

2019 THOROUGHFARE PLAN UPDATE

Goal

Provide a living document to assist the City with future roadway planning, land planning/ development, and other general planning activities.

- Refresh of the 2006 Thoroughfare Plan
- 145.02 of Gahanna City Code

PLANNING LEVEL

Introduction

CARPENTER MARTY *transportation*



Project Manager

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2006 Plan



City of Gahanna

Thoroughfare Plan Report

by

DMJM Harris, Inc.
2800 Corporate Exchange Drive, Suite 300
Columbus, Ohio 43231

November 21, 2006

2019 Update



Gahanna Thoroughfare Plan

Final Report
July 3, 2019



Safety Evaluation

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

HIGH-CRASH INTERSECTIONS
BY JURISDICTION
(2015-2017)



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	-



Safety Evaluation

High Crash Intersections:

- S. Hamilton Rd. & Morrison Rd.
- US-62 & Stygler Rd.
- S. Hamilton Rd. & Rocky Fork Blvd.
- US-62 & Olde Ridenour Rd.
- Hamilton Rd. & Granville St./
Havens Corners Rd.

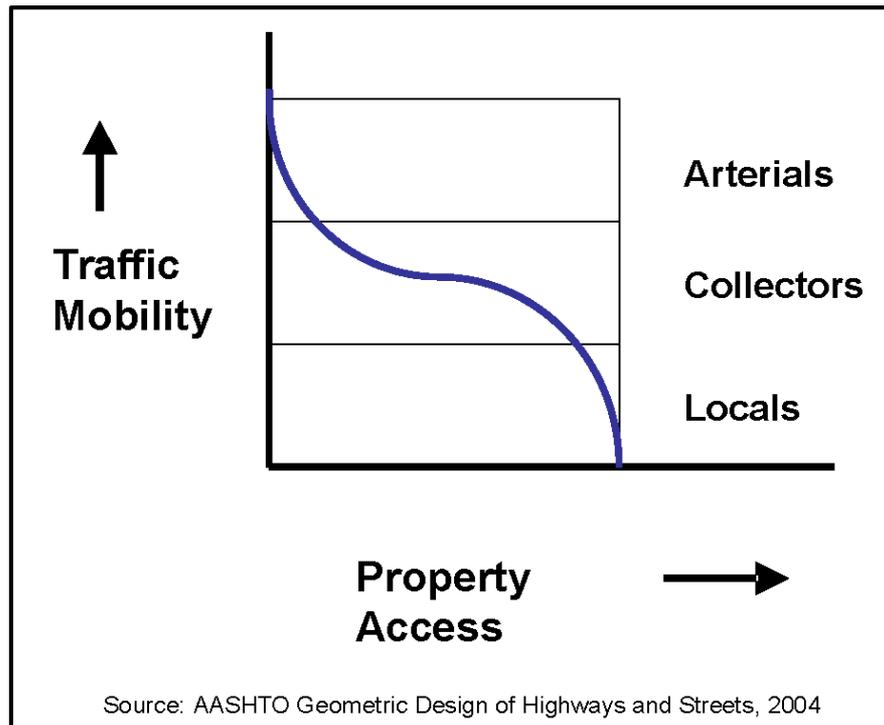
High Crash Roadway Segments:

- 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.



