Thoroughfare Plan Update

CARPENTER MARTY transportation

Gahanna

What is the Thoroughfare Plan?

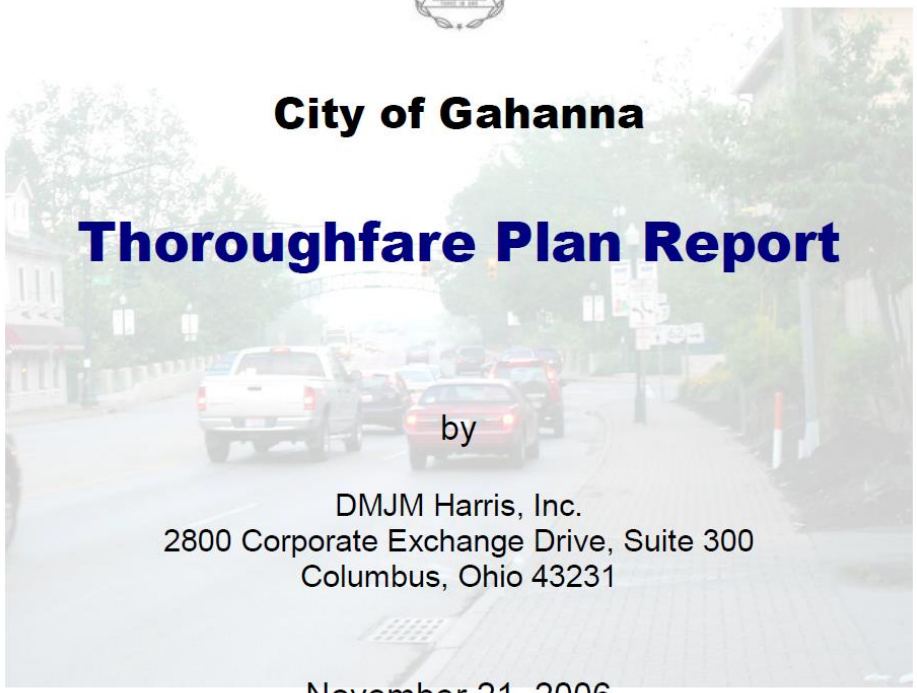
A living document to assist the City with prioritizing roadway improvements, land development, and other strategic planning.

Provides a comprehensive evaluation of Gahanna's roadway system under present day and estimated future conditions.

CARPENTER MARTY transportation

Gahanna

2006 Plan



Codified Ordinance 145.02(b) - The Thoroughfare Plan shall be formally evaluated every ten years and a general review shall be performed every five years.

CARPENTER MARTY transportation

Gahanna

2019 Update

- Safety Evaluation
- Land-Use/Development Review
- Access Management
- Existing Conditions -2017
- Design Year Conditions -2040
- Functional Classification
- Policy Review

CARPENTER MARTY transportation

Gahanna

Safety Evaluation

- Utilized High Crash Lists from ODOT and MORPC
- Reviewed all crash data from 2015-2018

HIGH-CRASH INTERSECTIONS
BY JURISDICTION
(2015-2017)

morpc

JURISDICTION	RANK	LOCATION	TOTAL CRASHES (FREQ.)	CRASH SEVERITY					SEVERITY (EPDO)	ANNUAL CRASHES			TOP 100
				Fatal Injury	Serious Injury	Minor Injury	Possible Injury	PDO		2015	2016	2017	
GAHANNA	1	Mill St / US 62 @ Stygler Rd	68	0	0	4	7	57	1.68	21	31	16	-
	2	S Hamilton Rd / SR 317 @ Rocky Fork Blvd	57	0	0	4	9	44	1.93	16	16	25	-
	3	US 62 @ Olde Ridenour Rd	45	0	0	4	10	31	2.26	13	22	10	-
	4	N Hamilton Rd @ Stoneridge Ln	44	0	0	3	6	35	1.85	12	13	19	-
	5	N Hamilton Rd @ Clark State Rd	40	0	0	0	3	37	1.26	4	10	26	-

CARPENTER MARTY transportation

Gahanna

Safety Evaluation

High Crash Roadway Segments:

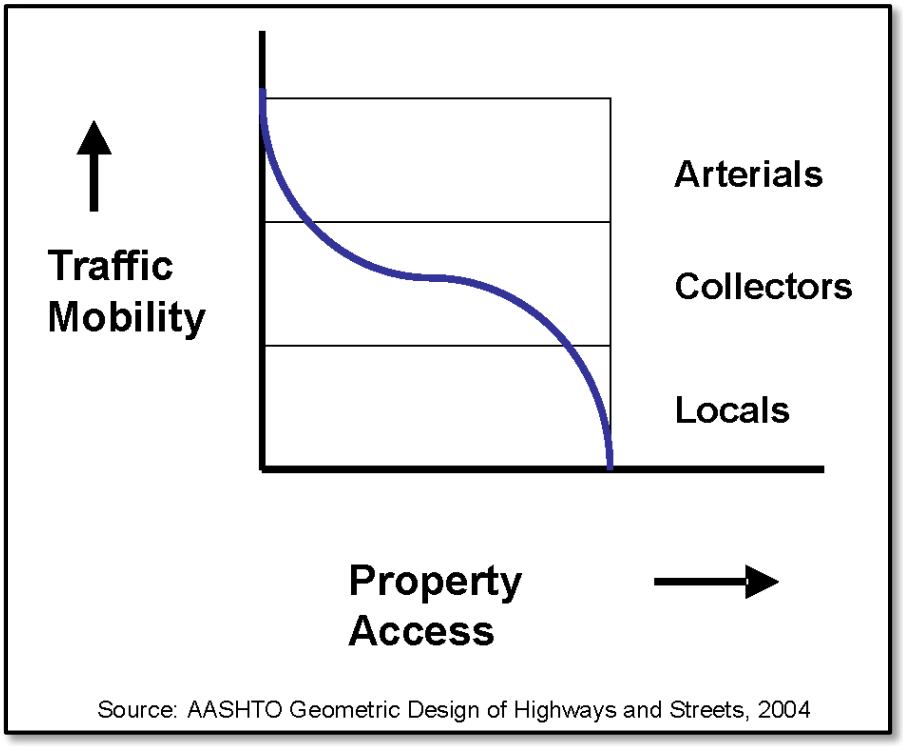
- US-62 from Stygler Rd. to Mill St.
- S. Hamilton Rd. from IR-270 to Granville St.
- Granville St. from Mill St. to Hamilton Rd.
- N. Hamilton Rd. from Granville St. to Johnstown Rd.
- N. Hamilton Rd. from E. Johnstown Rd. to Morse Rd.
- S. Stygler Rd. from W. Johnstown Rd. to Agler Rd.

CARPENTER MARTY transportation

Gahanna

Access Management

Access management is an effective way to increase capacity, manage congestion, and reduce crashes.



Source: AASHTO Geometric Design of Highways and Streets, 2004

CARPENTER MARTY transportation

Gahanna

Access Management

Corridor Recommendations

- Median installation
- Two-way left turn lanes
- Service roads
- Limit new access on busy roads

Intersection Recommendations

- Minimize conflicts between left turns
- Install left or right turn lanes as warranted
- Preserve intersection functional area
- Install medians to restrict left turns onto arterial roadways
- Encourage cross access agreements

CARPENTER MARTY transportation

Gahanna

Functional Classifications of Roadways

- **Interstate/Freeways** have full access control and limited points of entry at interchanges.
- **Principal Arterials** serve higher traffic volumes and longer trips. These roads connect to regional roadway networks. Major arterials minimize access to promote a higher level of mobility. Major arterials will vary in width according to traffic volume and often have four or more lanes.
- **Minor Arterials** typically have more access and provide an interconnection between major arterials and collectors. Trip length will be shorter than major arterials. Minor arterials typically are not wider than four lanes.
- **Major Collectors** provide both mobility and access. These roads are an important link between the arterial system and local streets. Typically, collectors will have two through lanes.
- **Local Roads** will not be defined under this Thoroughfare Plan. These roads are designed to provide direct land access from higher level roadways and should not carry through traffic.

