prepare and adopt a Transportation Element because its jurisdiction is located within the urban area of the River to Sea Metropolitan Planning Organization (MPO) pursuant to Chapter 163, Part II, Florida Statutes (FS), “Growth Policy; County and Municipal Planning; Land Development Regulation”.

Before the City can reasonably plan for its future, it must assess the capability of its existing traffic circulation system to serve current demand. It is, therefore, necessary to determine existing levels of service and to identify existing street deficiencies within the traffic circulation system. When current street deficiencies have been identified, it is then possible to direct where street facilities must be improved and where new streets may be needed. The criteria for determining the extent of facilities needed are the adopted level of service standards.

Lake Helen is a community of about 2,624 residents located in western Volusia County. The major transportation routes within the City are I-4, Lake-Helen Osteen Road (aka Prevatt Avenue), Kicklighter Road, Main Street (CR 4116), Lakeview Drive (CR 4139), Ohio Avenue, New York Avenue, Summit Avenue (CR 4139), and Macy Avenue (CR 4139) (Map 3-1). There are no airports, high speed rail lines, ports, or related facilities within the City.

**III-2. LEVEL OF SERVICE**

Level of Service (LOS) standards and performance are influenced by a variety of factors in addition to the traffic volume on a roadway. These factors include the roadway’s cross-section and classification, the number and spacing of traffic signal, the number and type of driveway connections and “curb cuts,” adjacent land uses and other factors.

61 Roadway LOS describes the operating condition determined from the number of vehicles  
62 passing over a given section of roadway during a specific time period. It is a qualitative  
63 assessment of several factors which include speed, travel time, traffic interruptions, freedom to  
64 maneuver, driver comfort, convenience, safety and vehicle operating costs. LOS standards have  
65 been established by which to gauge roadway performance, designated by letters A through F.  
66 The LOS categories are defined as follows:

67  
68 LOS A: Highest LOS which describes primarily free-flow traffic operations at average  
69 travel speeds. Vehicles are completely unimpeded in their ability to maneuver within  
70 the traffic stream. Stopped delays at intersections are minimal.

71  
72 LOS B: Represents reasonably impeded traffic flow operations at average travel speeds.  
73 The ability to maneuver within the traffic stream is only slightly restricted and stopped  
74 delays are not bothersome. Drivers are not generally subjected to appreciable tensions.

75  
76 LOS C: Represents stable traffic flow operations. However, ability to maneuver and  
77 change lanes may be more restricted than LOS B, and longer queues and/or adverse  
78 signal coordination may contribute to lower average travel speeds.

79  
80 LOS D: Borders on a range in which small increases in traffic flow may cause substantial  
81 increases in approach delay and, hence, decreases in speed. This may be due to adverse  
82 signal progression, inappropriate signal timing, high volumes, or some combinations of  
83 these.

84  
85 LOS E: This represents traffic flow characterized by significant delays and lower  
86 operating speeds. Such operations are caused by some combination of adverse  
87 progression, high signal density, extensive queuing at critical intersections, and  
88 inappropriate signal timing.

89  
90 LOS F: This represents traffic flow characterized by extremely low speeds. Intersection  
91 congestion is likely at critical signalized locations, with long approach delays resulting.  
92 Adverse signal progression is frequently a contributor to this condition.

93  
94  
95 Roadway Classifications

96  
97 In addition to levels of service, it is necessary to include definitions to clarify the terminology  
98 used throughout the text and tables. Streets are classified according to the function they will  
99 serve. Functional classification is defined as the assignment of streets into systems according to  
100 the character of service they provide in relation to the total street network. Basic functional  
101 categories include arterial, collector, and local roads which may be subdivided into principal or  
102 minor levels. Those levels may be additionally divided into rural and urban categories.  
103

104        Arterial Street - A street providing service which is relatively continuous and of  
105        relatively high traffic volume, long average trip length, high operating speed, and high  
106        mobility importance. In addition, all United States numbered highways shall be arterial  
107        roads.

108  
109        Collector Street - A street providing service which is of relatively moderate average  
110        traffic volume, moderately average trip length, and moderately average operating  
111        speed. These routes also collect and distribute traffic between local roads or arterial  
112        streets and serve as a linkage between land access and mobility needs.

113  
114        Local Street - A street providing service which is of relatively low average traffic volume,  
115        short average trip length or minimal through-traffic movements, and high land access  
116        for abutting property.

117  
118        The p.m. peak-hour is used to evaluate LOS. For non-SIS roadways, the City has jurisdiction in  
119        setting the LOS standards. As indicated, except for State roadways designated as Strategic  
120        Intermodal System (SIS), City roadways have an adopted LOS standard of "D." The SIS is a  
121        statewide transportation system made up of regionally significant facilities and services and  
122        includes all modes of transportation for moving both people and goods.

123  
124  
125        The FDOT has developed state-wide minimum acceptable operating LOS standards and  
126        generalized daily LOS maximum volume tables in their Florida Highway System Plan; Level of  
127        Service Standards and Guidelines Manual. Generalized daily LOS maximum volumes for each  
128        road type are based on the number of signalized intersections per mile and the population  
129        residing within urban and rural areas: the City of Lake Helen falls under the urban category.  
130        This criterion is used to conduct LOS analysis on the traffic circulation system of the City of Lake  
131        Helen.

132  
133        The analysis of the following collector roads will use traffic counts taken by the Volusia County  
134        and FDOT.