Access Management

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



Access Management

Corridor Recommendations

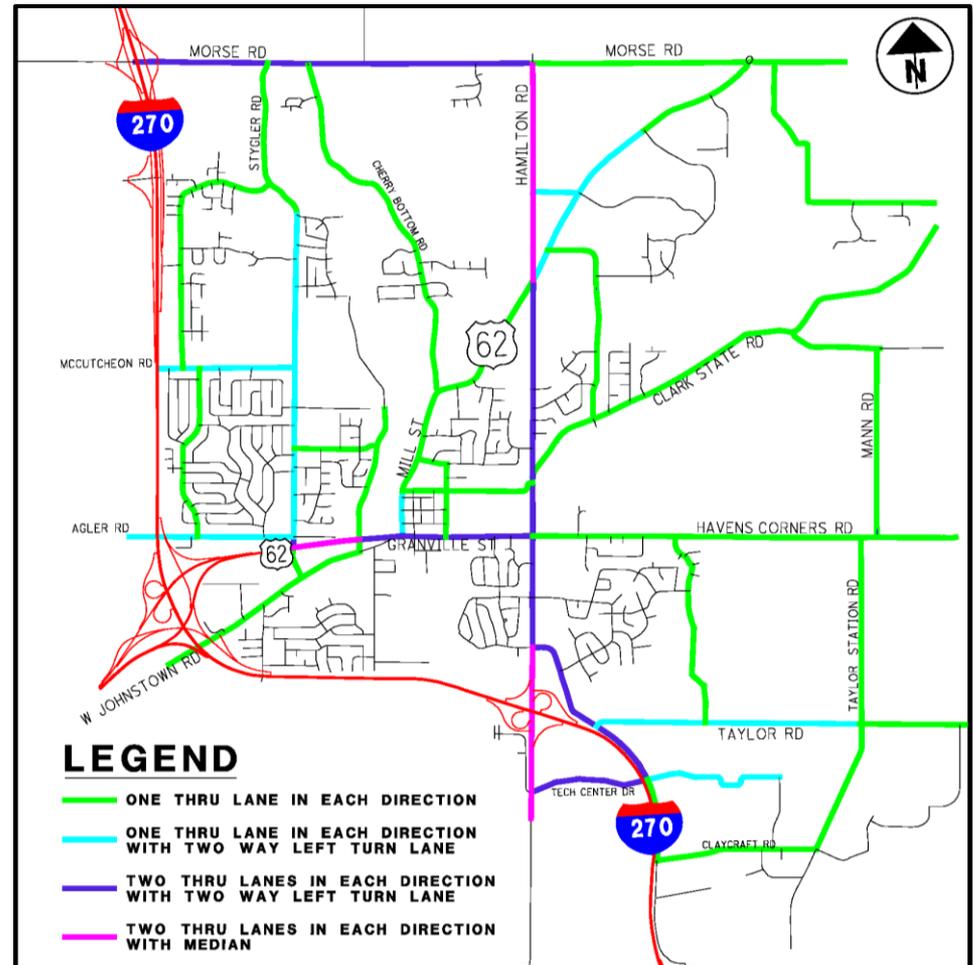
- Median installation on sections of Granville St. and Hamilton Rd.
- Two-way left turn lanes
- Backage roads on parts of Granville St. and Hamilton Rd.
- Limit new access on Granville St. and Hamilton Rd.

Intersection Recommendations

- Review drive and intersection placement to minimize conflicts between left turns
- Install left or right turn lanes as warranted based on ODOT and City criteria
- Maintain corner clearance of drives outside the intersection functional area
- Install medians to restrict left turns onto arterial roadways
- Encourage and facilitate cross access with development/redevelopment of properties with closely spaced drives
- Limit the number of full-access drives for new development

Existing Conditions & Analysis

Existing Roadway System
Number of Lanes



Existing Conditions & Analysis

- Current and near-term projects
 - Capital design projects
 - Construction projects
 - Private development construction projects
- Traffic data collection
- Traffic analysis at key intersections and segments