CARPENTER MARTY transportation

Gahanna

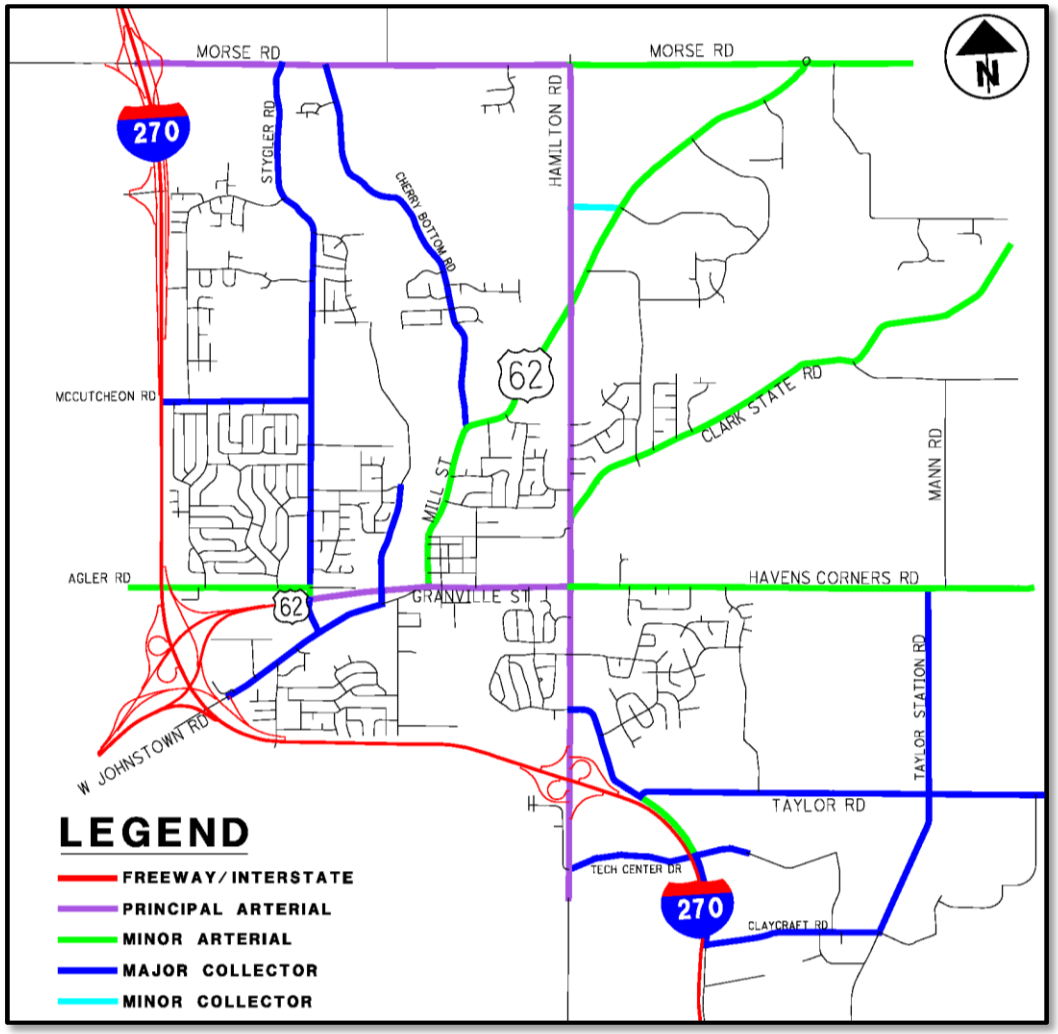
Classification Updates

Roadway Segment	From	To	Existing Classification	Proposed Classification
Olde Ridenour Rd	W Johnstown Rd	Granville St	Local	Major Collector
Olde Ridenour Rd	Granville St	Chappelfield Rd	Local	Major Collector
Morrison Rd	Claycroft Rd	Tech Center Dr	Local	Major Collector
Morrison Rd	Tech Center Dr	Taylor Rd	Major Collector	Minor Arterial
Claycroft Rd	Morrison Rd	Taylor Station Rd	Local	Major Collector
W Johnstown Rd	Stygler Rd	Olde Ridenour Rd	Local	Major Collector
Tech Center Dr	Morrison Rd	Science Rd	Local	Major Collector

CARPENTER MARTY transportation

Gahanna

Roadway Classifications



CARPENTER MARTY transportation

Gahanna

Existing Conditions & Analysis

- Intersection Level of Service

LOS	Signalized Intersection Delay (sec)	Unsignalized Intersection Delay (sec)
A	≤ 10	≤ 10
B	> 10 - 20	> 10 - 15
C	> 20 - 35	> 15 - 25
D	> 35 - 55	> 25 - 35
E	> 55 - 80	> 35 - 50
F	> 80 or V/C > 1.00	> 50 or V/C > 1.00

- For suburban intersections, overall intersection LOS of D and movement LOS of E or better is considered acceptable operation
- For stop-controlled intersections, a delay less than 100 seconds for the stop approach is considered acceptable