135  
136        1. An analysis of the existing transportation system levels of service and system needs based  
137        upon:

- 138  
139        • The existing design and operating capacities;  
140        • The most recently available estimates for average daily and peak hour vehicle trips;  
141        • The existing modal split and vehicle occupancy rates;  
142        • The existing public transit facilities, including ridership by route, peak hour capacities  
143        and headways;  
144        • The population characteristics, including transportation disadvantaged;  
145        • The existing characteristics of the major trip generators and attractors within the  
146        community.

147

148 **ROAD SYSTEM**

149

150 The FDOT classifies roads as urban or rural facilities. All roads within the City's corporate  
151 limits function as urban facilities. In addition, a description is provided for local roads within  
152 the City which act as collectors. All other roads are classified as local roads and are,  
153 therefore, not included in this element. No detailed analysis is provided for any of the local  
154 roads.

155

156 A. Arterial Roads:

157 An arterial road means a roadway providing service, which is relatively continuous and  
158 of relatively high traffic volume, long trip length, and high operating speed. The FDOT  
159 classifies arterial roads as either principal or minor facilities, depending on the volume  
160 of traffic using the road.

161

162 1. Arterial roads within the City

163

164 Interstate 4 (I-4) is a 6-lane interstate that traverses the City along its northwest  
165 border. Under the jurisdiction of the Florida Department of Transportation (FDOT),  
166 it is classified as a principal arterial – urban. The FDOT 2014 annual Average Daily  
167 Traffic (ADT) counts along I-4 at this segment (FDOT Station No. 497) is at 65,500  
168 vehicles (FDOT Station No. 5035). Based on these volumes, this section of I-4  
169 currently maintains a LOS B. The FDOT has set a minimum acceptable operating LOS  
170 D for this type of road that allows a maximum volume of 93,000 vehicles per day.  
171 There are no existing deficiencies with this section of I-4.

172

173 Lake Helen-Osteen Road – from Kicklighter Road to Captain Drive (Volusia County  
174 station #1076). This is a 2 lane roadway under the jurisdiction of Volusia County and  
175 is designated as an urban minor arterial. The 2014 Average Daily Traffic (ADT)  
176 counts along this segment is at 6,760 vehicles. Based on these volumes, this section  
177 currently maintains a LOS C. The adopted LOS is E. There are no existing  
178 deficiencies with this section of the roadway.

179

180 Prevatt Avenue – from SR 44 to Lake Pearl Drive (Volusia County station #1523).  
181 This is a 2 lane roadway under the jurisdiction of Volusia County and is designated as  
182 an urban minor arterial. The 2014 Average Daily Traffic (ADT) counts along this  
183 segment is at 4,200 vehicles. Based on these volumes, this section currently  
184 maintains a LOS C. The adopted LOS is E. There are no existing deficiencies with this  
185 section of the roadway.

186

187 Prevatt Avenue – from Lake Pearl Drive (Volusia County station #1520). This is a 2  
188 lane roadway under the jurisdiction of Volusia County and is designated as an urban

189 minor arterial. The 2014 Average Daily Traffic (ADT) counts along this segment is at  
190 3,910 vehicles. Based on these volumes, this section currently maintains a LOS C.  
191 The adopted LOS is C. There are no existing deficiencies with this section of the  
192 roadway.

193  
194

195 B. Collector Roads:

196 A collector road means a roadway providing service that is of relatively moderate traffic  
197 volume, moderate trip length, and moderate operating speed. Collector roads collect  
198 and distribute traffic between local roads and arterial roads. The FDOT classifies  
199 collector roads as either major or minor facilities, depending on the volume of traffic  
200 using the road.

201

202 1. Collector roads within the City

203

204 The following roads are classified as collector roads under the 2009 FDOT roadway  
205 functional classification system.

206

207 Cassadaga Road – from W. Volusia Beltway to Macy Avenue (Volusia County station  
208 #280). This is a 2 lane roadway under the jurisdiction of Volusia County and is  
209 designated as an urban major collector. The 2014 Average Daily Traffic (ADT) counts  
210 along this segment is at 1,900 vehicles. Based on these volumes, this section  
211 currently maintains a LOS C. The adopted LOS is E. There are no existing  
212 deficiencies with this section of the roadway.

213

214 Kicklighter Road – from Macy Ave. to Lake Helen/Osteen Road (Volusia County  
215 station #1051). This is a 2 lane roadway under the jurisdiction of Volusia County and  
216 is designated as an urban minor collector. The 2014 Average Daily Traffic (ADT)  
217 counts along this segment is at 1,680 vehicles. Based on these volumes, this section  
218 currently maintains a LOS C. The adopted LOS is E. There are no existing deficiencies  
219 with this section of the roadway.

220

221 Lakeview Drive – from New York Ave. to Main (Volusia County station #1101). This is  
222 a 2 lane roadway under the jurisdiction of Volusia County and is designated as an  
223 urban minor collector. The 2014 ADT counts along this segment is at 1,140 vehicles.  
224 Based on these volumes, this section currently maintains a LOS C. The adopted LOS  
225 is C. There are no existing deficiencies with this section of the roadway.

226

227 Lakeview Drive – from Main Street to Ohio Ave (Volusia County station #1100). This  
228 is a 2 lane roadway under the jurisdiction of Volusia County and is designated as an  
229 urban major collector. The 2014 ADT counts along this segment is at 3,280 vehicles.