Existing Conditions & Analysis

- Level of Service Criteria for Intersections

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

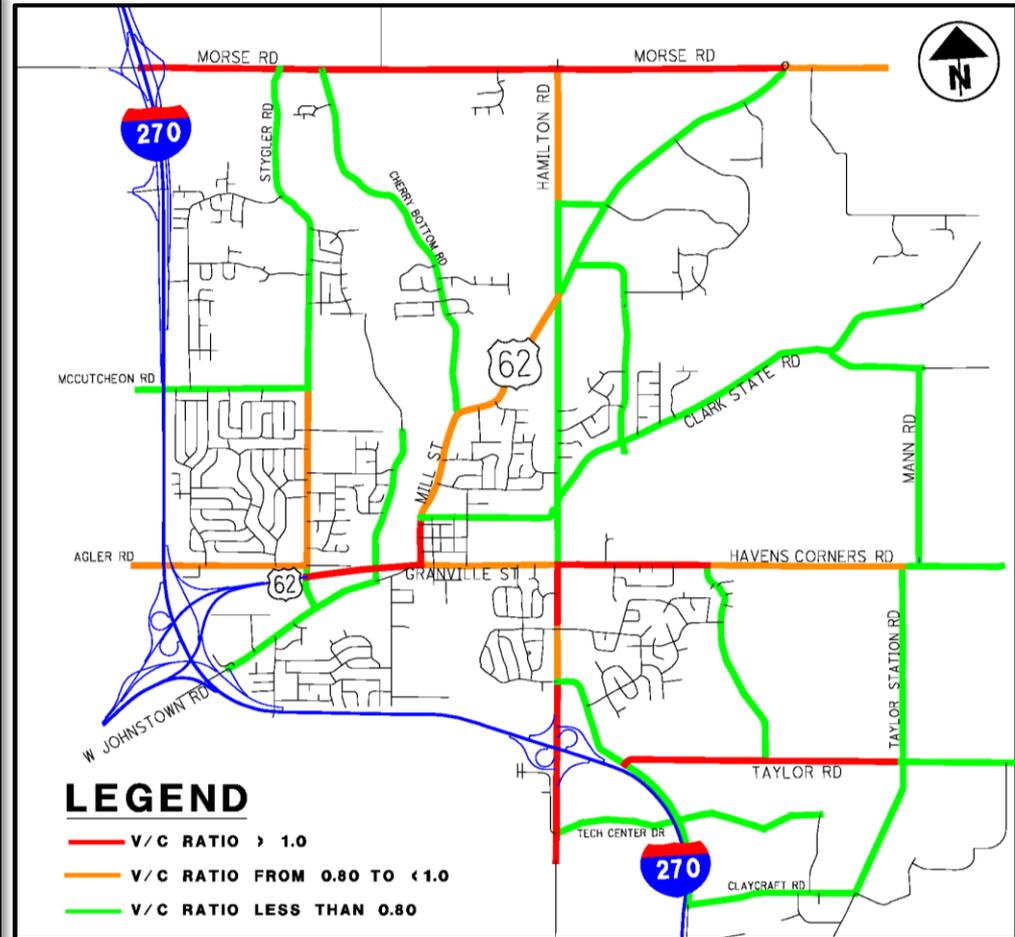
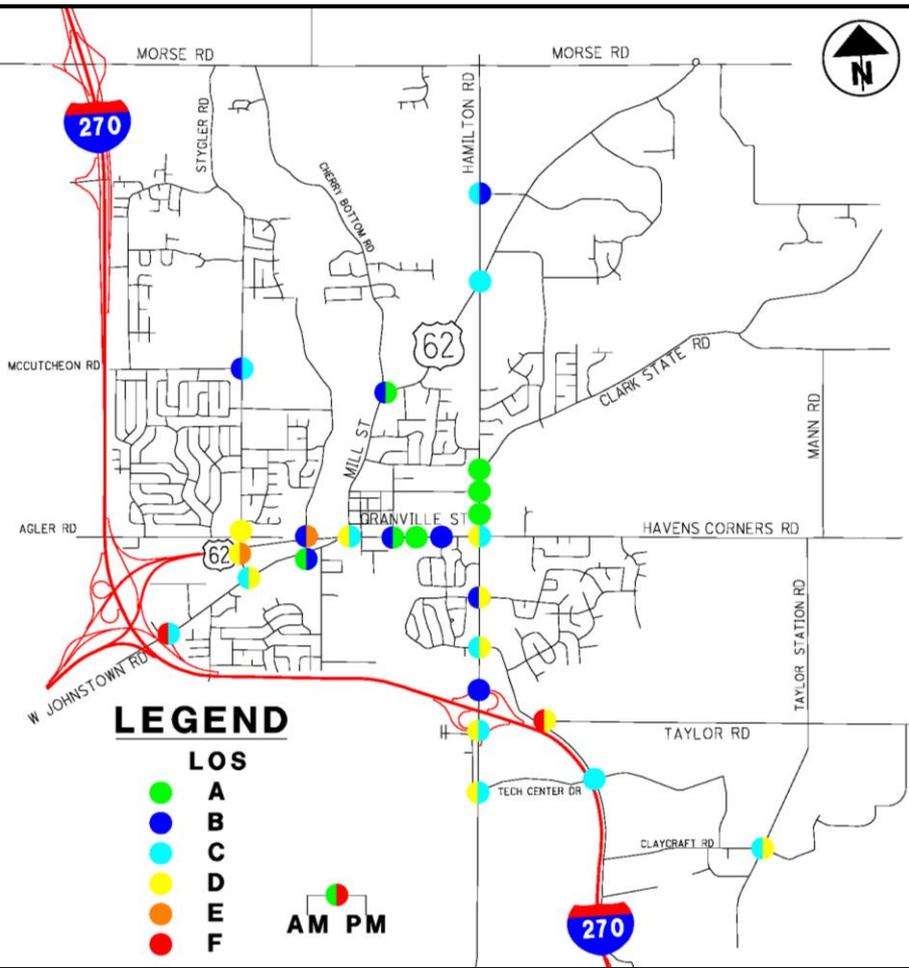
Existing Conditions & Analysis

