COUNCIL COMMITTEE OF THE WHOLE
AGENDA

FEBRUARY 28, 2017 - 6:00 P.M.

CITY HALL COUNCIL CHAMBERS
15 LOOCKERMAN PLAZA - DOVER, DELAWARE

PUBLIC COMMENTS ARE WELCOMED ON ANY ITEM AND WILL BE PERMITTED AT APPROPRIATE TIMES. WHEN POSSIBLE, PLEASE NOTIFY THE CITY CLERK (736-7008 OR E-MAIL AT CITYCLERK@DOVER.DE.US) SHOULD YOU WISH TO BE RECOGNIZED.

SAFETY ADVISORY AND TRANSPORTATION COMMITTEE

AGENDA ADDITIONS/DELETIONS

1. **PRESENTATION BY C. DAVID JAMISON - SPEED CONTROL MEASURES - INDEPENDENCE BOULEVARD**

2. **ADJOURNMENT OF SAFETY ADVISORY AND TRANSPORTATION COMMITTEE MEETING**

UTILITY COMMITTEE

AGENDA ADDITIONS/DELETIONS

1. **STREET AND ALLEY SURVEY UPDATE**
   (COMMITTEE ACTION NOT REQUIRED)

2. **ADJOURNMENT OF UTILITY COMMITTEE MEETING**

ADJOURNMENT OF COUNCIL COMMITTEE OF THE WHOLE MEETING

/TM
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THE AGENDA ITEMS AS LISTED MAY NOT BE CONSIDERED IN SEQUENCE. PURSUANT TO 29 DEL. C. §10004(E)(2), THIS AGENDA IS SUBJECT TO CHANGE TO INCLUDE THE ADDITION OR THE DELETION OF ITEMS, INCLUDING EXECUTIVE SESSIONS, WHICH ARISE AT THE TIME OF THE MEETING.

Annual Council Meeting
Safety Advisory Transportation Committee
May 9, 2016

Speed Control Measures-Independence Boulevard

- Working Group: Rep.Sean Lynn, Tom Dix, William Garfinkel, Mike Somers (DelDOT)
  Working on Traffic Calming Measures Since Summer 2015
- Representative Sean Lynn to Pay for Proposed Traffic Calming Measures (**PTCM**)
  with Community Transportation Funds (**CTF**)
- Tom Dix and William Garfinkel Spoke of Bypass Traffic and Speeding
- 5 Residents had Concerns/Questions/Opposition
- Captain Spicer of DPD Spoke of Accident History, 15 Accidents 2013 Thru 2015
- Mayor Christiansen and Councilman Hare Wanted the Community's Approval
- Sean Lynn Stated that the **CTF** Needed to be "Expended Relatively Quickly"
  or they would Go to Another Project.
- Council Approved Working Group's Recommendations

1

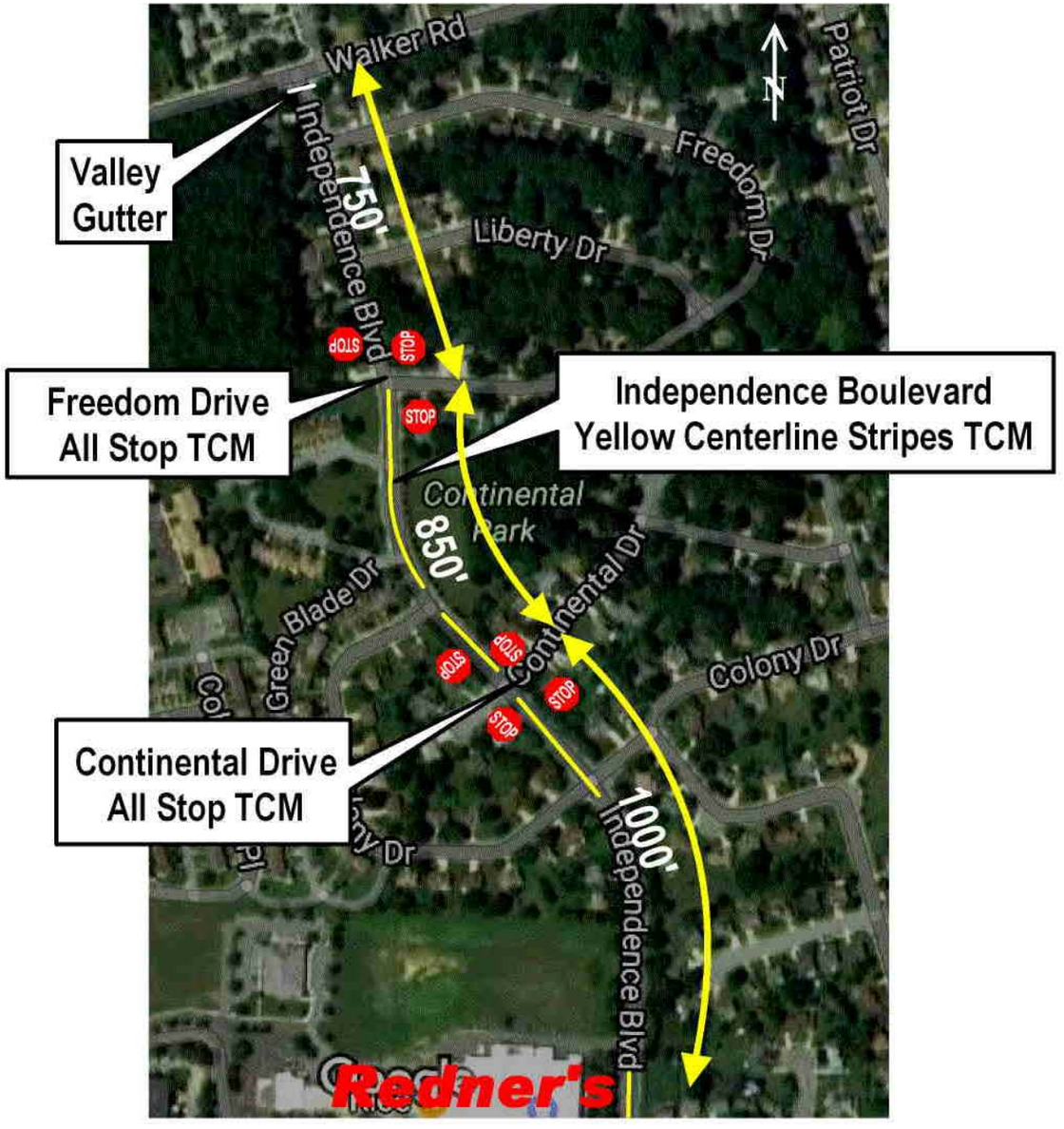
Independence Boulevard Traffic Calming Measures Report



Prepared by C. David Jamison, PE
cdjpe1@gmail.com

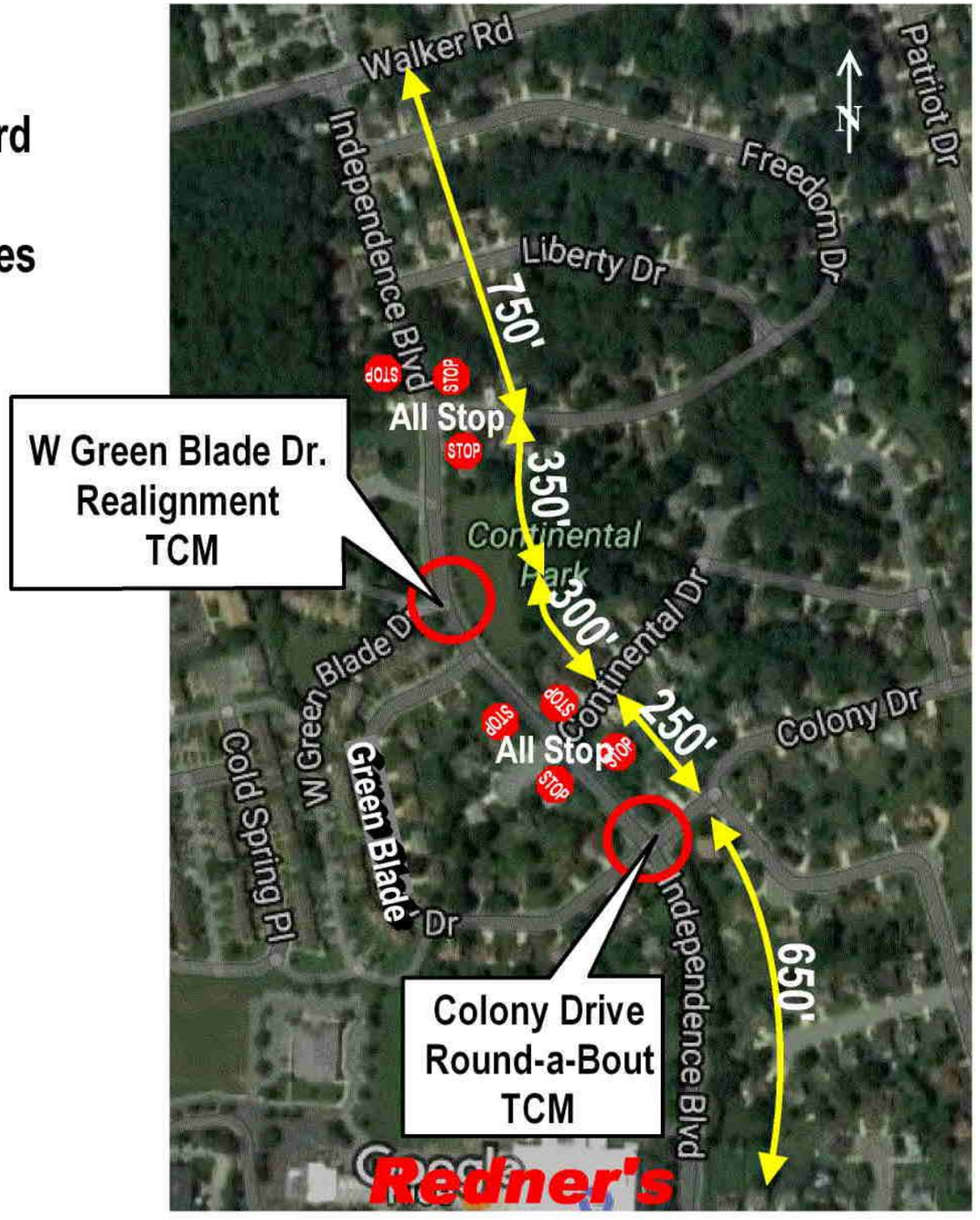
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Independence Boulevard
Existing
Traffic Calming Measures



