

PILOT KNOB ROAD CORRIDOR STUDY

PURPOSE AND NEED FOR IMPROVEMENTS

Project Purpose

The purpose of the project is to identify a long-term improvement plan for Pilot Knob Rd between Yankee Doodle Rd and Central Parkway/Northwood Parkway to address existing traffic operation issues and safety concerns.

Project Need

The study is taking place to address safety and delays on Pilot Knob Rd resulting from the close spacing of intersections, the lack of local road connections adjacent to the corridor and increasing traffic volumes within the area.

Operations/Mobility

- Existing access spacing is very close which does not accommodate turn lanes. Traffic at side-stop intersections has trouble finding gaps in traffic.
 - Central Pkwy to Marice – 550'
 - Marice to Norwest – 735'
 - Norwest to Access Rd – 260'
 - Access Rd to Yankee – 365'
- Delays at Norwest Ct extend beyond 3 minutes in evening peak hour
- Back-ups from Yankee Doodle Rd in evening peak extend through Norwest Ct intersection making it difficult for traffic to turn on to Pilot Knob Rd
- Pilot Knob Rd northbound left-turn traffic at Central Pkwy periodically extends beyond the turn lane causing operation and safety concerns
- Traffic volumes on Pilot Knob and Yankee Doodle Rd are expected to grow
 - Pilot Knob – 16,200 (2011) to 28,000 (2030)
 - Yankee Doodle Rd – 30,500 (2011) to 49,000 (2030)
 - Intersection of Pilot Knob/Yankee Doodle Rd is one of the busiest in the County – exceeds signalized capacity without ability to make additional improvements due to proximity to Interstate 35

Safety

- 33 crashes at intersections along corridor between 2007-2011
 - Central Parkway/Northwood Parkway – 17 crashes (35% right angle)
 - Marice Drive – 5 crashes (60% right angle)
 - Norwest Ct – 9 crashes (56% right angle)
 - Wells Fargo Access Road – 2 crashes
- Fatality at Marice Drive in 2008 (right angle crash)
- Norwest Ct intersection has crash rate higher than metro average (0.25 per million entering vehicles versus metro average 0.2 per million entering vehicles)

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CONCEPT A (BACKAGE ROAD BOTTOM)

PURPOSE AND NEED CONSIDERATION

Operations/Mobility

- Improves access spacing by removing two full access intersections with safety and operational issues and creating a partial access (south of Marice – west side) and 2 right-in/right-out accesses (Norwest and Marice)
- Local street connection serves to support Pilot Knob Rd and connect businesses to the full access intersection at Northwood Pkwy/Central Pkwy
- Back-ups from Yankee Doodle Rd would not impact Norwest Ct operations due to the modification of Norwest to right-in/right-out
- All intersections projected to operate acceptably

Safety

- Right-angle crashes anticipated to decrease at Marice and Norwest due to right-in/right-out access modification
- Wells Fargo Access Road closure will eliminate crashes at this location
- All accesses have turn lanes to separate turning traffic from thru traffic (improves both safety and mobility)

IMPACTS

- Requires major reconfiguration of American Phytopathological Society parking lot
- Minimal parking lot reconfiguration for Extended Stay America Hotel
- Maintains existing total number of parking spaces at all businesses
- Traffic signal revision at Central Parkway/Northwood Parkway will require widening and addition of a median at this location

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CONCEPT B (ROUNDAABOUT)

PURPOSE AND NEED CONSIDERATION

Operations/Mobility

- Improves access spacing by removing two full access intersections with safety and operational issues and creating two partial accesses (Marice and south of Marice –west side) and one right-in/right-out (Norwest Ct) to provide access to businesses
- Roundabout facilitates U-turn movements for businesses without a direct connection to Central Parkway, without the need for a local street connection
- Southbound Pilot Knob Rd traffic would be required to make a U-turn at Yankee Doodle Rd to access Norwest Ct