- Level of Service Criteria for Roadway Segments

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

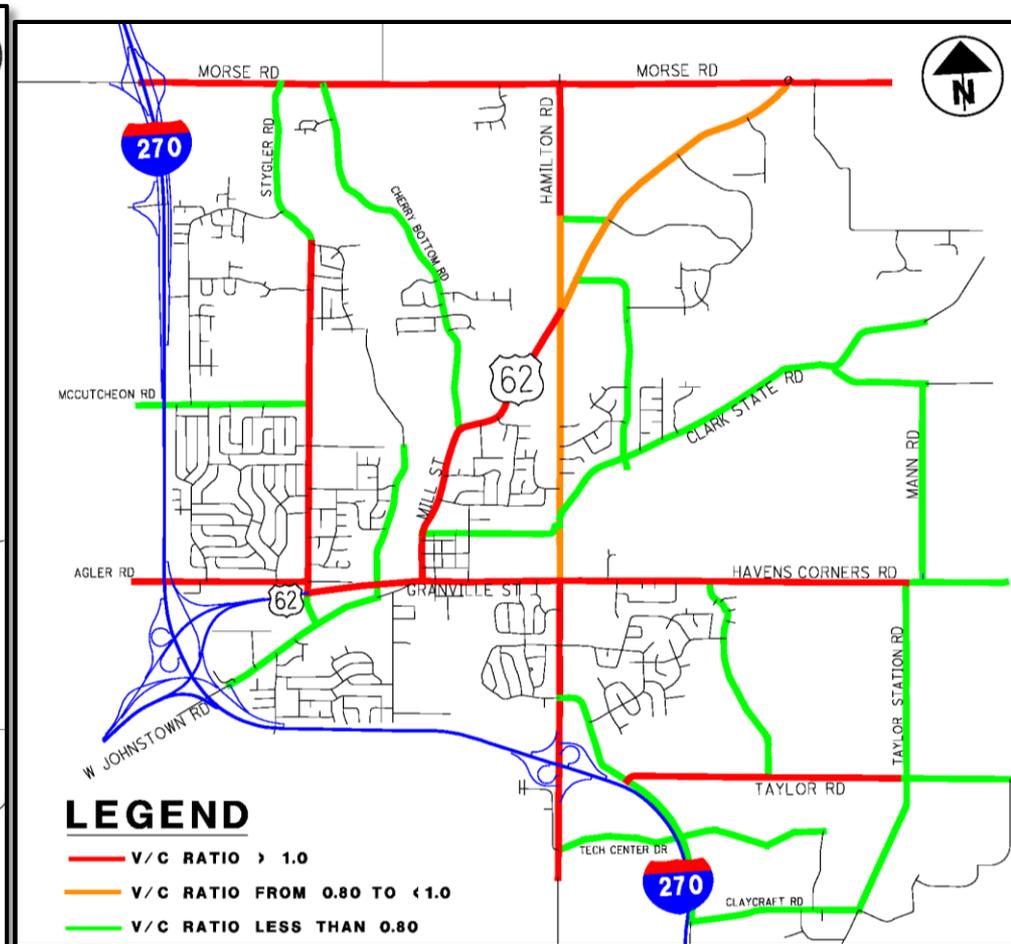
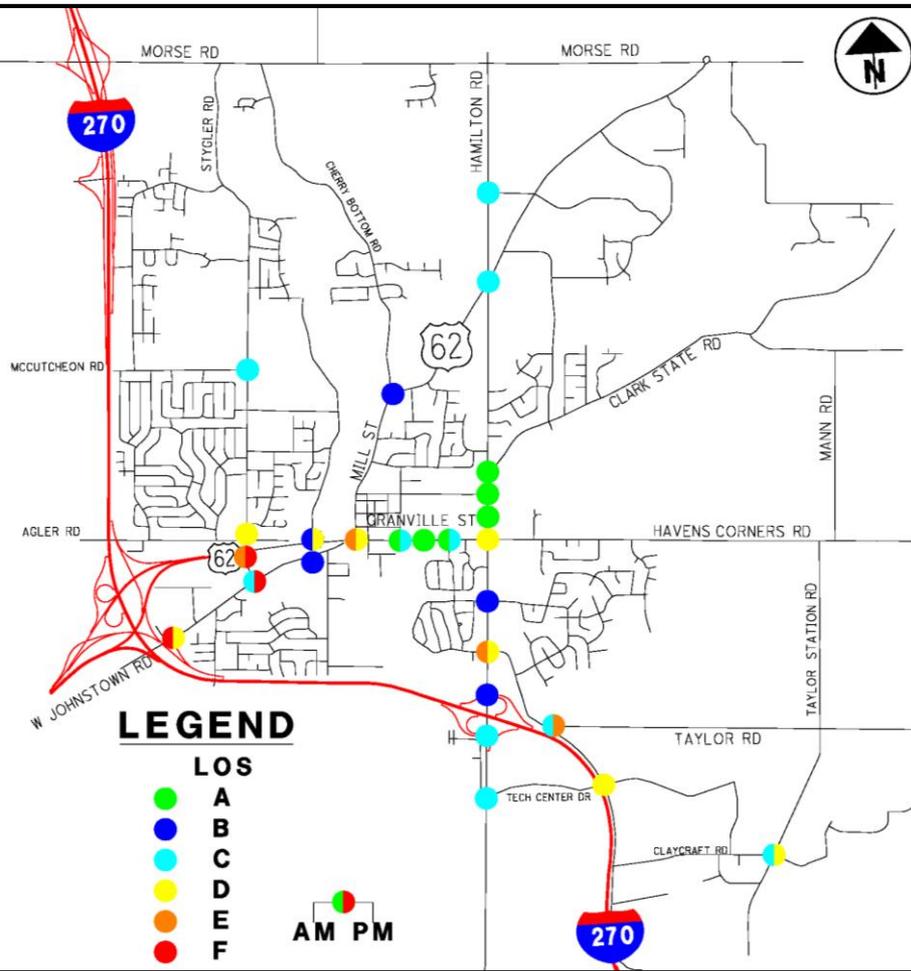
Existing Conditions & Analysis