230 Based on these volumes, this section currently maintains a LOS C. The adopted LOS  
231 is C. There are no existing deficiencies with this section of the roadway.

232  
233 Macy Avenue – from Ohio Avenue to Cassadaga Road (Volusia County station  
234 #1150). This is a 2 lane roadway under the jurisdiction of Volusia County and is  
235 designated as an urban major collector. The 2014 ADT counts along this segment is  
236 at 1,130 vehicles. Based on these volumes, this section currently maintains a LOS C.  
237 The adopted LOS is C. There are no existing deficiencies with this section of the  
238 roadway.

239  
240 Ohio Avenue – from Macy Avenue to Lakeview Drive (Volusia County station #1320).  
241 This is a 2 lane roadway under the jurisdiction of Volusia County and is designated as  
242 an urban major collector. The 2014 ADT counts along this segment is at 650  
243 vehicles. Based on these volumes, this section currently maintains a LOS C. the  
244 adopted LOS is C. There are no existing deficiencies with this section of the  
245 roadway.

246  
247 Main Street – from I-4 to Lakeview Drive (Volusia County station #1176). This is a 2  
248 lane roadway under the jurisdiction of Volusia County and is designated as an urban  
249 major collector. The 2014 ADT counts along this segment is at 6,190 vehicles. Based  
250 on these volumes, this section currently maintains a LOS D. The adopted LOS is C.

251  
252 New York Avenue – from Summit Ave. to Lakeview Drive (Volusia County station  
253 #1285). This is a 2 lane roadway under the jurisdiction of Volusia County and is  
254 designated as an urban minor collector. The 2014 ADT counts along this segment is  
255 at 900 vehicles. Based on these volumes, this section currently maintains a LOS C.  
256 The adopted LOS is C. There are no existing deficiencies with this section of the  
257 roadway.

258  
259 Summit Avenue – from SR 44 to Main Street (Volusia County station #1791). This is a  
260 2 lane roadway under the jurisdiction of Volusia County and is designated as an  
261 urban minor collector. The 2014 ADT counts along this segment is at 4,090 vehicles.  
262 Based on these volumes, this section currently maintains a LOS C. The adopted LOS  
263 is E. There are no existing deficiencies with this section of the roadway.

264  
265  
**III-3 ANALYSIS OF EXISTING TRAFFIC SYSTEM**

266  
267  
268 Traffic circulation throughout the city represents reasonably unimpeded traffic flow operations  
269 at average vehicle speed. The ability to maneuver within the traffic stream is only slightly  
270 restricted and stopped delays are minor. Lake Helen would like to maintain its rural community

271 character; however, the major arterial and collector roadways traversing the city, under the  
272 jurisdiction of Volusia County are designated as urban.

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**TABLE 3-1: EXISTING ROADWAY LOS**

Roadway	Limits (From/To)	Adopted LOS	Lanes	Facility Type	Area Type	Daily LOS Capacity	Peak-Hour Capacity	Existing	
								AADT	Daily LOS
I-4	Orange Camp Rd. to SR 44	D	6D	Principal Arterial	Urban	93,000	10,060	65,500	B
Lake Helen Osteen Rd	Kicklighter Rd to Captain Dr.	E	2U	Minor Arterial	Urban	13,640	1,020	6,760	C
Prevatt	SR 44 to Lake Pearl Drive	E	2U	Minor Arterial	Urban	17,050	1,540	4,200	C
Prevatt Ave.	Lake Pearl Dr. to Kicklighter Rd.	C	2U	Minor Arterial	Urban	17,050	1,360	3,910	C
Cassadaga Road	W. Volusia Beltway to Lake Helen Osteen Road	E	2U	Major Collector	Urban	13,640	1,230	1,900	C
Kicklighter Rd	Macy Ave. to Lake Helen/Osteen	E	2U	Minor Collector	Urban	13,640	1,540	1,680	C
Lakeview Drive	New York Ave. to Main Street	C	2U	Minor Collector	Urban	13,640	1,360	1,140	C
Lakeview Drive	Main St. to Ohio Ave.	C	2U	Minor Collector	Urban	13,640	470	3,280	C
Macy Ave.	Ohio Ave. to Cassadaga Road	C	2U	Major Collector	Urban	13,640	470	1,130	C
Ohio Ave.	Macy Ave. to Lakeview Dr.	C	2U	Major Collector	Urban	13,640	470	660	C
Main St.	I-4 to Lakeview Drive	C	2U	Major Collector	Urban	13,640	470	6,190	D
New York Ave.	Summit Ave. to Lakeview Dr.	C	2U	Minor Collector	Urban	13,640	470	900	C
Summit Ave.	SR 44 to Main Street	E	2U	Minor Collector	Urban	13,640	1,230	4,090	C

278 **Source: FDOT and Volusia County**

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292

Review of the above data indicates that the most heavily traveled roadways with the exception of I-4 are Lake Helen Osteen Road, Main Street, Prevatt Avenue, and Summit Avenue. All the roadways are currently operating within their adopted LOS with the exception of Main Street. The city’s adopted LOS is “C”; however, the roadway is operating at LOS “D”. This roadway is under the jurisdiction of Volusia County. The majority of the citizens in Lake Helen work outside of the city and utilize this roadway daily. In addition, this is the major roadway to enter into Lake Helen from I-4 and provides access to the two (2) schools located within the southern portion of the city. Further, there is a lack of commercial retail establishments within the city that meet the daily needs of the community; therefore, citizens have to leave the city for their shopping needs. The city should consider adopting a higher Level of Service Standard.