3

Independence Boulevard
Proposed
Traffic Calming Measures
Locations



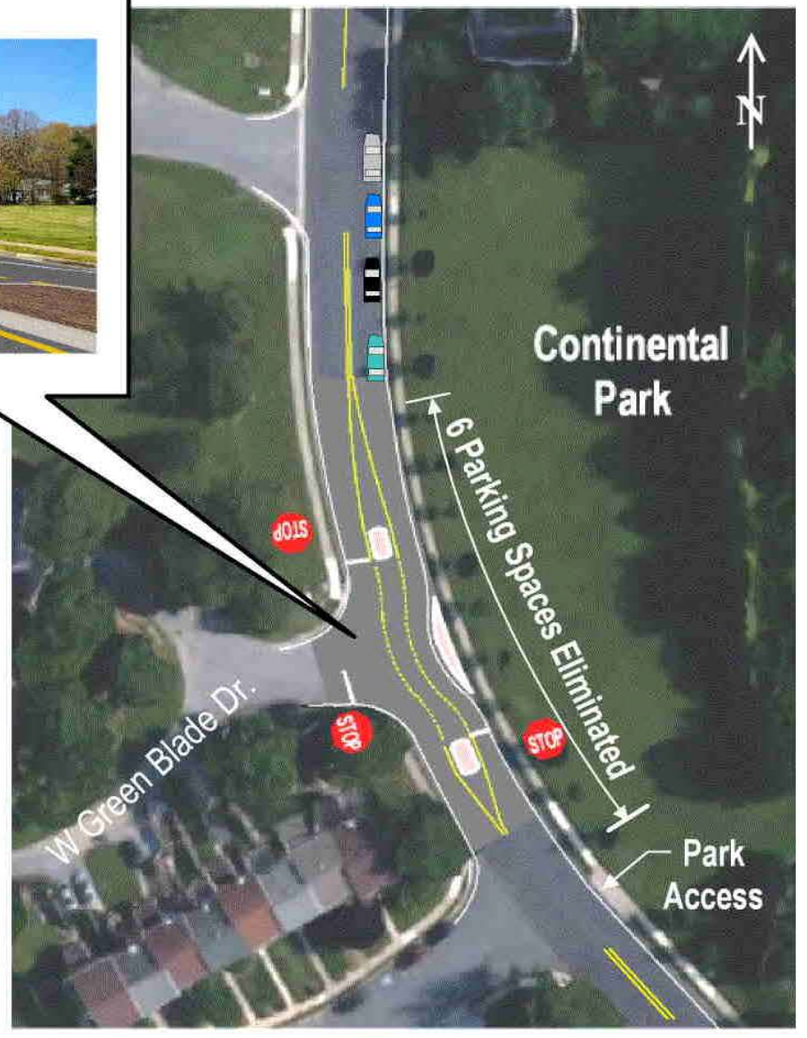
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Independence Boulevard / W. Green Blade Drive
Realignment Traffic Calming Plan

Realignment TCM



DelDOT Concept Plan

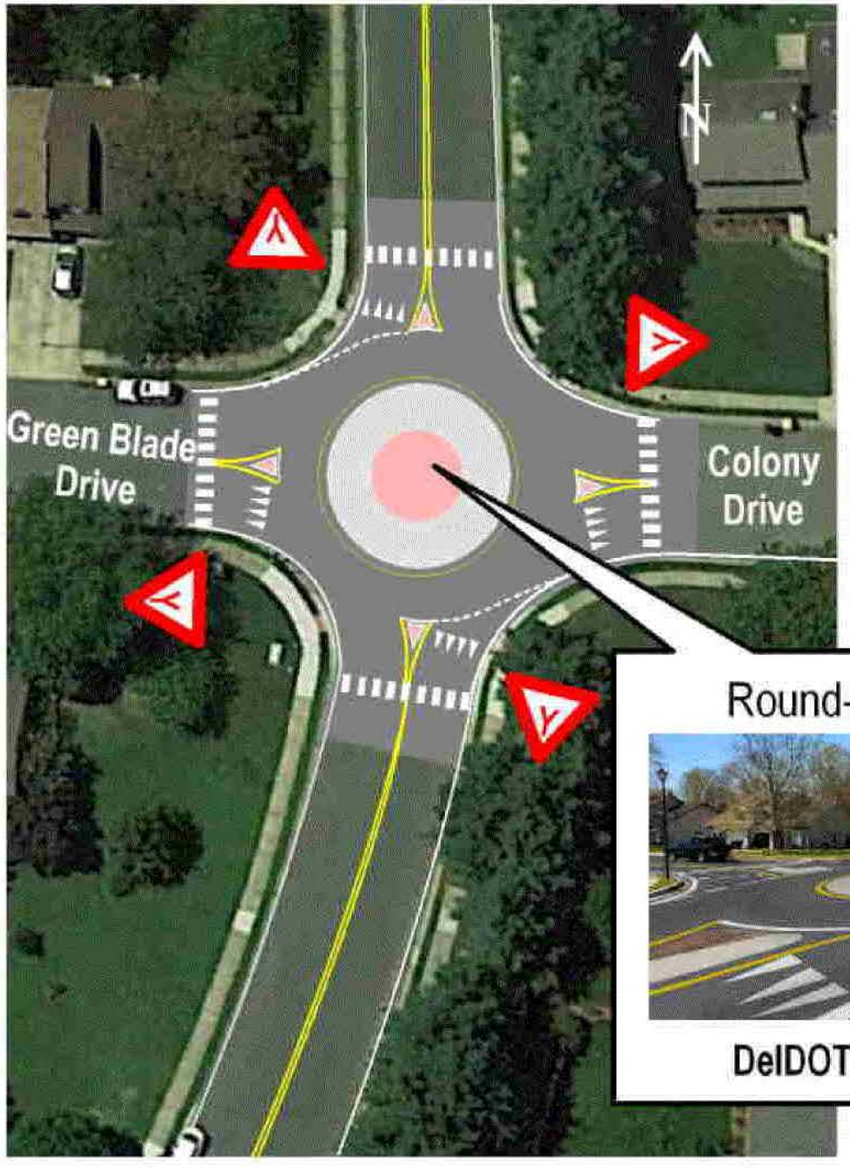


Issues:

- Continental Park is used for outdoor events. (St. Johns Lutheran School Annual Field Day) TCM will eliminate 50% of available parking .
- Bicycle users will lose use of shoulders
- Snow removal will damage proposed islands
- **Estimated Cost $ 54,000**

5

Independence Boulevard / Colony Drive Round-a-Bout



ISSUES

- 4 Yield Signs, Who Goes First?
- Bicycle users will lose use of shoulders
- Snow removal will damage islands
- **Estimated Cost $122,000**