CARPENTER MARTY transportation

Gahanna

Existing Conditions & Analysis

- Roadway Segments Capacity

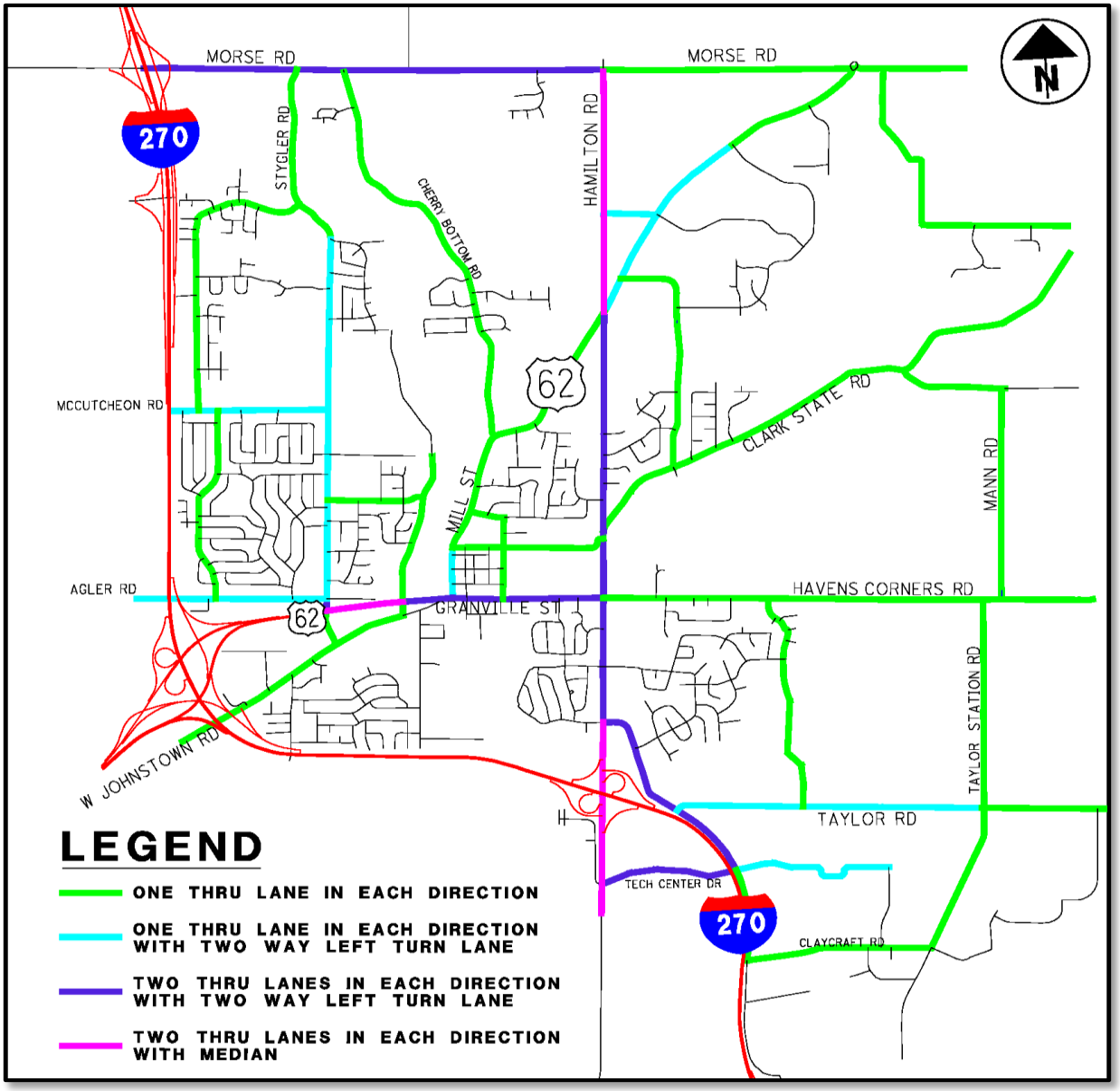
Roadway	Description	ADT Capacity
2-lane	One through lane in each direction, may include turn lanes	16,000
4-lane	Two through lanes in each direction, plus turn lanes	32,000
6-lane	Three through lanes in each direction, plus turn lanes	48,000 +

- V/C < 0.80 operates efficiently, there may be times where some congestion may be experienced
- 0.80 < V/C < 1.00 increased congestion experienced at several times throughout the day, high levels of congestion during AM and PM peak hours
- V/C > 1.00 failing levels of service experienced during peak hour and at other times of the day