293 Public Transit

294  
295 Public transit plays a key role in a transportation system. It removes vehicles from the system  
296 by providing an alternative mode of travel. Public transit level of service criteria is based on the  
297 operational and service characteristics of the transit system. Operational characteristics  
298 include the number of vehicles operated in maximum service, the amount of service supplied,  
299 the average speed, and the number of days the service is provided. Service characteristics  
300 include geographic location and service area population. Headway is the time that separates  
301 vehicles moving in the same direction on the same route or track. The emphasis should be on  
302 reducing headways to encourage public transit ridership.

303  
304 Transit options in the City of Lake Helen at this time are limited. Volusia County has a fixed-  
305 route transportation service known as Votran; however, there is no fixed-route transit service  
306 within the City. Votran does offer services for those individuals because of physical or mental  
307 disability or age are unable to transport themselves and cannot use fixed-route bus service.

308  
309 Bicycle and Pedestrian Facilities

310  
311 The bicycle is a low-cost and effective means of transportation that is quiet, non-polluting,  
312 extremely energy-efficient, versatile, healthy and fun. Bicycles and walking also offer low-cost  
313 mobility to the non-driving public, especially the young. There are two (2) bike path/trails  
314 within the City (Map 3-2). A portion of the Cross Volusia Trail system is located at Blake Park  
315 and travels east past Lake Harlan and ends at S. Prevatt Avenue. The other bike path/trail is  
316 constructed within the Mitchell Brothers Sport Complex. This system connects the Volusia  
317 Pines Elementary School located along Kicklighter Road with the park. The trail ends at Ohio  
318 Avenue. Other than the above, there are no additional dedicated bike paths within the City  
319 other than sidewalks.

320  
321 Major Public Transit Trip Generators and Attractors

322  
323 There are no major public transit trip generators within the City of Lake Helen. Major retail and  
324 health facility attractors lie to the west in Deland or to the northeast in Daytona.

325  
326 Local Roadways

327  
328 A local road means a roadway providing service that is of relatively low traffic volume, short  
329 average trip length or minimal through traffic movements, and high volume land access for  
330 abutting property. Table 3-2 identifies all roadways within the City of Lake Helen and their  
331 classification. Thirty (30) of the local roadways have dedicated right of way; however, are  
332 unopened. There are no identified deficiencies with these roads.

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Table 3-2 Inventory of Streets and Roads  
City of Lake Helen

<u>Street/Road</u>	<u>Dir</u>	<u>From</u>	<u>To</u>	<u>Class</u>	<u>Cond</u>	<u>ROW</u>	<u>Cat</u>
<del>Ash</del>	<del>W-E</del>	<del>Chestnut</del>	<del>Hickory</del>	<del>Local</del>	<del>Good</del>	<del>40</del>	<del>3</del>
Austin	W-E	Summit	High	Local	Good	50	4
Baker	W-E	Summit	Euclid	Local	<del>Dirt Road</del>	40	4
Barbe	W-E	Lakeview	Orange	Local	Poor	40	1
<del>Biddle</del>	<del>W-E</del>	<del>Dead End</del>	<del>Dead End</del>	<del>Local</del>		<del>50</del>	<del>2</del>
<del>Birch</del>	<del>N-S</del>	<del>Cypress</del>	<del>Willow</del>	<del>Local</del>	<del>Good</del>	<del>40</del>	<del>3</del>
Carmen	N-S	Virginia	John	Local	Good	50	1
Cassadaga	W-E	Macy	Lakeview	Local	Good	50	1
Chalker	N-S	Ohio	Dead End	Local	<del>Private</del>	40	2
<del>Chestnut</del>	<del>N-S</del>	<del>Lemon</del>	<del>Willow</del>	<del>Local</del>	<del>Good</del>	<del>40</del>	<del>3</del>
Church	N-S	Main	Ohio	Local	Good	40	1
Clough	W-E	Volusia	<del>Euclid-High</del>	Local	<del>Good</del>	40	4
<del>Clough</del>	<del>W-E</del>	<del>High</del>	<del>Euclid</del>	<del>Local</del>	<del>Poor</del>	<del>40</del>	<del>4</del>
Clough	W-E	Euclid	Lakeview	Local	<del>Dirt Road</del>	40	2
Clough	W-E	Goodwin	Volusia	Local	Good	40	1
Connecticut	W-E	Summit	Euclid	Local	<del>Dirt Road</del>	40	4
Connecticut	W-E	Euclid	Lakeview	Local	Good	40	1
Cook	W-E	McKenzie	Prospect	Local	<del>Dirt Road</del>	50	2
Cook	W-E	Prospect	Orange	Local	<del>Dirt Road</del>	50	4
Craig	W-E	Euclid	Lakeview	Local	Poor	40	1
Craig	W-E	Lakeview	<del>Orange Dead End</del>	Local		40	4
<del>Craig</del>	<del>W-E</del>	<del>High</del>	<del>Lakeview</del>	<del>Local</del>		<del>40</del>	<del>4</del>
Craig	W-E	Summit	<del>Euclid-Dead End</del>	Local		40	4
<del>Cypress</del>	<del>N-S</del>	<del>Ash</del>	<del>Maple</del>	<del>Local</del>	<del>Good</del>	<del>40</del>	<del>3</del>
Drew	N-S	Lake Pearl	Dead End	Local	<del>Dirt Road</del>	40	4
Elvira	W-E	Macy	Vista	Local	Good	30	4
Enchantment	W-E	Orange	Dead End	Local	<del>Dirt Road</del>	40	4