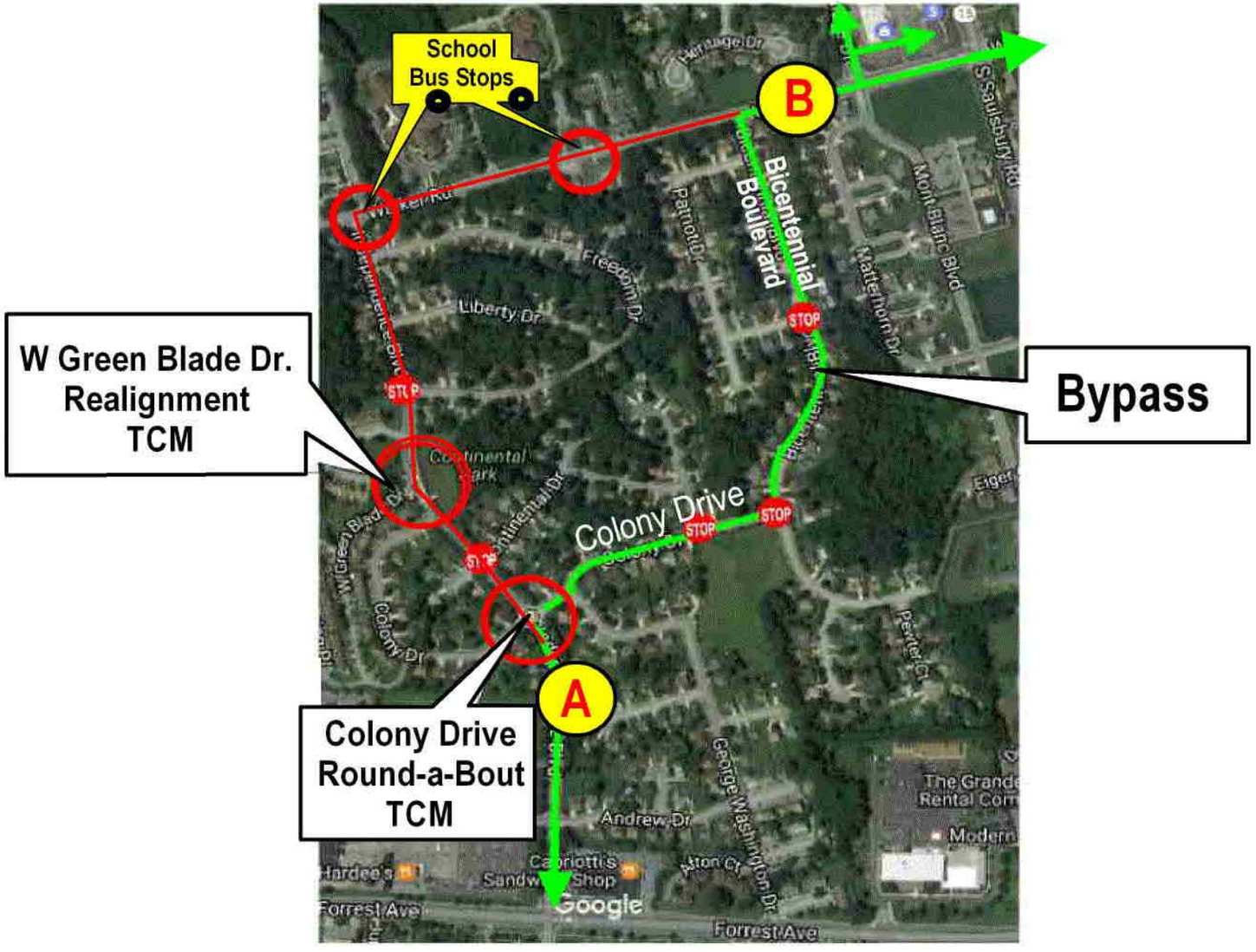
Round-A-Bout TCM



DelDOT Concept Plan

6

Potential Traffic Diversion from Independence Boulevard to Bicentennial Boulevard



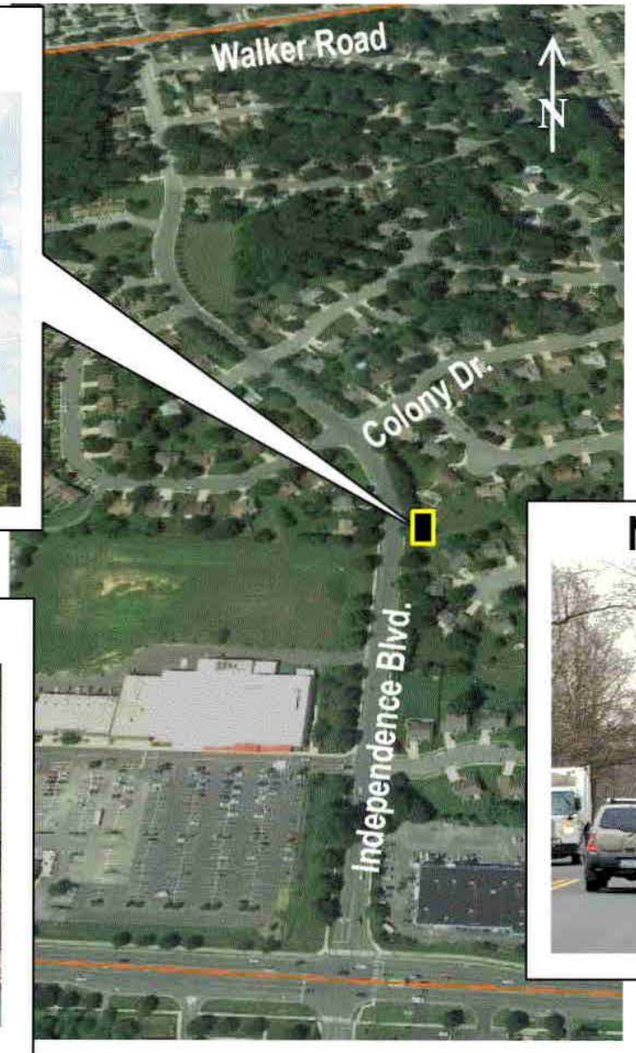
7

Alternative Traffic Calming Measure
Radar Speed Sign

The Estimated Cost $ 5,000.

Radar Speed Sign

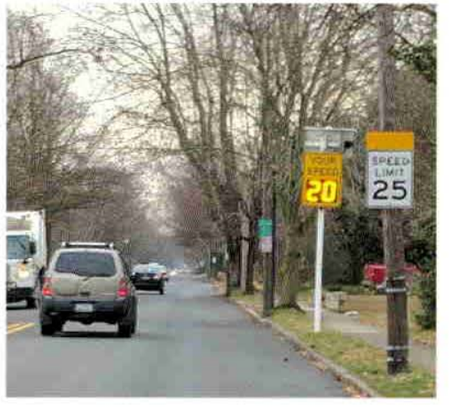




N Governors Avenue



N State Street

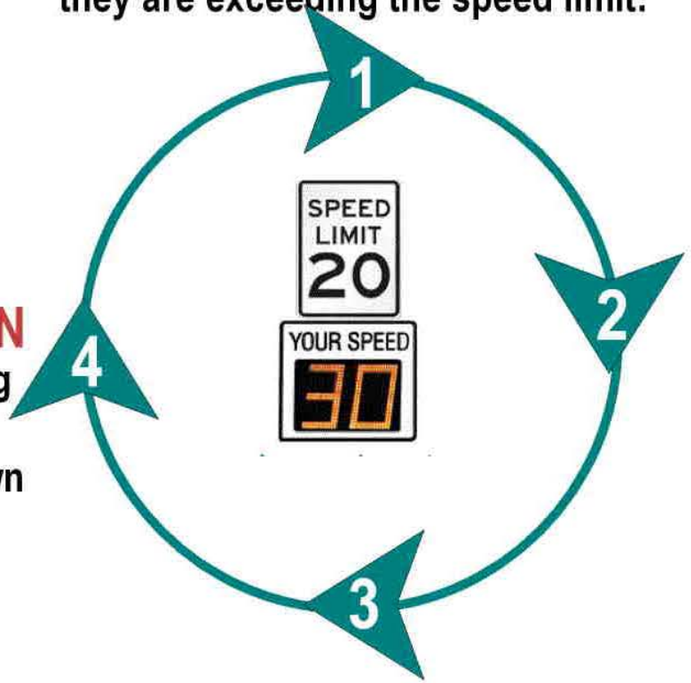


Radar Speed Sign (RSS)

The Radar Speed Sign gives Drivers notice that they are speeding by shifting the Driver's brain **out of the alpha state where the brain is aware but relaxed into the beta state where the brain is alert and focused.** As a result, the Driver responds to the flashing speed sign and slows down.