CARPENTER MARTY transportation

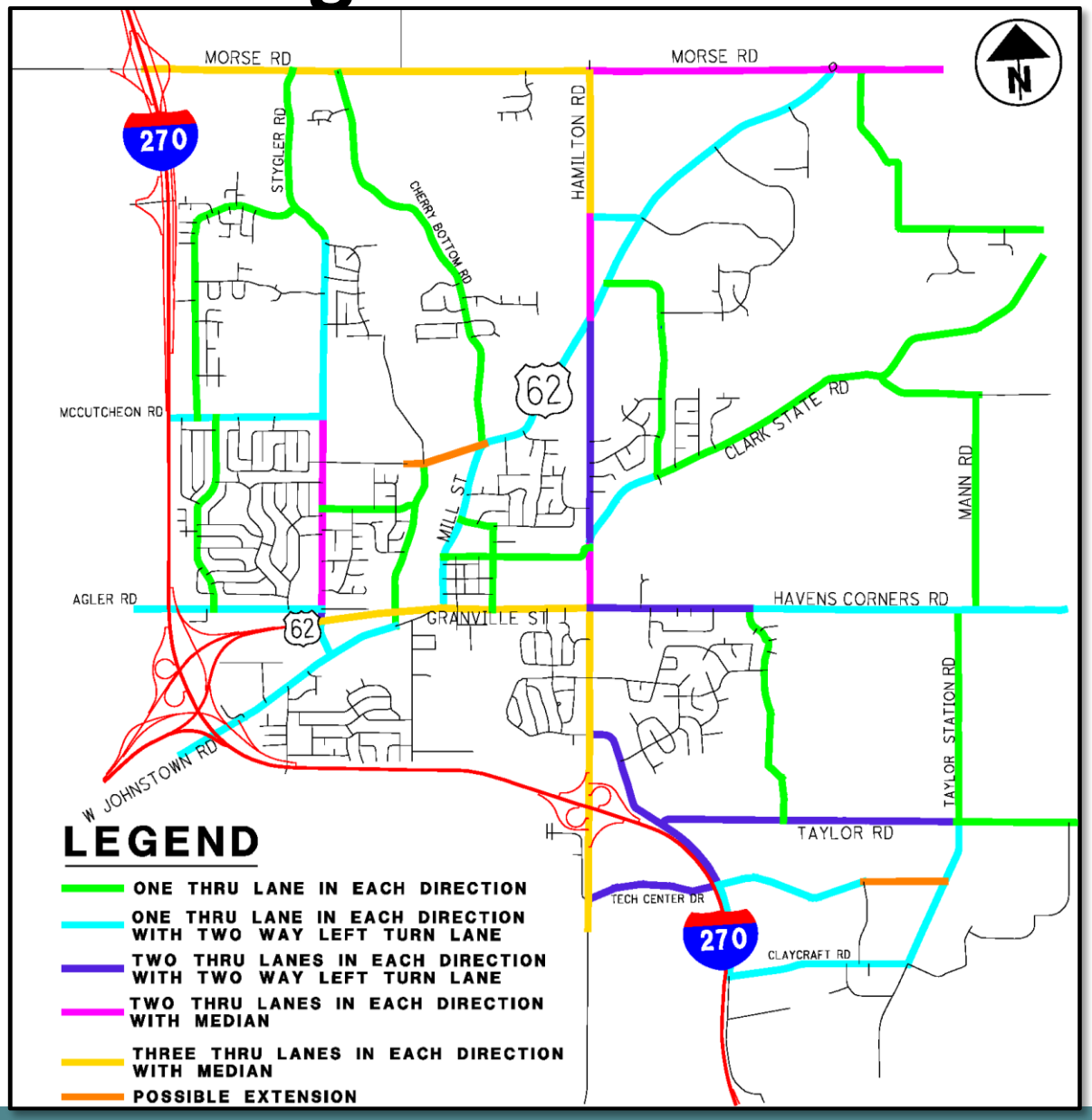
Gahanna

Existing Conditions Number of Lanes