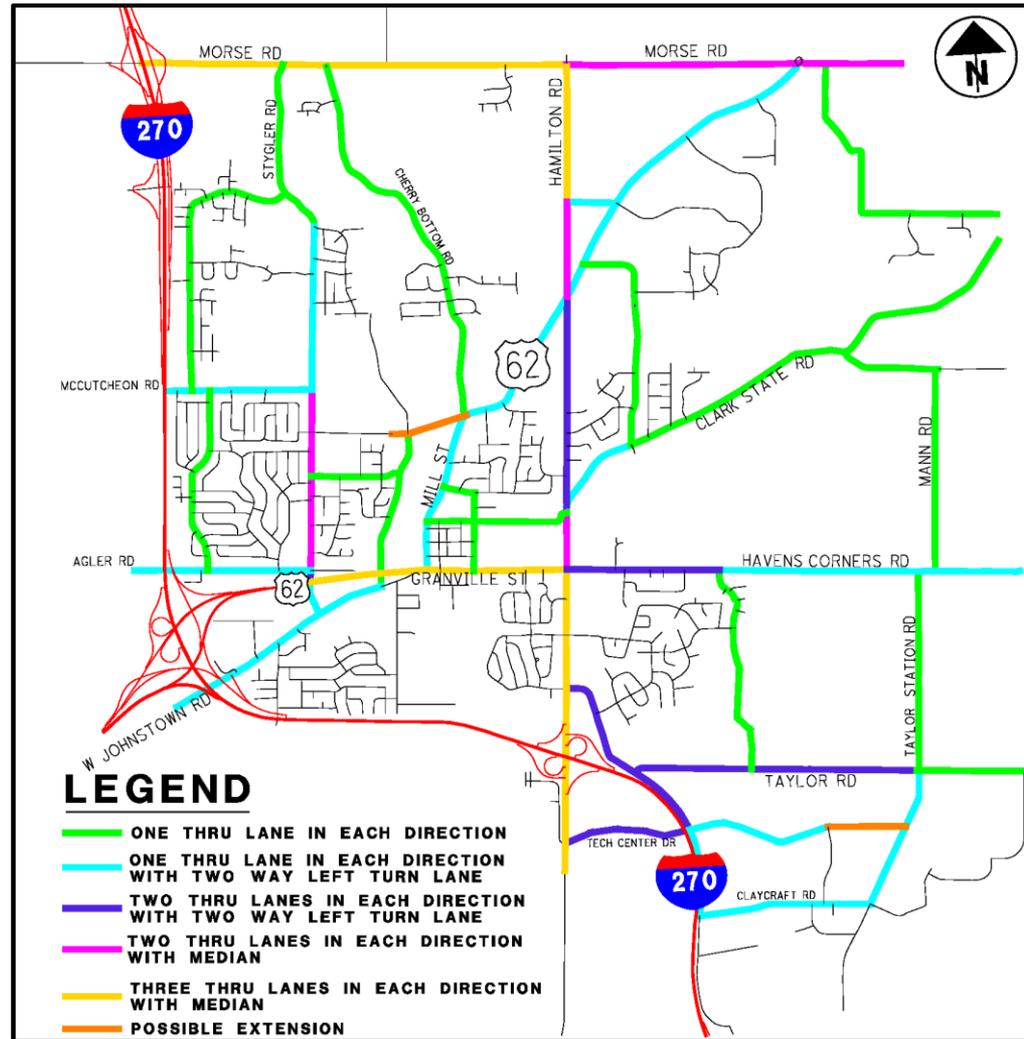
Design Year Conditions & Analysis

- Design Year = 2040
- Design Year roadway network assumptions
- MORPC provided growth rates