1. TRAFFIC INFORMATION CAPTURED

When a driver speeds the RSS collects data, then flashes the speed which tells the driver they are exceeding the speed limit.



2. DATA HITS HOME

Because the RSS Displays the Driver's Speed along with the Posted Speed Limit the Flashing Sign has Relevance

3. CONSEQUENCES

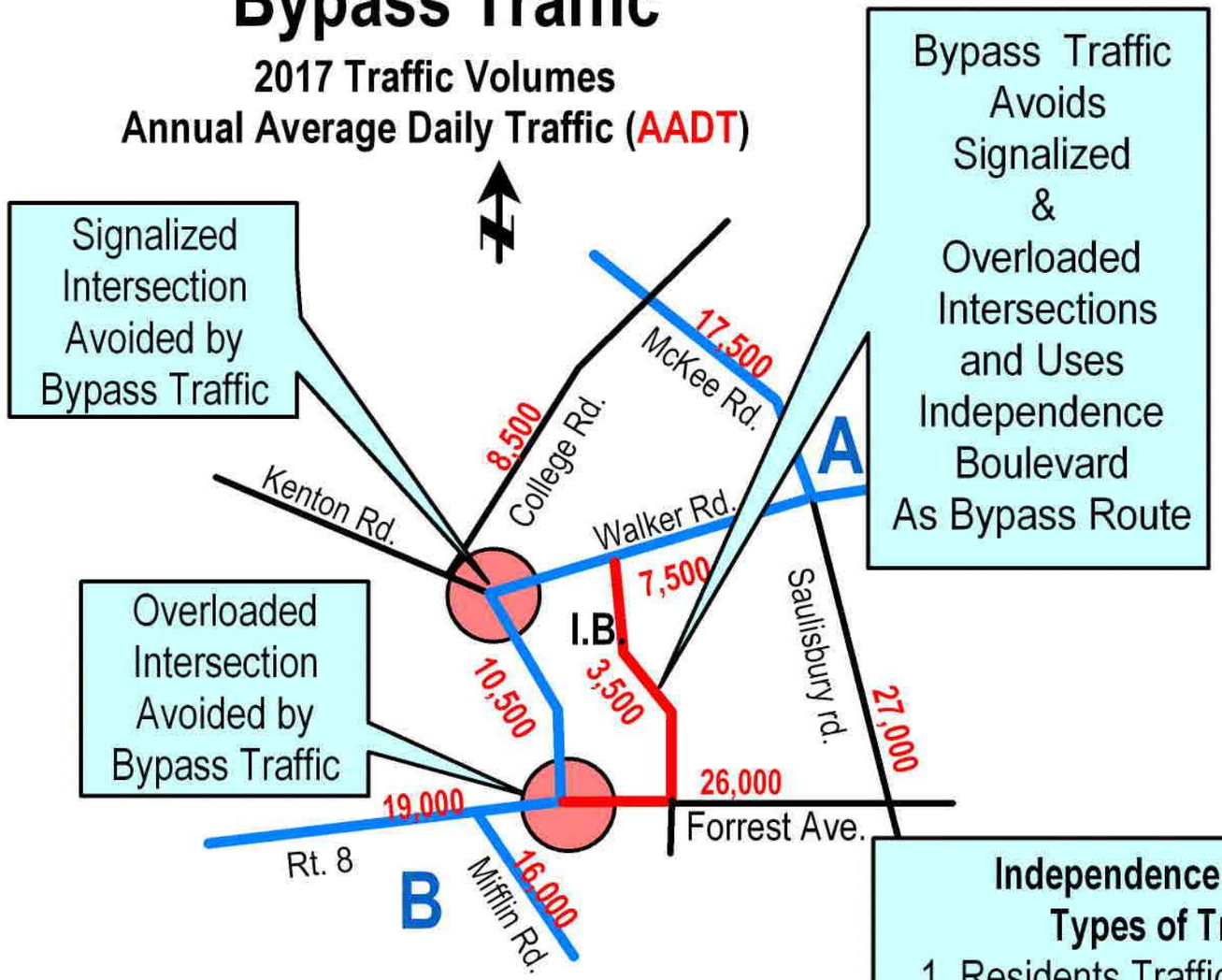
Drivers are Reminded of the *Safety Issues* and are Warned of the *Penalty* if they get a Speeding Ticket.

4. DRIVERS REACTION

When Alerted by a Flashing Radar Speed Sign Speeding Drivers Slow Down

9 Independence Boulevard Bypass Traffic

2017 Traffic Volumes
Annual Average Daily Traffic (AADT)



Not a Gated Community Roadway

Independence Boulevard
Types of Traffic

1. Residents Traffic
2. Traffic Going to Shopping Centers
3. Bypass Traffic

Location of Speed Studys
Conducted by Dover Police Department



Speed Monitor 2
February, 2017
Ave. Speed 29 mph

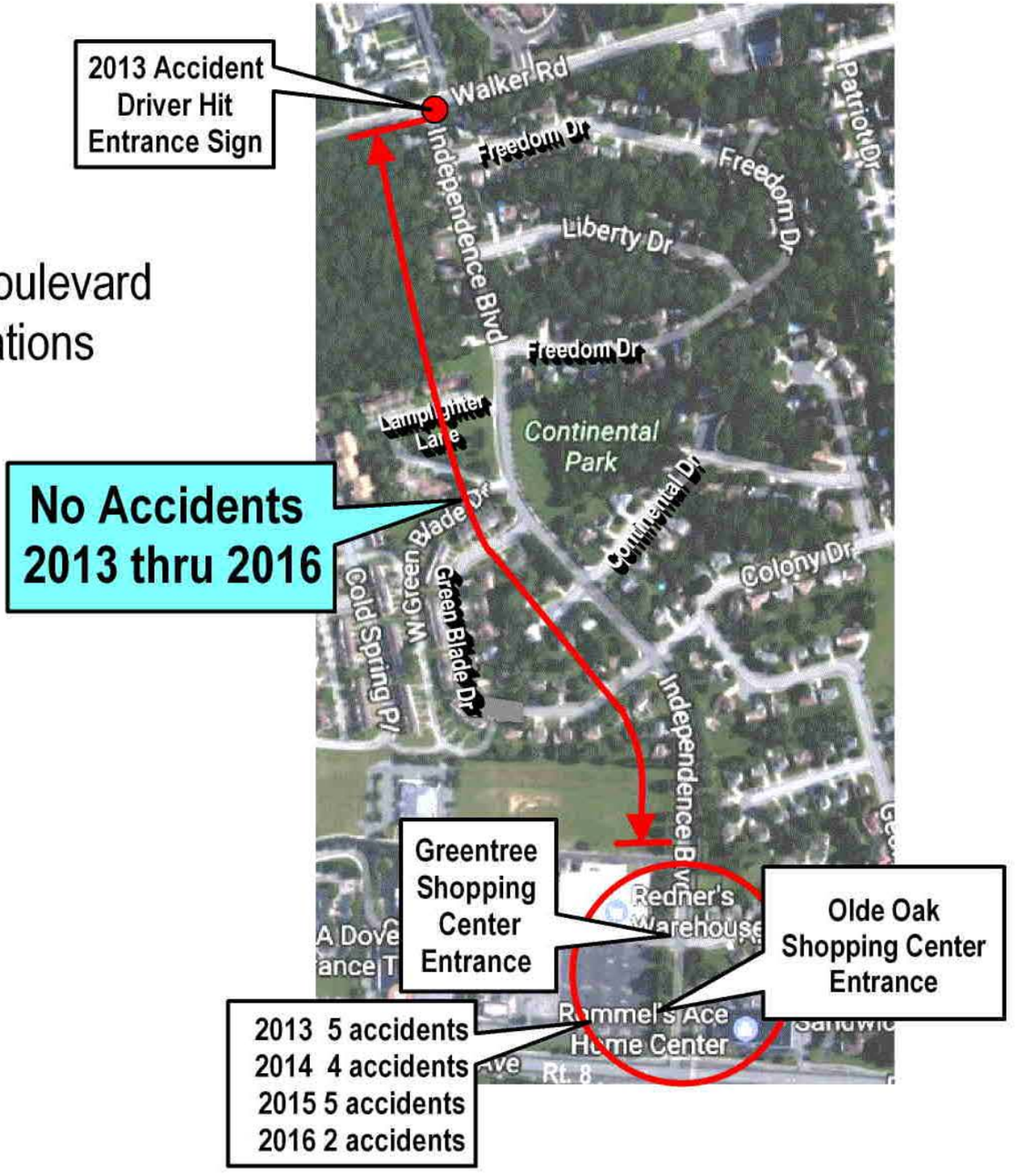
Speed Monitor 1
May, 2015
Ave. Speed 29 mph *

* The Speed Study at Monitor 1 without Yellow Centerline Stripes (2016)

Institute of Transportation Engineers Journal:
Yellow Centerline Stripes
"can successfully reduce speeds from two (2) to more than seven (7) miles per hour".