Euclid	N-S	New York	Craig	Local	<del>Poor</del> <u>Good</u>	40	1
Euclid	N-S	New York	Main	Local	<del>Poor</del> <u>Good</u>	40	1
Euclid	N-S	Ohio	Main	Local	Good	40	1
Euclid	N-S	Clough	Craig	Local	<u>Dirt</u> <u>Road</u>	40	4
Forsythe	N-S	Ohio	Dead End	Local	<u>Dirt</u> <u>Road</u>	40	2
Garden	W-E	Euclid	Lakeview	Local	<del>Good</del> <u>Poor</u>	40	1
Garden	W-E	Volusia	<del>Euclid</del> <u>High</u>	Local	<u>Good</u>	40	2
<u>Garden</u>	<u>W-E</u>	<u>High</u>	<u>Euclid</u>	<u>Local</u>	<u>Dirt</u> <u>Road</u>	<u>40</u>	<u>2</u>
Goodwin	N-S	Clough	New York	Local	<u>Dirt</u> <u>Road</u>	40	4
<del>Goodwin</del>	<del>N-S</del>	<del>New York</del>	<del>Weymouth</del>	<del>Local</del>		<del>20</del>	<del>2</del>
Goodwin	N-S	<del>WA</del> Washington	<del>PA</del> Pennsylvania	Local		40	4
Goodwin	N-S	<del>WA</del> Washington	Ohio	Local	Good	40	1
Goodwin	N-S	Dead End	Clough	Local	<u>Dirt</u> <u>Road</u>	40	2
Harlan	W-E	Euclid	Lakeview	Local	Good	40	1
Harlan	W-E	Summit	Euclid	Local	<u>Dirt</u> <u>Road</u>	40	4
Hazel	W-E	Summit	Euclid	Local	<u>Dirt</u> <u>Road</u>	50	4
<del>Hickory</del>	<del>W-E</del>	<del>Ash</del>	<del>Willow</del>	<del>Local</del>	Good	<del>40</del>	<del>3</del>
High	W-E	Main	Westlake	Local	Good	40	1
Highland	W-E	Lemon	PA	Local	<u>Dirt</u> <u>Road</u>	20	2
<del>Hobart</del>	<del>W-E</del>	<del>Dead End</del>	<del>W.City Lim</del>	<del>Local</del>		<del>40</del>	<del>2</del>
Hobart	W-E	Jackson	Summit	Local	<u>Dirt</u> <u>Road</u>	40	4
Interstate 4	W-E	N.City Lim	W. City Lim	Arterial	Good	300	1
Jackson	N-S	Jennings	Clough	Local	<u>Dirt</u> <u>Road</u>	50	4
Jackson	N-S	John	Clough	Local	<del>Poor</del> <u>Good</u>	50	1
Jennings	W-E	Goodwin	Dead End	Local	<u>Dirt</u> <u>Road</u>	40	2
Jennings	W-E	Goodwin	Summit	Local	Good	40	1
John	W-E	Jackson	Carmen	Local	<del>Poor</del> <u>Good</u>	50	1

John	W-E	Summit	Dead End	Local	<u>Good</u>	50	4
John	W-E	Jackson	Summit	Local	Good	50	1
<del>Kester</del>	<del>W-E</del>	<del>McKensie</del>	<del>Orange</del>	<del>Local</del>		<del>50</del>	<del>2</del>
Kicklighter	W-E	Macy	LH-Osteen	<del>Local</del> <u>Collector</u>	Good	50	1
Kicklighter	W-E	Prevatt	E City Lim	Local	<u>Good</u>	40	4
Kicklighter	W-E	Macy	Summit	Local	<u>Good</u>	50	4
Lake Pearl	W-E	Lakeview	Prevatt	Local	<del>Good</del> <u>Poor</u>	50	1
Lakeview	N-S	Ohio	New York	Collector	Good	50	1
Lakeview	N-S	Clough	New York	<del>Local</del> <u>Collector</u>	<del>Good</del> <u>Poor</u>	50	1
Lemon	W-E	Chestnut	Dead End	Local		20	2
Lemon	W-E	Orange	Chestnut	Local	Good	40	1
LH-Osteen	N-S	Kicklighter	S.City Lim	<del>Local</del> <u>Arterial</u>	Good	100	1
Macy	N-S	S.City Lim	Ohio	Collector	Good	50	1
Macy	N-S	<del>Ohio</del> <u>Dead End</u>	<del>WA</del> <u>Washington</u>	Local	Good	40	1
Main	W-E	Lakeview	Dead End	Local	<u>Dirt Road</u>	50	4
Main	W-E	Lakeview	W. City Lim	Local	Good	50	1
<del>Maple</del>	<del>N-S</del>	<del>Ash</del>	<del>Willow</del>	<del>Local</del>	Good	<del>40</del>	<del>3</del>
<del>ML</del> <u>Massachusetts</u>	N-S	Root	Kicklighter	Local	<u>Dirt Road</u>	40	4
McKenzie	N-S	N. City Lim	Clough	Local	<del>Good</del> <u>Poor</u>	50	1
Michigan	N-S	Euclid	Lakeview	Local	<del>Good</del> <u>Poor</u>	40	1
Michigan	W-E	Summit	High	Local	<u>Good</u>	40	2
Michigan	W-E	High	Euclid	Local	<u>Good</u>	40	4
Michigan	W-E	Lakeview	Orange	Local	<del>Good</del> <u>Poor</u>	40	1
New York	W-E	Summit	Lakeview	Collector	Good	40	1
New York	W-E	Dead End	Goodwin	Local	<u>Poor</u>	40	2
New York	W-E	Goodwin	Summit	Local	<del>Good</del> <u>Poor</u>	40	1
Nora	W-E	Dead End	Summit	Local	<u>Dirt Road</u>	40	4
<del>Oak Lane</del>	<del>N-S</del>	<del>Orange</del>	<del>Willow</del>	<del>Local</del>	Good	<del>40</del>	<del>3</del>
<del>Oak St</del>	<del>W-E</del>	<del>Orange</del>	<del>Dead End</del>	<del>Local</del>		<del>40</del>	<del>4</del>
Oakland	W-E	Summit	Volusia	Local	<u>Dirt Road</u>	40	4
Ohio	W-E	Macy	Lakeview	Collector	Good	40	1