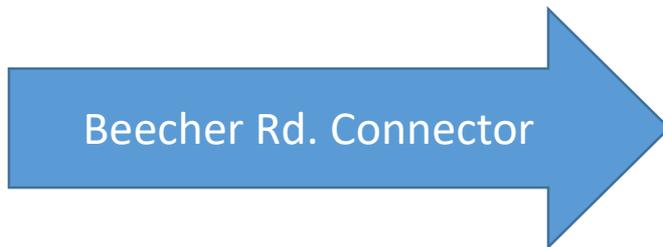
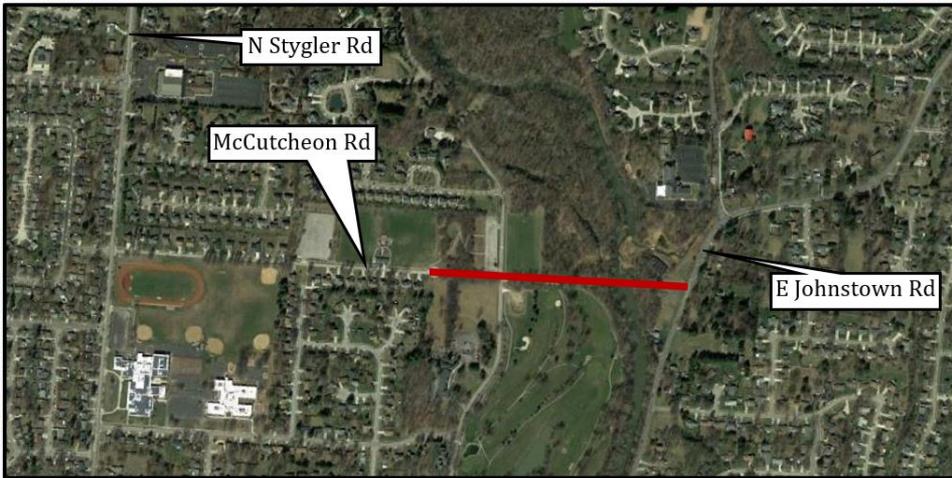
Design Year Conditions & Analysis



Design Year Roadway System Needed Number of Lanes



Planning-Level Consideration of an East-West Crossing of Big Walnut Creek Between US-62 and Morse Road