11

Independence Boulevard Accident Locations



Conclusions

- Speed Problem?
  Average Speed 29 mph
- No Accidents
- No Justification for Proposed
  Traffic Calming Measures

Recommendations

- Install Radar Speed Sign
- Use Community Transportation Funds for
  Cost Effective & Needed Road Repairs
  in all Districts

13

Traffic Calming Voting Requirements Regular Project

1. If a traffic calming project is warranted and requires specific construction plans, the project will be classified as a REGULAR traffic calming project.

2. If initiated by local goverments, community associations, elected officials or individual citizens, a traffic calming request is presumed to have a degree of public support.

3. Once a final traffic calming plan is selected by the Working Group, presented at a public workshop (if required) and approved by the Department *, mail-in ballots will be distributed to each household and business located within the defined impact area.
   * In this case, approved by local government (City of Dover Council)

4. For REGULAR Project Approval:
   After ballots from the affected residents are collected, they are counted and an approval percentage is determined. Fifteen percent (15%) of the ballots must be returned and two-thirds (2/3) of the returned ballots must approve the calming project for the implementation process to proceed.

Comments from the May 9, 2016 SATC Meeting

"**Mayor Christiansen**: "echoed concerns of the community and stated the desire to make sure the entire community signs onto this plan or another plan."

Councilman Hare wanted the matter to be "a representation of more than just two (2) or three (3) people. Mr. Hare indicated that the community has to be the deciding factor, noting that he would like at least to see something reflecting the views of those who live on Independence Boulevard.

A Vote by the Community is Needed

14

1. Proposed Traffic Calming Measures (PTCM)

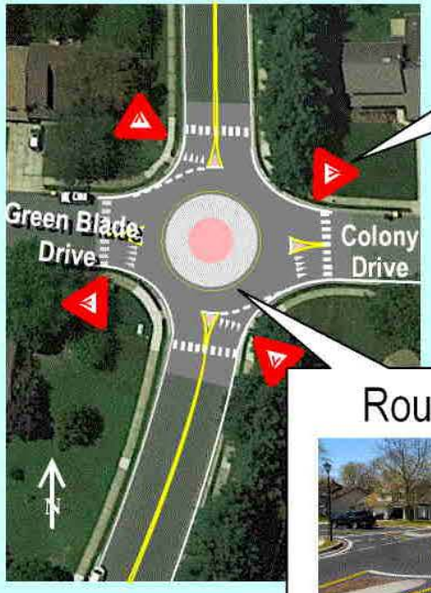
Realignment



$54,000



+



Total Cost
$176,000

Round-A-Bout



$122,000

OR

2. Radar Speed Sign (RSS)

Total Cost
$5,000





Your Tax Dollar$

15

Petition to Stop Proposed Traffic Calming Measures (TCM) on Independence Boulevard

Proposed TCM (PTCM) Issues

- Safety: Round-A-Bout with 4 Way Yields??
- Takes Continental Park Parking
- Bikers Lose Shoulder Lanes
- Slows Snow Removal and Fire Response
- Adds Traffic to Colony DR & Bicentennial Blvd
- Cost $176,000

Alternative: Radar Speed Sign (RSS)

- Use Radar Speed Sign to Calm "Speeding"
- Existing Average Speed 29.1 mph
- A DelDOT Approved Traffic Calming Measure
- Purchase using Community Transportation Funds (CTF)
- Frees CTF for other needed Projects
- Cost $ 5,000

We the undersigned are concerned citizens who urge the City of Dover Mayor and Councilmen to endorse a Radar Speed Sign on Independence Boulevard and not authorize the Proposed TCMs

Name Printed	Signature	Address	Email	Pick One 1 or 2 PTCM	RSS	Date

Scan, photograph or edit PDF and send completed Petition to cdjpe1@gmail.com

Petition Responses

PTCM *OR* RSS

	Name	Address	PTMC	RSS
1	Jannette Chritian	35 Freedom Drive		X
2	Gergette Chriatian	35 Freedom Drive		X
3	Constance Mahoney	5 Pewter Court		X
4	Mel Mahoney	5 Pewter Court		X
5	Kirk Jamison	32 Lamplighter Lane		X
6	Joeseph Parks	740 Bicentennial Blvd		X
7	Tanda Parks	740 Bicentennial Blvd		X
8	Michael Kelley	63 Freedom Drive		X
9	Mageline Kelley	63 Freedom Drive		X
10	Kurt Katz	8 Pewter Court		X
11	June Katz	8 Pewter Court		X
12	Laticia Prophet	4 Freedom Drive		X
13	Peter Ackles	9 Pewter Court		X
14	James Facer	15 Freedom Drive		X
15	Tina Facer	15 Freedom Drive		X
16	Fred Facer	15 Freedom Drive		X
17	Nancy Frankl	44 Freedom Drive		X
18	Eric Frankl	44 Freedom Drive		X
19	Stan Trier	39 Freedom Drive		X
20	Ellen Trier	39 Freedom Drive		X
21	Thos Woo Jr.	159 Colony Drive		X
22	Moe Naftzinger	102 Colony Drive		X
23	Robert Naftzinger	102 Colony Drive		X
24	Michele Churchman	224 Green Blade Drive		X
25	Greg Henry	12 Pewter Court		X
26	Kimberly Henry	12 Pewter Court		X
27	Rhonda Lewis	27 Liberty Drive		X
28	Randy Lewis	27 Liberty Drive		X
29	Kim Acevedo	287 Green Blade Drive		X
30	Akira Wise	11 Liberty Drive		X

PTCM *OR* RSS

	Name	Address	PTMC	RSS
31	Bradley Ebaugh	27 Liberty Drive		X
32	Susan Ebaugh	172 Continental Drive		X
33	Sharon Shuman	23 Liberty Drive		X
34	Mary Paullesky	42 Liberty Drive		X
35	Erica Wildrick	234 Green Blade Drive		X
36	Mrs. Jackson Williams	236 Green Blade Drive		X
37	Susan Hessler	120 Cobblestone Lane		X
38	Ed Bates	10 Pewter Court		X
39	Kathy Bates	10 Pewter Court		X
40	Barbara Rafte	4 Pewter Court		X
41	Lmelody Peters	347 Cold Spring Place		X
42	Patricia Fox	36 Lamplighter Lane		X
43	Linda Miller	34 Lamplighter Lane		X
44	John Celatka	30 Lamplighter Lane		X
45	Hazel J Showell	13 Freedom Drive		X
46	Donald Walker	13 Freedom Drive		X
47	Camela Trower	244 Green Blade Drive		X
48	Samuel Kolubash	35 Lamplighter Lane		X
49	Ann Edmonds	11 Lamplighter Lane		X
50	Margie Shuman	283 Green Blade Drive		X
51	William White	261 Green Blade Drive		X
52	Brian E Reid Sr.	252 Green Blade Drive		X
53	Kimberly Butler	260 Green Blade Drive		X
54	John Walson	228 Green Blade Drive		X
55	Mary Walson	228 Green Blade Drive		X
56	Valerie Anderson	250 Green Blade Drive		X
57	Pam/Eddie Lopez	703 Bicentennial Blvd		X
58	Gale Hartley	232 Green Blade Drive	None	
59	April Henry	11 Liberty Drive		X
60	Katherine Ommanney	245 Green Blade Drive	X	

16a

Petition Response
St. John's Lutheran School / Continental Park

PTCM *OR* RSS

	Name	Address	PTMC	RSS
1	Dina Vendetti	1156 Walker Road		X
2	Terri Teelucksingh-Jackson	S. Brittingham Drive		X
3	Melinda Ransdell	16 W Camden Wyoming		X
4	Jerry Seager	17Teal Court		X
5	Jackquelynne J. Walden	239 Merion Raod		X
6	Meredith Abbate	108 Woodland Drive		X
7	Richard D Brown	108 Woodland Drive		X
8	April Henry	11 Liberty Drive		X
9	Jennifer Rundle	114 S. Laytron Avenue		X
10	Lisa Rushman	402 Union Street		X
11	Joann Evans	734 Northwest		X
12	Akira Wise	11 Liberty Drive		X
13	Charlene Pagan	1911 Blue Heron		X
14	Chrissy Adams	2229 E. Huntington Drive		X
15	Melissa Macolley	155 Carlise Drive		X
16	Christopher Los	133 Glenda Road		X
17	Tara Surowilec	205 Noprthdown Drive		X
18	Rebecca Sahraoui	929 Blackbird Statiopn Rd.		X
19	Stephanie Harrison	43 Turningleaf Court		X
20	Denise Wilson	1262 N Farmview		X
21	Jan Sherinko	65 Medal Way		X
22	Ronald Taylor	5140 S. State Street		X
23	John Clendaniel	2 Gregory Court		X
24	Leslie Harper	PO Box 1065		X
25	Kim Clendanial	2 Gregory Court		X
26	Wendy Taylor	5140 S. State Street		X
27	Betty Paulin	840 Wilson Drive		X
28	Donn Paulin	840 Wilson Drive		X