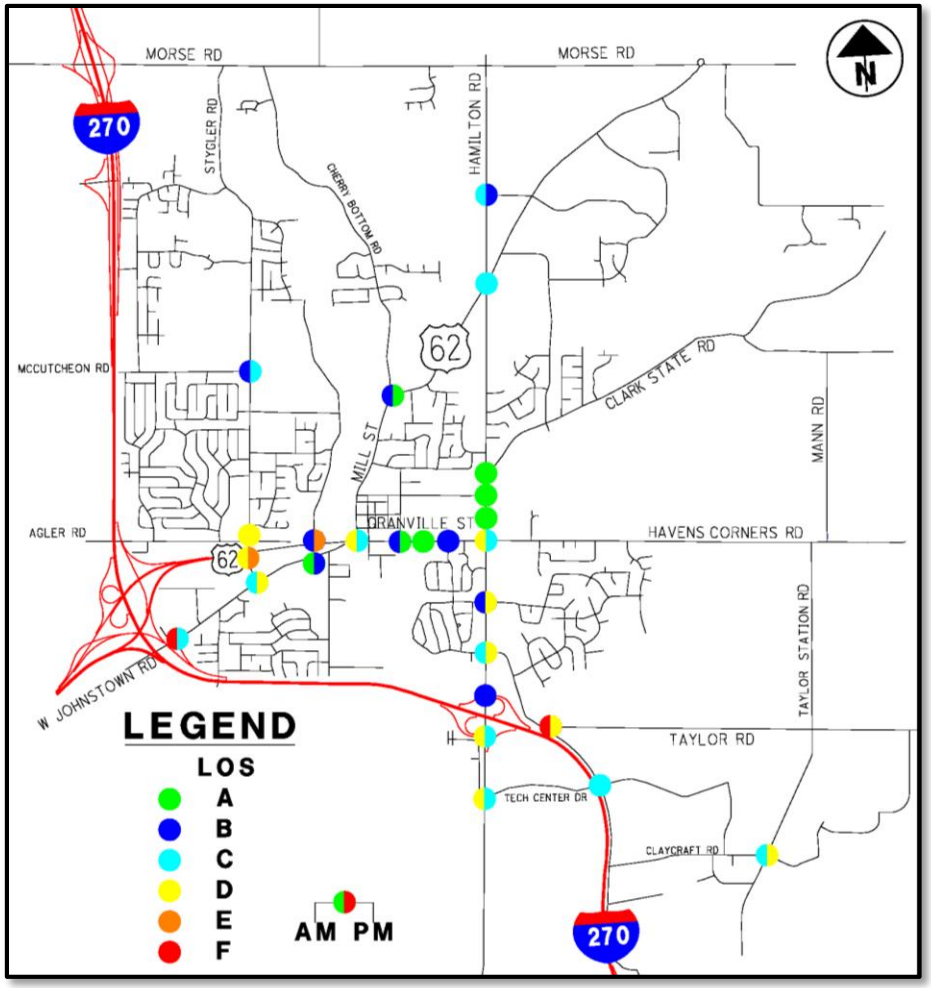
Gahanna

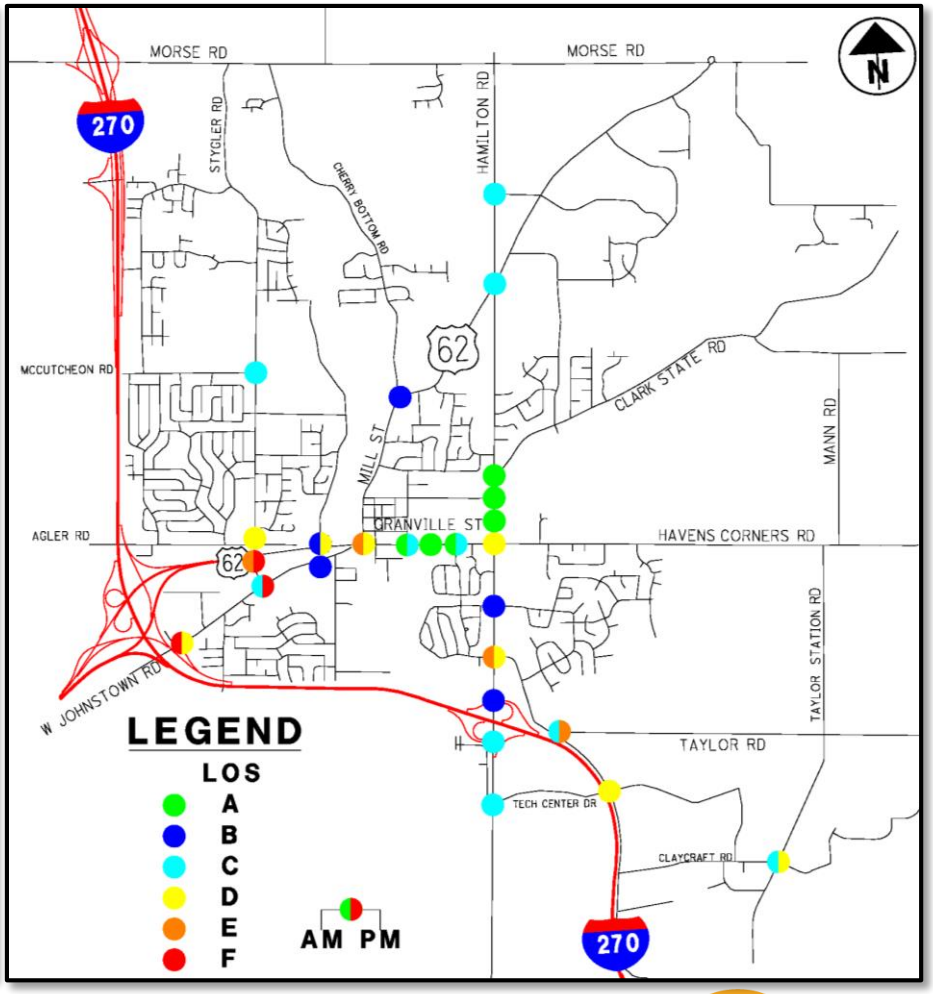
Design Year Number of Lanes



Gahanna

2017 vs 2040