Safety

- Right-angle crashes anticipated to decrease at Marice and Norwest due to the elimination of full access at these locations
- Wells Fargo Access Road closure will eliminate crashes at this location
- Roundabouts promote increased safety (fewer crashes and less severe crashes) compared to traffic signals
- Facilitates U-turns for all vehicles within the roundabout
- U-turns are safe and acceptable at protected left-turn signalized intersections
- All accesses have turn lanes to separate turning traffic from thru traffic (improves both safety and mobility)

IMPACTS

- No local street connection required (cost/less right-of-way to business)
- No impacts to existing parking lots
- Requires some additional right-of-way for roundabout

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CONCEPT C (BACKAGE ROAD TOP)

PURPOSE AND NEED CONSIDERATION

Operations/Mobility

- Improves access spacing by removing two full access intersections with safety and operational issues and creating one partial access (south of Marice – west side) and two right-in/right-out accesses (Marice and Norwest)
- Local street connection serves to support Pilot Knob Rd and connect businesses to the full access intersection at Northwood Pkwy/Central Pkwy
- Back-ups from Yankee Doodle Rd would not impact Norwest Ct operations due to the modification of Norwest to right-in/right-out
- All intersections projected to operate acceptably

Safety

- Right-angle crashes anticipated to decrease at Marice and Norwest due to the elimination of full access at these locations
- Wells Fargo Access Road closure will eliminate crashes at this location
- All accesses have turn lanes to separate turning traffic from thru traffic (improves both safety and mobility)

IMPACTS

- Minimal parking lot reconfigurations
- Maintains total existing number of parking spaces
- Building setback standards at Extended Stay America not met
- Traffic signal revision at Central Parkway/Northwood Parkway will require widening and addition of a median at this location

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CONCEPT D (DEVELOPED WITH INPUT FROM CSM AT THE JULY 30 PROPERTY OWNERS MEETING)

PURPOSE AND NEED CONSIDERATION

Operations/Mobility

- Removes two full access intersections with safety and operational issues and creates two partial accesses (Lockheed and at realigned Norwest)
- Lockheed and realigned Norwest accesses maximize the spacing from Central Pkwy/Northwood Pkwy and Yankee Doodle Rd and accommodates left-turn lanes in both directions
- Relocation of access on east side of Pilot Knob Rd requires closure of Norwest Ct (no right-in/right-out accesses)
- Local street connection serves to support Pilot Knob Rd and connect businesses to the partial access at Norwest and the full access intersection at Northwood Pkwy/Central Pkwy
- Back-ups from Yankee Doodle Rd would not impact the realigned Norwest Ct operations due to the shifting of this intersection to the north and modification to a partial access
- All intersections projected to operate acceptably

Safety

- Right-angle crashes anticipated to decrease at Norwest due to the elimination of full access at this location
- Wells Fargo Access Road and Marice Dr closure will eliminate crashes at these locations
- Safety concerns with local road connection the splits the American Phytopathological Society's building with the majority of their parking lot (*Frontage Road Option A*)
- Off-set approaches to the intersection of Sherman Ct/New Norwest Ct may impact sight angles for drivers (*Both Frontage Road Options*)
- All accesses have turn lanes to separate turning traffic from thru traffic (improves both safety and mobility)

IMPACTS

- Severs American Phytopathological Society parking lot potentially rendering it non-conforming (*Frontage Road Option A*)
- Substantial parking lot reconfiguration to the Commons on Marice and to a lesser extent Granite City (*Frontage Road Option A*)
- Building setback standards at Extended Stay America not met (*Frontage Road Option B*)
- Long circuitous access for businesses near Yankee Doodle Rd (*Frontage Road Option B*)
- Requires dedication of two new local roads to serve this area (*Frontage Road Option B*)
- Substantial parking lot reconfigurations at the Commons on Marice, American Phytopathological Society and Extended Stay America and to a lesser extent Granite City (*Frontage Road Option B*)
- Traffic signal revision at Central Parkway/Northwood Parkway will require widening and addition of a median at this location (*Both Frontage Road Options*)