PTCM *OR* RSS

	Name	Address	PTMC	RSS
29	Ralph Mallamace	968 S. Gov. Avenue		X
30	Nikki Netsch	1 N Penbrook Drive		X
31	Jamie Fairbanks	20 E. Darby Circle		X
32	Rosa Sutton	19 Tudor Court		X
33	Matt Sutton	19 Tudor Court		X
34	Jen Feaser	413 N Bradford St		X
35	Khairat Makanjuola	Markham Court		X
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Community Transportation Funds

Cost Effective Measures

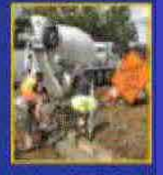
Commonly Funded Projects



Repaving



Drainage Problems



Replace Curb



Sidewalk Repairs



Safety Cones for Fire Departments



OPTICOMs

(Controls over traffic signals that can be changed to allow for the right-of-way emergency vehicles)

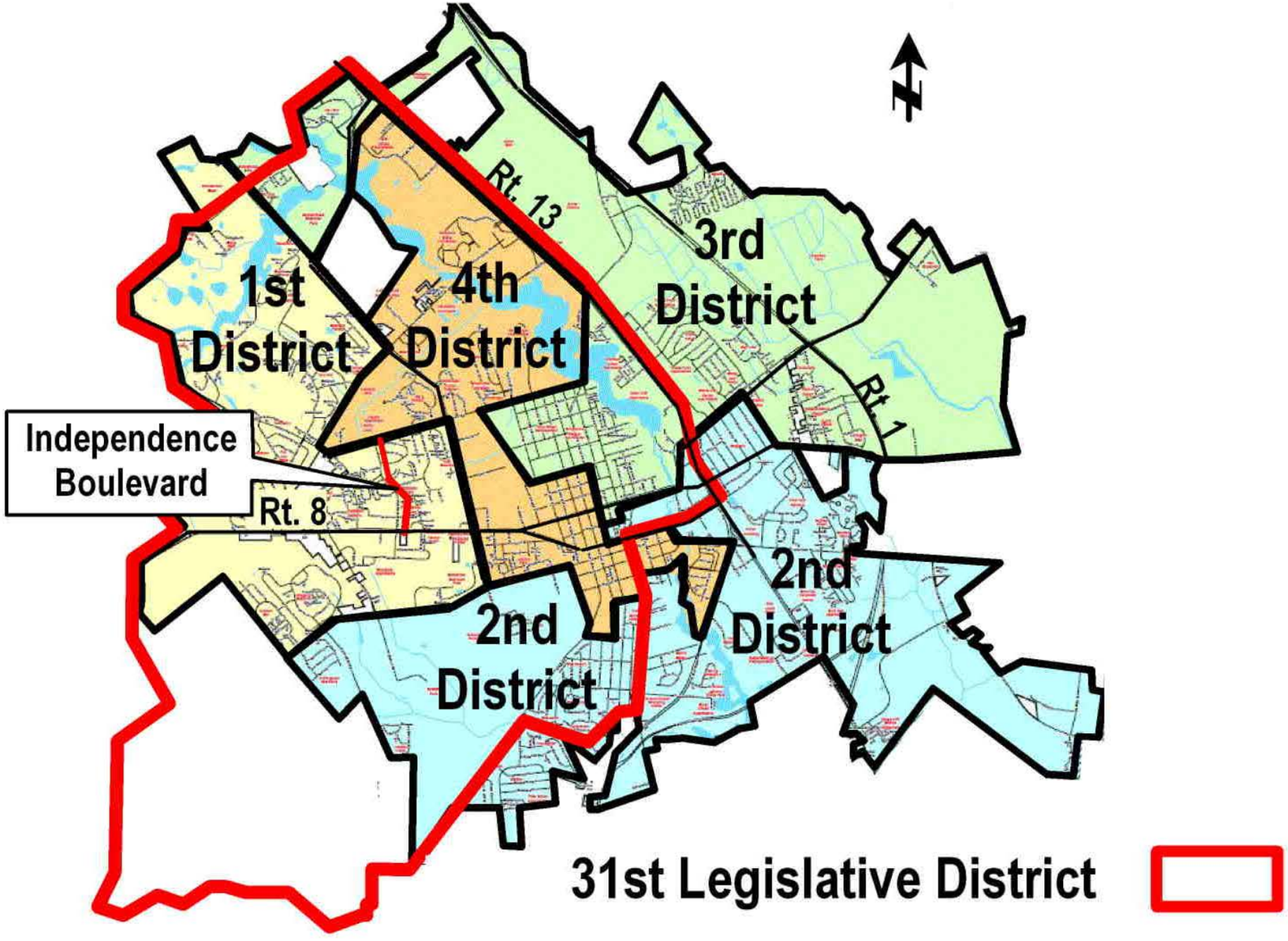
Install Radar Speed Signs & Repair Pot Holes



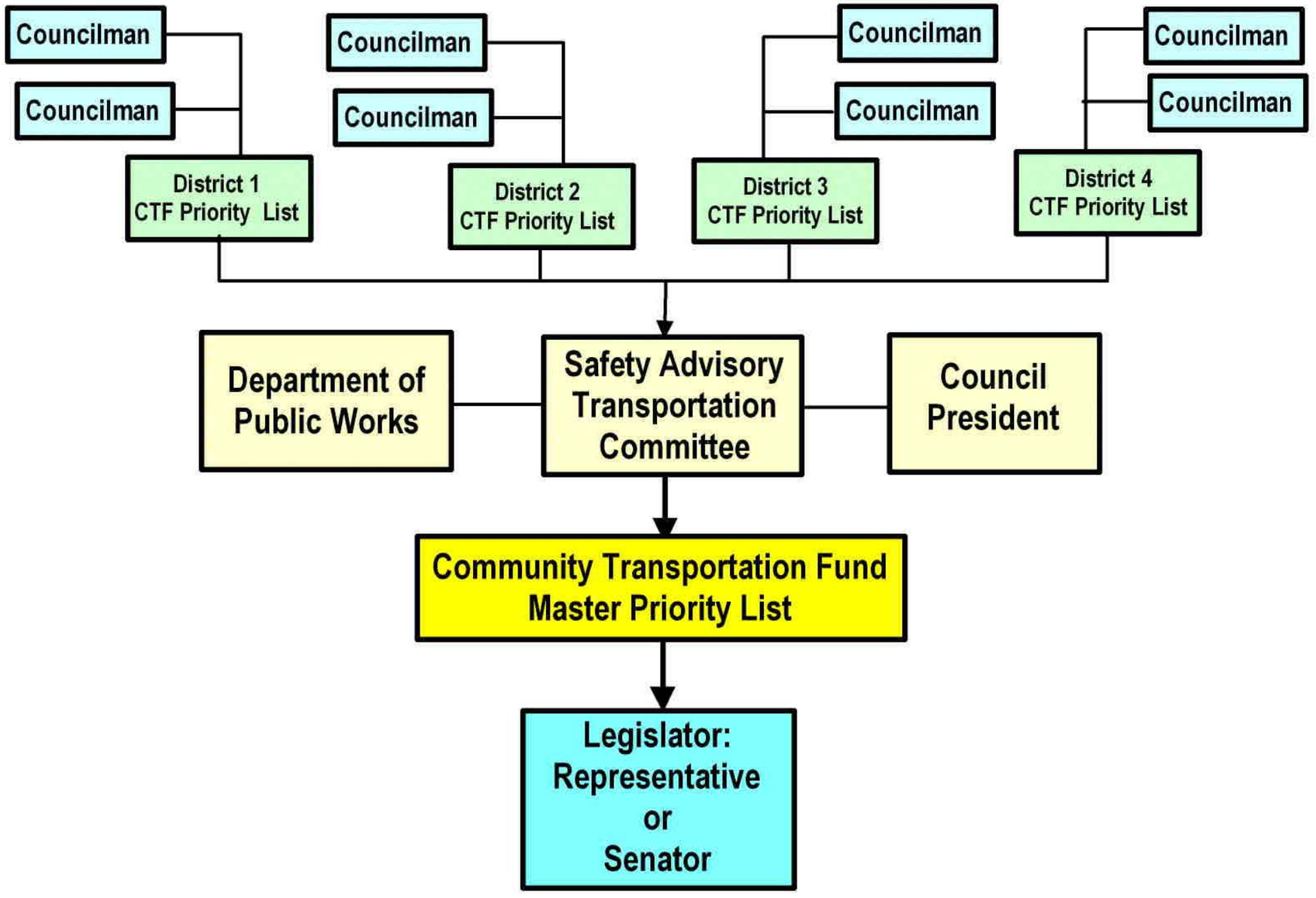


18

City of Dover
Voting Districts



Community Transportation Fund Priority List Flow Chart



The Independence Boulevard
Proposed Traffic Calming Measures

3Ws



RECEIVED
FEB 21 2017
OFFICE OF THE CITY CLERK

664 Independence Blvd.

Dover, DE 19904-2630

February 13, 2017

Office of the Mayor and Council

City Hall

15 Loockerman Plaza

Dover, DE 19903

Dear Gentlemen,

Over a year ago, I was appointed to a committee by the Mayor to work with DelDOT and State Representative Sean Lynn in order to solve our traffic problems in Bicentennial Village. The result of our work was presented by DelDOT and a proposal was presented to the Traffic Advisory Council and the full Council with open comments from residents and approved on May 9, 2016.