Ohio	W-E	Lakeview	Prevatt	<del>Local</del> <u>Collector</u>	<del>Good</del> <u>Poor</u>	40	1
Ohio	W-E	Prevatt	E. City Lim	Local	Good	40	1
Ohio	W-E	W. City Lim	Macy	Local	Good	30	1
Orange	N-S	Tangerine	Barbe	Local	Poor	40	1
Orange	N-S	Tangerine	Lemon	Local	Good	40	1
Orange	N-S	Michigan	Lemon	Local	Good	40	1
<del>Orange</del>	<del>N-S</del>	<del>PA</del>	<del>Ohio</del>	<del>Local</del>	-	<del>40</del>	<del>2</del>
Palm	W-E	Summit	Volusia	Local	<del>Poor</del> <u>Good</u>	40	1
Park	W-E	Lakeview	Pleasant	Local	Good	40	1
Park	W-E	High	Euclid	Local	<del>Poor</del> <u>Good</u>	40	1
<del>PA</del> Pennsylvania	W-E	Summit	Euclid	Local	<u>Good</u>	40	4
<del>PA</del> Pennsylvania	W-E	Euclid	Lakeview	Local	Poor	40	1
<del>PA</del> Pennsylvania	W-E	Lakeview	Pleasant	Local	Good <u>(one way)</u>	40	1
<del>PA</del> Pennsylvania	W-E	Prevatt	Highland	Local	<u>Dirt Road</u>	40	2
<del>PA</del> Pennsylvania	W-E	Church	Summit	Local	<u>Good</u>	40	2
Pleasant	N-S	Ohio	Kicklighter	Local	Good	40	1
Pleasant	N-S	Michigan	Ohio	Local	<del>Good</del> <u>Poor</u>	40	1
Prevatt	N-S	Lake Pearl	Kicklighter	<del>Local</del> <u>Arterial</u>		40	1
Prospect	N-S	Lake Pearl	Ward	Local	<u>Dirt Road</u>	50	4
Prospect	N-S	Dead End	Barbe	Local	<u>Dirt Road</u>	30	4
Prospect	N-S	Dead End	Ward	Local	<u>Dirt Road</u>	50	2
Root	W-E	Dead End	Macy	Local	<u>Dirt Road</u>	40	4
Rose	W-E	Orange	Dead End	Local	<u>Dirt Road</u>	40	4
Sherry	N-S	Dead End	Clough	Local	<del>Good</del> <u>Poor</u>	50	1
<u>W. Sidney</u>	<u>W-E</u>	<u>Carmen</u>	<u>Summit</u>	<u>Local</u>	<u>Poor</u>	<u>50</u>	<u>1</u>
Summit	N-S	New York	Main	Collector	Good	50	1
Summit	N-S	Main	<del>PA</del> Pennsylvania	Local	<u>Good</u>	50	4

Summit	N-S	N. City Lim	New York	Collector	Good	50	1
<del>Sycamore</del>	<del>N-S</del>	<del>Ash</del>	<del>Willow</del>	<del>Local</del>	<del>Good</del>	<del>40</del>	<del>3</del>
Tangerine	W-E	Orange	Prevatt	Local	<del>Dirt Road</del>	40	4
Tangerine	W-E	Barbe	Orange	Local	<del>Good</del> <del>Poor</del>	40	1
<del>Turrell</del>	<del>N-S</del>	<del>Craig</del>	<del>New York</del>	<del>Local</del>	-	<del>40</del>	<del>2</del>
Vermont	W-E	MA	Vista	Local	<del>Dirt Road</del>	50	4
Virginia	W-E	Carmen	Summit	Local	Poor	50	1
Vista	N-S	Root	Kicklighter	Local	Poor	50	1
Volusia	N-S	Main	Palm	Local	Poor	40	1
Volusia	N-S	Garden	PA	Local	<u>Good</u>	50	2
Volusia	N-S	John	Palm	Local	<u>Good</u>	50	4
<del>W. Sidney</del>	<del>W-E</del>	<del>Carmen</del>	<del>Summit</del>	<del>Local</del>	<del>Poor</del>	<del>50</del>	<del>1</del>
Ward	W-E	Prospect	<del>Orange-Dead End</del>	Local	<del>Dirt Road</del>	50	4
Washington	W-E	High	Pleasant	Local	<del>Good</del> <del>Poor</del>	40	1
Washington	W-E	Pleasant	Orange	Local	<del>Dirt Road</del>	40	4
Washington	W-E	Church	Goodwin	Local	Good	40	1
Water	W-E	Macy	Euclid	Local	Good	40	1
Water	W-E	Lakeview	Euclid	Local	<del>Good</del> <del>Poor</del>	30	1
Westlake	W-E	Summit	High	Local	<del>Poor</del> <del>Good</del>	50	1
Westlake	W-E	High	Dead End	Local	<del>Dirt Road</del>	50	2
<del>Willow</del>	<del>W-E</del>	<del>Chestnut</del>	<del>Hickory</del>	<del>Local</del>	<del>Good</del>	<del>40</del>	<del>3</del>
Unnamed St	N-S	Enchanted	Barbe	Local	<del>Dirt Road</del>	40	4