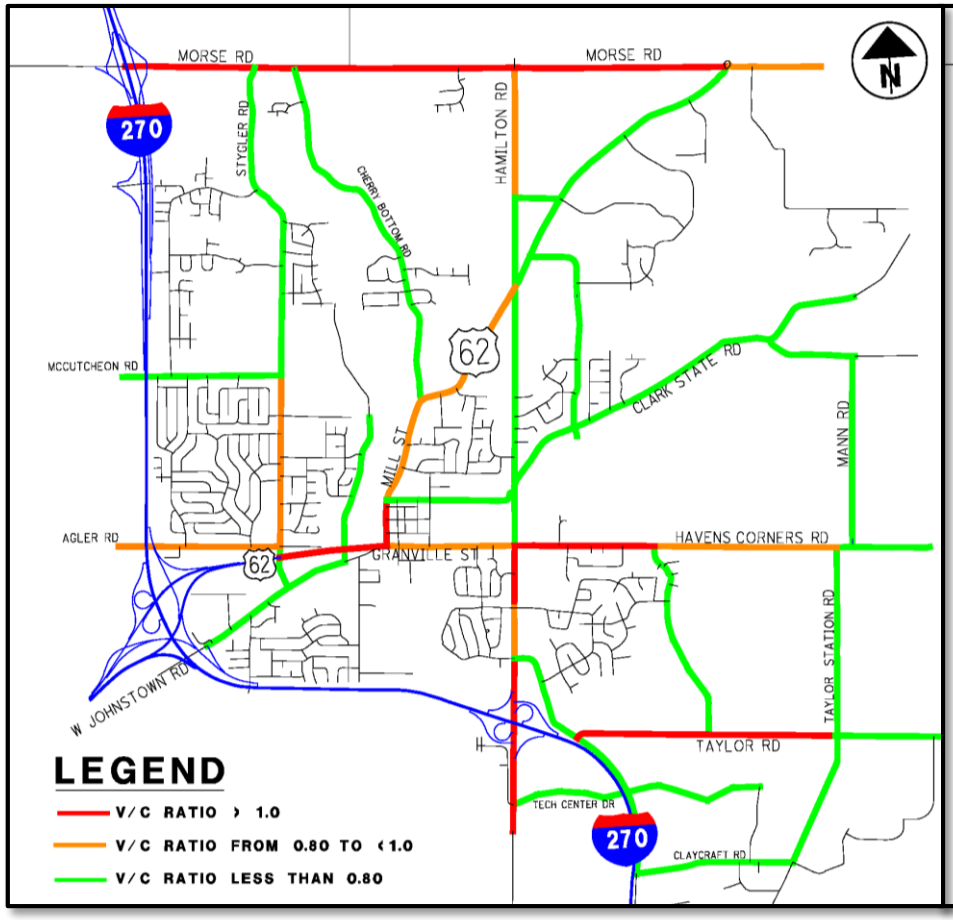


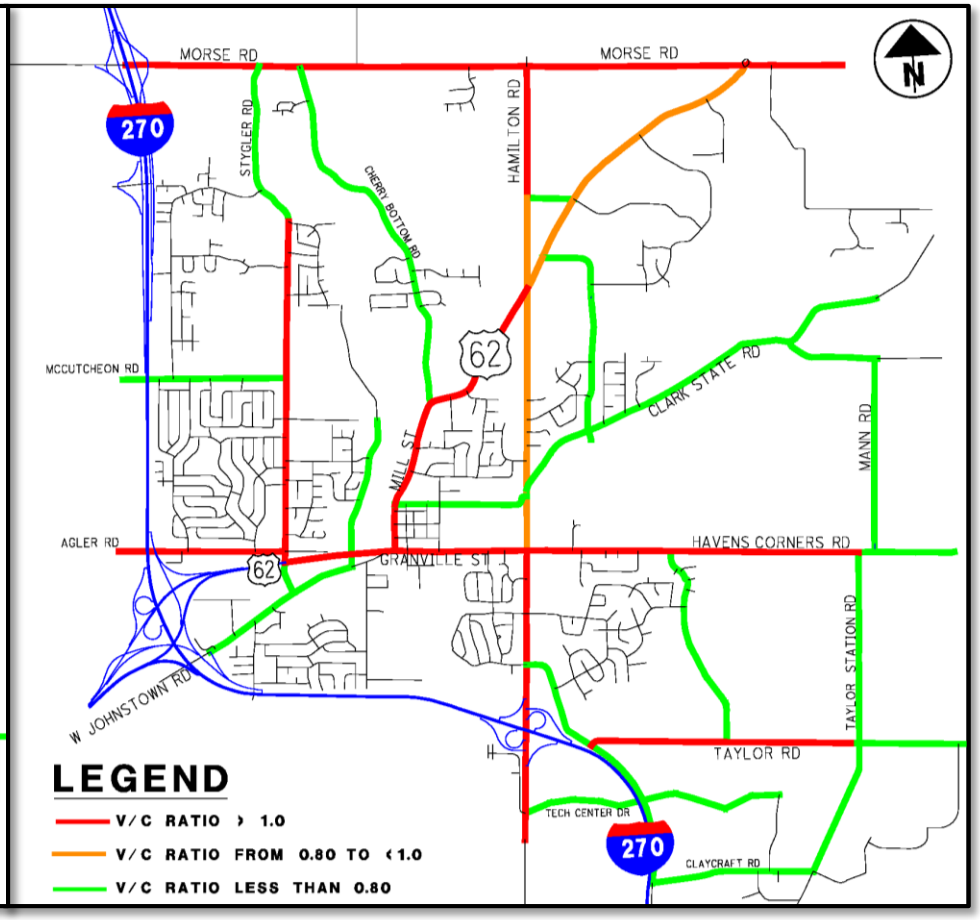


CARPENTER MARTY transportation

Gahanna

2017 vs 2040