Since then DelDOT has been going through the steps, and we met with Mike Somers to iron out some details. Mike also made a presentation in January of 2016 to a regular meeting of our Bicentennial Village Civic Association. A DelDOT education session with Mike, hosted by Councilman Jim Hosfelt, is planned for this Wednesday, February 15. As usual, residents have been encouraged to attend.

Sometime in January, I received a draft copy of "Independence Boulevard Traffic Calming Measures Report" prepared by C. David Jamison. It was dated, signed on January 10, 2017, and sealed with a Professional Engineer Seal.

My rebuttals to his remarks follow in the same sequence as his report. I am writing this for no other purpose than to set the record straight as I see it.

Sincerely,

Thomas J. Dix

Col. USAF(Ret.)

SUBMITTED BY THOMAS J.DIX

MR. JAMISON'S REMARKS
"Continental Park is a City of Dover park and used for outdoor events (ex. St. John's Church annual Field Days). The proposed Realignment TCM will eliminate 50% of available parking that now exists on the east side of Independence Boulevard."

MY REBUTTAL
Between Continental Drive and Freedom Drive is just less than 800 feet. The realigned intersection runs for less than 140 feet. Less than 20%. I personally talked to the teacher from St. John's during her two-day outing at Continental Park. They walked from the school. Continental Park is listed as a passive park by the city of Dover. Football and soccer practice used to take place there. I talked to the coaches on a few occasions. They found the dog poop unacceptable. I believe it has been four or five years since they used the field. They now practice in the field just north of Redner's. Mr. Jamison wants us to believe that this class is one of many that use the park. The fact is that this was the only use by an organized group in recent history. Nowadays, you will seldom, if ever, see a car parked along here. This portion has the highest speeds of any part of Independence Blvd. That is why it was chosen for this remedy.

MR. JAMISON'S REMARKS
"Bicycle users will have to negotiate thru the realigned intersection as opposed to using the shoulders under existing conditions."

MY REBUTTAL
Bicycles should by law use the ordinary road unless there is a designated bike lane. With a stop sign as part of the realigned intersection, bikes have a better chance of being seen. Speeding will be reduced and bikes will be safer.

MR. JAMISON'S REMARKS
"Snow removal by City of Dover forces will be made difficult by the proposed islands as part of the realignment TCM."

MY REBUTTAL
I have lived on Independence Blvd since 1999. The snow removal crews have never hit the median island. However, the marquee has been hit three or four times by ordinary drivers!

MR. JAMISON'S REMARKS
"Having four yield signs to control traffic thru the intersection creates an opportunity for bad judgement/human error and potential vehicular and pedestrian accidents."

MY REBUTTAL
Roundabouts generally reduce deadly accidents, according to the Federal Highway Administration. [See Mr. Jamison's remarks beginning "Round-A-Bout at Colony Drive" on p. 3 and my rebuttal.]

MR. JAMISON'S REMARKS
"Snow removal by City of Dover forces will be made difficult by the proposed islands as part of the Round-A-Bout TCM."

MY REBUTTAL
Snow removal will occur the same as at any other curve in the City. At the several other roundabouts, collisions with the islands have not been a problem.

MR JAMISON'S REMARKS
"Single unit 30' length Trucks (ex. UPS) will be challenged making left turns via the Round-A-Bout. Larger 3 or more axle trucks will have to reroute."

MY REBUTTAL
I have personally consulted the State publications. They indicate that a truck with a 35-foot wheelbase can do a 360-degree turn on a 70-foot roundabout. Trucks are prohibited unless doing local delivery on Independence Blvd. The longest wheelbase truck that normally transits Independence Blvd is a school bus, with a 34-foot wheelbase. The three-axle fire dept. ladder truck has a wheelbase under 35 feet. A UPS single unit, 30-foot length truck has a wheelbase under 25 feet and will have no problem going 360 degrees around our upcoming roundabout. Tractor-trailers can go straight through using the apron.

MR. JAMISON'S REMARKS
"DelDOT's Traffic Calming Supervisor Mike Somers, who is coordinating the TCMs on Independence Boulevard project, has noted before to the City of Dover Council that Radar Speed Signs have proven to be successful in reducing the vehicular speed."

MY REBUTTAL
I have personally reviewed the minutes of that May 9, 2016, council meeting and do not see those words recorded. I have served on the Mayor's committee that worked with DelDOT in developing the traffic calming project. Douglas Stamm, who lives on Bicentennial Blvd., was also on this committee. He recently wrote to me to tell me that the radar speed sign on Bicentennial Blvd. is not effective. The major problem with the Radar Speed Sign is that it is passive. The driver can totally ignore the sign. The State Traffic Calming Manual does not call the Radar Speed Sign successful. It clearly states that police enforcing is required. In addition, the sign only works in one direction!

MR JAMISON'S REMARKS
"There are two existing TCMs in place on Independence Boulevard, All-Way Stops at the intersections at Freedom Drive and Continental Drive (see Figure 1). In 2016 a double yellow stripe centerline was installed on Independence Boulevard which has a calming effect on drivers using the roadway. The speed study performed in May, 2015 (prior to the yellow centerline striping) showed that the mean (average) speed of drivers was 29.1 mph."

MY REBUTTAL

I do not understand the point of the above remark. The Mayor's committee requested the city to paint the double lines. Painted lines are addressed in the State Traffic Calming Manual. They do have effect but they are passive. Some drivers totally ignore them. I find a mean of 29.1 mph to be totally unacceptable. We have half the people driving at 24.1 and the other half driving at 34.1. One group being safe and the other group avoiding a ticket! The top 3% do not care about tickets. We have cars clocked at over 39 mph on Independence Blvd. That is unacceptable.

MR. JAMISON'S REMARKS

"The plan calls for a stop condition with islands being placed on Independence Boulevard. This gets the drivers attention by the redirecting of travel lanes. A major downside to this plan is the impact to the adjacent City of Dover Continental Park. It would eliminate 50% of the parking on the Continental Park frontage which is used during Park events."

MY REBUTTAL

The fourth sentence should be at 20% not 50%. There are no park events.

MR. JAMISON'S REMARKS

"Round-A-Bout at Colony Drive

This concept has been used to calm traffic at various locations in Delaware. Most of them are used in developments or low volume roads. Independence Boulevard, however, is a high volume roadway (5,000 daily trips+/-) which would be atypical for the use of the type of Round-A-Bout being proposed. A safety concern is, with the volume of traffic on Independence Boulevard, that the 4 Way **Yield** scenario would create accident potential due to driver's decision-making-stress resulting in human error (*who goes first*)."

MY REBUTTAL

The roundabout would increase the capacity of that intersection vs. the existing stop-start condition. The Federal Highway Administration, Transportation Research Circular E-C 018 states that the maximum flow rate for a single lane urban roundabout is 1,800 vehicles/hr. The F.H.A. has stated that roundabouts reduce fatalities up to 90%, reduce injury crashes 75%, reduce pedestrian crashes 30%–40%, and greatly reduce the severity of injuries sustained in crashes. Also, roundabouts are used in most states and countries worldwide. Maryland, for example, has a policy to use roundabouts instead of stop signs or traffic signals at every appropriate location. Since the "give-way" rule was invented in the U.K. in 1966 — there is no stress or confusion. Diverter islands will be incorporated to make sure the driver does not try to make a left turn on entry. If accidents are reduced, I would expect that the stress factor is lower.

For further info:
Two attachments follow.
The first is Delaware roundabouts.
The second is federal roundabouts.