343  
344 NOTE: Cat = Category. Cat 1 = Opened, paved. Cat 2 = Opened, unpaved.  
345 Cat 3 = Private. Cat 4 = Unopened, dedicated.

346  
347 Source: City of Lake Helen, and LPG Urban & Regional Planners, Inc. (2015)

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353 Rights-of-Way

354 The acquisition and preservation of Rights-of-Way (ROW's) for future road improvements is  
355 important in planning the future traffic circulation system for the City of Lake Helen.

356

357

358 Protect and Preserve Rights-of-Way

359 By taking measures to protect and preserve rights-of-way, the City of Lake Helen can assist  
360 Volusia County and the FDOT in protecting road corridors for future road improvements.  
361 The City can utilize techniques such as setback requirements, zoning restrictions, right-of-  
362 way protection regulations and official highway maps to preserve and protect existing and  
363 future rights-of-way.

364

365 In many cases, transportation improvement programs, such as access management, traffic

366 signal optimization, on-street parking restrictions, and the addition of turn lanes, would be  
367 sufficient to relieve congestion without a large capital outlay. Through the use of an access  
368 management program, the City can create a safe and efficient on-site traffic flow which will  
369 lessen the traffic congestion on major roadways.  
370

371

#### 372 D. Traffic Circulation

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374 Traffic circulation throughout the City of Lake Helen represents reasonably unimpeded traffic  
375 flow operations at average vehicle speed. The ability to maneuver within the traffic stream is  
376 only slightly restricted and stopped delays are minor.

377

378 The widths of the city rights-of-way vary from twenty (20) feet to fifty (50) feet and about two  
379 hundred sixty (260) acres, or sixteen percent (16%), of the total land in Lake Helen consists of  
380 streets and street rights-of-way.

381

382

383 The designed capacity of the traffic circulation system reflects the time frame in which the  
384 streets and roads were constructed. All of the streets designated as "collector" have a 50-foot  
385 right-of-way except for New York Avenue which has a 40 feet right-of-way. Paving for these  
386 collector streets is 20 feet in width. All collector streets are two-lane, undivided with one lane  
387 in each direction. Carrying capacity should be adequate to support a level of service standard  
388 "D" or a daily maximum volume of 9,500 vehicles per day and a peak hour maximum volume of  
389 970 vehicles per day.

390

391 Local streets and roads are a diverse mixture of designed capacities. Most of these are  
392 constructed on a 40 feet right-of-way and have a paved surface of at least 16 feet in width.  
393 However, there are several streets that are constructed on a 30 feet right-of-way. These  
394 streets are generally located in areas of very low traffic and do not pose a problem. All local  
395 streets and roads are two-lane undivided with one lane in each direction except for one-block  
396 of Pennsylvania Avenue which is one-way in the vicinity of City Hall.

397 Those streets and roads which are dedicated but unopened have a minimum right-of-way of 40  
398 feet. Subdivision regulations require the dedication of a 50-foot wide right-of-way.

399

400 The carrying capacity of local streets and roads vary significantly. Table 3-2 classifies all streets  
401 and roads as to their condition. Those traffic ways indicated as "Good" have a design capacity  
402 and a paving surface which will accommodate a level of service standard "C" or a daily  
403 maximum volume of 13,640 vehicles per day and a peak hour maximum volume of ranging  
404 from 470 to 1,540 vehicles per hour, depending upon the classification of the roadway. Those  
405 streets and roads which are indicated at Table 3-1 as having a "poor" condition can be expected  
406 to accommodate a level of service standard somewhat less.

407

408 There is a need to upgrade some streets and roads to a minimum right-of-way width of 40 feet  
409 and a paved surface of at least 18 feet.

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#### 417 **III-4. ANALYSIS OF DEFICIENCIES**

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420 The existing streets and roads within the City of Lake Helen meet the present and projected  
421 need for traffic circulation. Given that the projected population is expected to decline over the  
422 short range (2021) and long range planning period (2035) it would appear that with minor  
423 exception these same streets and roads would be adequate to meet the needs throughout the  
424 planning period. The minor exception is the existing adopted LOS for Main Street. The roadway  
425 is operating at an LOS D; however, this roadway is under the jurisdiction of Volusia County and  
426 the City could adopt LOS D for this roadway consistent with other Volusia County roadways  
427 designated as urban collector roadways. In addition, the City is considering the adoption of a  
428 new land use category, Gateway Employment Center which could bring jobs and retail shopping  
429 in a pedestrian friendly environment which would allow for bikes and golf carts and thus reduce  
430 the impact to this roadway.