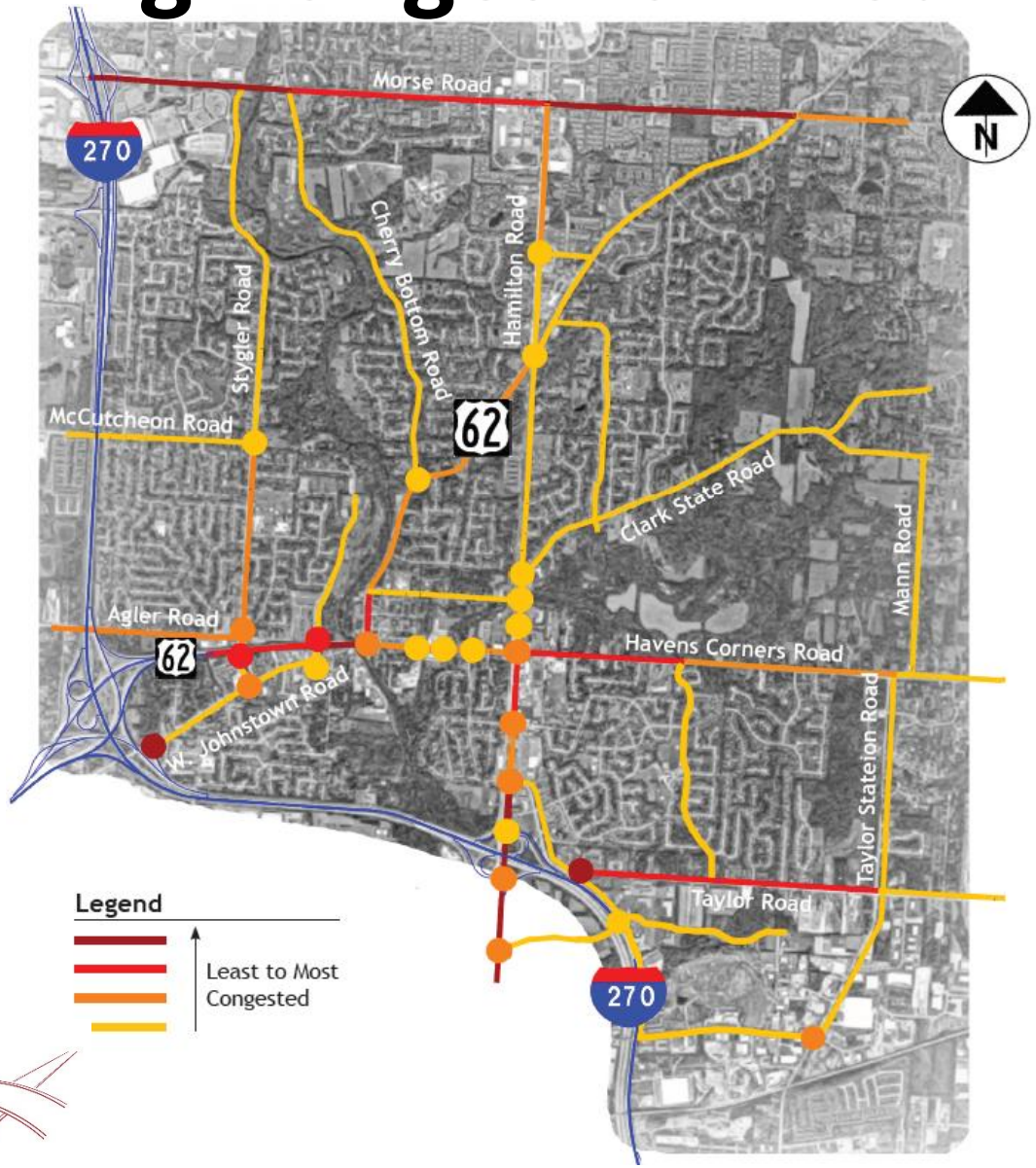




CARPENTER MARTY transportation

Gahanna

Existing Congestion Heat Map



CARPENTER MARTY transportation

Gahanna