Thoroughfare Plan

Functional Classifications of Roadways

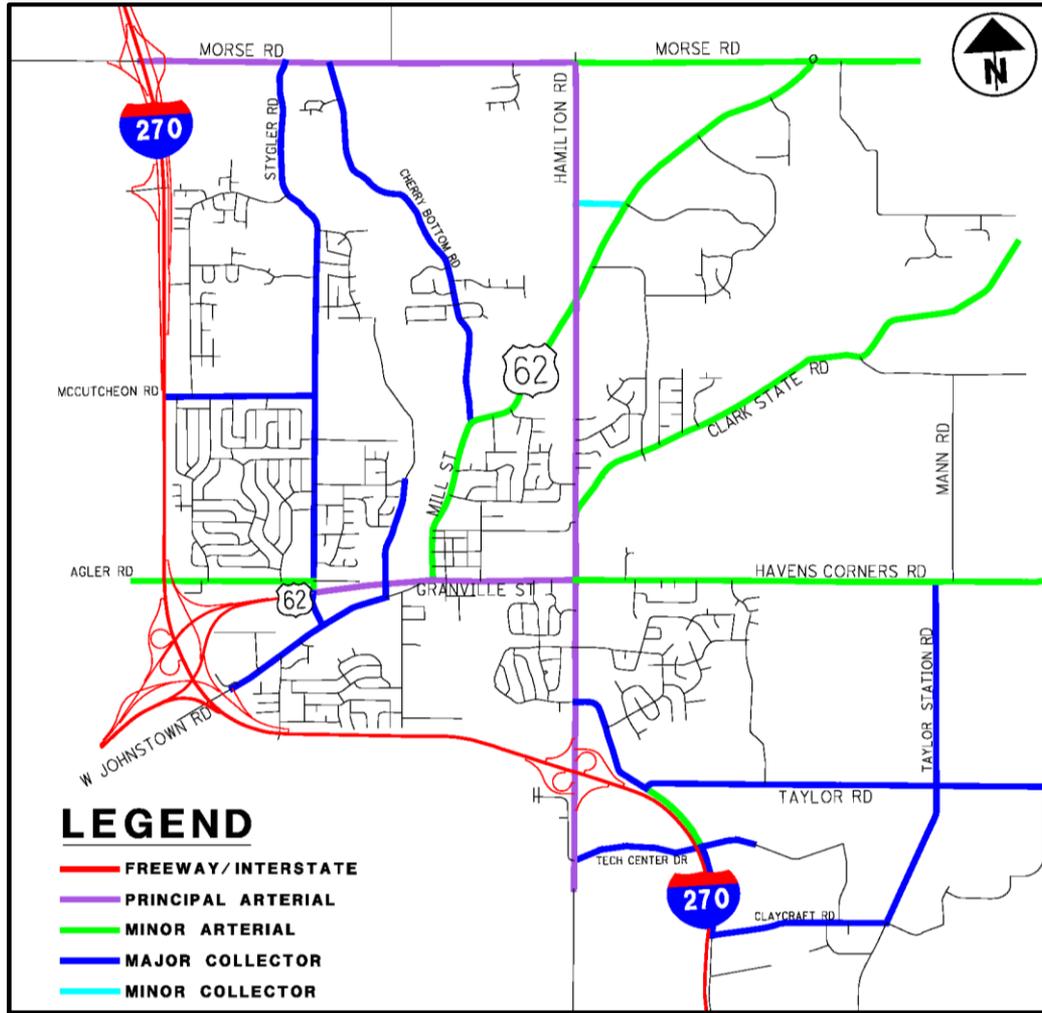
- **Interstate/Freeways** have full access control and limited points of entry at interchanges. The speed limits on the area interstates (IR-270 and IR-670) are 65 MPH. Gahanna has interchanges at Morse Road, Easton Way, US-62, and Hamilton Road.
- **Major Arterials** typically serve major activity centers with higher traffic volumes and longer trips. These roads serve travel within the Gahanna area and connect to regional roadway networks. Major arterials minimize access to promote a higher level of mobility. These roads also provide a critical connection to minor arterials and collector routes. Major arterials will vary in width according to traffic volume and often have four or more through lanes (with turn 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 (with turn lanes).
- **Collector Roads** serve both mobility and land access within the Gahanna area network. These roads are an important link between the arterial system and local streets, and provide access to residential and commercial areas. Typically, collectors will have two through lanes (with turn lanes), but this could vary based on traffic volume.
- **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.

Thoroughfare Plan

Proposed Roadway Classification Revisions

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

Thoroughfare Plan



Policies & Standards Update

- Thoroughfare Plan updates and revisions
- Access management
- Traffic impact studies
- Speed limit evaluation

Was reviewed and tweaked, but generally no changes were made. Recommendations from the 2006 Plan were carried over.

Additional Congestion Impacts Memo

- This concern of an improvement project moving an existing congestion issue to adjacent intersections is common to all cities with congestion
- However, this should not deter the City from implementing a project that can provide improvements, especially when it will lead to crash mitigation
- Congestion issues cannot be fixed by one large-scale project due to funding constraints suffered by all agencies
- Congestion improvements are typically implemented one intersection at a time
- Improving an intersection only to have that congestion move to an adjacent intersection may still be a positive impact. Later funds may be utilized to improve that adjacent intersection.

Existing Congestion Heat Map