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#### 435 **III-5. ANALYSIS OF PROJECTED NEEDS**

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437 It is assumed that traffic growth on arterial and collector roads will reflect the growth of the  
438 City of Lake Helen. The City's resident population is projected to decrease in the short term  
439 (2021) and long term planning period (2035); therefore an analysis of projected needs was not  
440 analyzed. The City should consider implementing strategies for creating a live work  
441 environment by encouraging mixed use developments and creating a commercial employment  
442 district with emphasis on pedestrian and bike paths.

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444 Review of the River to Sea TPO 2040 Long Range Transportation Plan indicates that no roadway  
445 improvements are planned within the City of Lake Helen.

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448 Table 3-3 depicts those streets and roads within the City of Lake Helen which are included in  
449 the Five-Year Schedule of Improvements. Given that this schedule is reviewed annually the  
450 effect that these improvements have upon the traffic circulation within the city can be  
451 evaluated and corrective action taken where a need is so indicated. Where there is a

452 demonstrated need there must be a corresponding change in the Five-Year Schedule of  
453 Improvements to accommodate that need.

454 **TABLE 3-3: FIVE YEAR STREET PLAN**  
455 **PRIORITIES AND COST ESTIMATES FY 2017 - 2025**

456

457

458

Year	Street	From	To	Work to be done	Construction cost estimates
2017	E. Ohio Ave.	Pleasant	Prevatt Av.	Overlay	\$47,053
2017	Lakeview Dr.	New York	Pearl	Overlay	\$27,297
2018	Delaware	Lakeview	Euclid Av.	Overlay	\$16,309
2018	McKenzie	Lake Pearl	County Line	Overlay	\$74,120
2019	Park St.	Lakeview	Euclid	Overlay	\$17,125
2019	Pleasant	Ohio	Michigan	Overlay	\$50,581
2025	Summit	New York	Main	Replace sidewalks	\$46,350

459 Source: City of Lake Helen Five Year Improvement Plan

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466 **III-6. ISSUES AND OPPORTUNITIES**

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468 The construction of roadway improvements is, by far, a city’s largest fiscal challenge. As  
469 indicated in the “Analysis Of Existing Deficiencies” section of this element, the city (in  
470 coordination with the county) should consider a level of service adjustment and monitor for  
471 future deficiencies for Main Street. The City should consider implementing strategies for  
472 creating a live work environment by encouraging mixed use developments and creating a  
473 commercial employment district with emphasis on pedestrian and bike paths with golf cart  
474 access.

475

476

477 National, state, and local transportation programs have long been supported by taxing the user.  
478 These “user taxes” have traditionally included fuel taxes, motor vehicle license fees, and  
479 revenue bonds secured either by tolls or a pledge of county motor fuel tax collections, as well  
480 as non-user taxes such as general obligation bonds. Some of these revenue sources, such as  
481 motor fuel tax and revenue bonds, are available to both the city and the state. Other revenue

482 sources, such as the motor vehicle license fees, are imposed only at the state level.

483  
484 Intergovernmental coordination is essential for the most cost-efficient provision of traffic  
485 circulation system improvements. Clearly, the City of Lake Helen does not possess the  
486 resources for addressing all of the traffic circulation system needs identified in this element. For  
487 example, both Volusia County and Florida Department of Transportation (F.D.O.T.) have  
488 financial responsibility for county roads and state highway system roads, respectively, which  
489 are located within the City of Lake Helen. Therefore, it is necessary for the city to review the  
490 transportation improvement plans with programs prepared by the county and F.D.O.T. In this  
491 way, the effort and dollars expended by the city to improve its traffic circulation system may be  
492 complemented and perhaps enhanced by the activities of the county and the F.D.O.T.

493  
494 Commercial Development along Arterial and Collector Roads

495  
496 There are currently no commercial businesses located along the principal arterials (Lake-Helen  
497 Osteen Road/Prevatt Avenue). There is limited commercial development along major  
498 collectors (Main Street and Ohio Avenue); however, no retail sales are currently permitted  
499 along Main Street. The downtown area offering commercial retail sales is located on a minor  
500 collector. Although much of the land along Prevatt Avenue and West Main Street is still  
501 underdeveloped, future development along these major roadways should be considered.  
502 However, access points should be carefully planned so as to preserve the integrity of the major  
503 thorough-fares.

504 Although the City is not within a multi-modal transportation district as defined by the Florida  
505 Statutes the proposed 2035 Future Multi-Modal Transportation System Map (Map 3-3)  
506 indicates several streets within the City where multi-modal streets are planned to provide for  
507 vehicular, pedestrian, bike, golf cart, and equestrian access. The City's land development  
508 regulations include provisions within the development review process that require applicant's  
509 to provide for the needs of bicycle and pedestrian facilities. Additional financing for bicycle and  
510 pedestrian ways can be obtained through assistance provided by Volusia County. Impact fees  
511 can also be used to subsidize the cost of providing these facilities. The City will need to  
512 coordinate with Volusia County for providing the facilities located on County maintained  
513 roadways.

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