MR. JAMISON'S REMARKS

"An alternative to the proposed TCMs would be the installation of a Radar Speed Sign on Independence Boulevard. These are known to reduce speeding on roadways as acknowledged by DelDOT. An example can be observed at the Radar Speed Sign located on southbound North Governors Avenue just to the south of the State Street intersection. Drivers see their speed blinking on the sign and slow done to meet the posted 25 mph speed limit.

"In the final analysis, the problems that the proposed Realignment and Round-A-Bout Traffic Calming Measures create outweigh any benefits. That makes the cost difference between the proposed TCMs plans and the Radar Speed Sign a significant decision making factor…"

MY REBUTTAL

The State Traffic Calming Manual page III-9 has two anticipated impacts for Radar speed signs.
Under Traffic Diversion: "No impact." [We are looking to reduce the bypass traffic.]
Under Disadvantages: "Impact may be reduced over time unless regularly enforced by local police."
[Note Doug Stamm's letter below.]

MY FINAL REBUTAL

A letter from Douglas Stamm, who lives close to the intersection of Bicentennial Blvd. and Declaration Ave.

From: Douglas Stamm
To: Thomas J. Dix
Subject: Re: flashing radar sign
Tom,
Since the sign was installed, I have not noticed a significant difference in the behavior of drivers on Bicentennial Boulevard. While it may cause some southbound (direction in which the sign is facing) drivers to pay more attention to their speed, a majority of the cars heading South continue to exceed the posted limit. Obviously, it has no impact on the vehicles heading North towards Walker Road nor has it impacted in any manner the number of vehicles heading in either direction which ignore the stop signs at the intersection of Bicentennial and Declaration... regardless of the time of day/night, many vehicles run the stop sign with a number of them being residents of this community. In theory, the speed limit sign was a good idea but that is all it is... it has not been an effective deterrent to excessive speed. The only effective deterrent to reduce speed and sign violation is DPD presence but I doubt they have the resources to sustain their visibility for an extended time period.
Doug

<u>Please Note:</u>

Doug Stamm, Will Garfinkel and Tom Dix were appointed by Mayor Christensen to work with DelDOT to solve our traffic problems in Bicentennial Village.

The Traffic Calming Measures designed by DelDOT for Bicentennial Village were approved by the City of Dover Traffic Advisory Committee and subsequently by the City of Dover Council with a public hearing on May 9, 2016. The measures are fully funded with Community Traffic Funds from our State Representative and State Senator.

-END-

Test drive one of our roundabouts and let us know what you think!

Driving Delaware Roundabouts



For more information about roundabouts in Delaware:

Visit our Community Programs & Services – "Roundabout Awareness" page
deldot.gov

Like Us on Facebook
/delawaredot

Follow Us on Twitter
@delawaredot

Check out our "Roundabouts in Delaware" video
/delawaredot

Featuring:

- **Navigation Tips**
- **Roundabout Benefits**

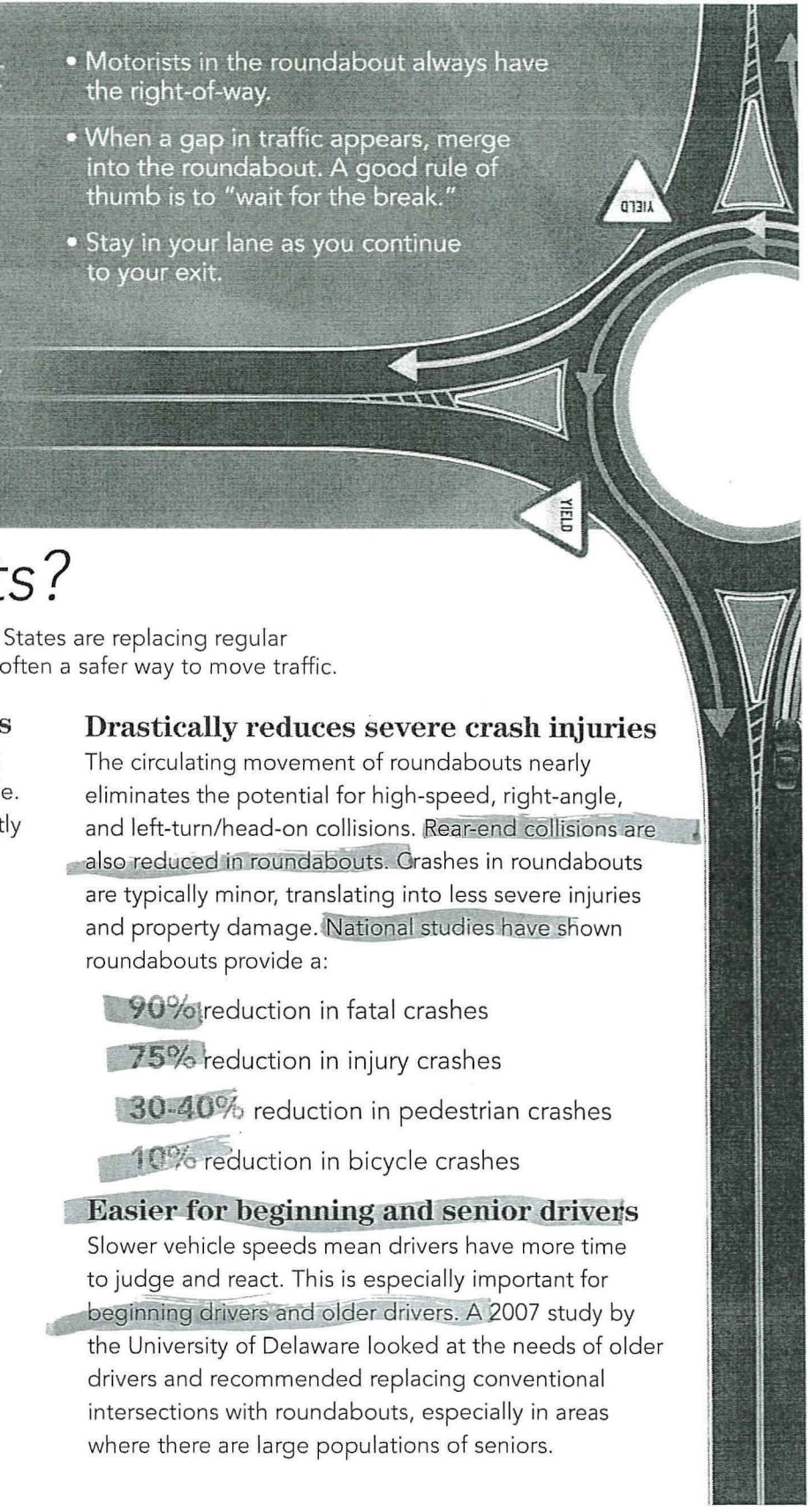


Delaware Department of Transportation
deldot.gov
302-760-2080

Navigating a roundabout

By understanding what a roundabout is and how it works, you will be able to travel through intersections easier and safer.

- When you approach the roundabout, slow down, look for, and yield to pedestrians and bicyclists.
- At the yield sign, look to the left and yield to traffic already in the roundabout. If there are no vehicles present, you may proceed without stopping.
- Look for guide signs to assist you in making the correct route choices.
- Motorists in the roundabout always have the right-of-way.
- When a gap in traffic appears, merge into the roundabout. A good rule of thumb is to "wait for the break."
- Stay in your lane as you continue to your exit.

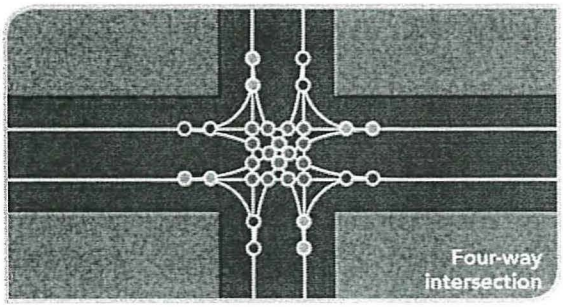


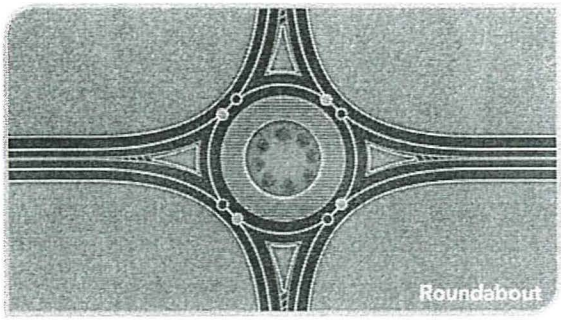
Why roundabouts?

Hundreds of communities throughout the United States are replacing regular intersections with roundabouts because they are often a safer way to move traffic.

Safer than traditional intersections

In a traditional four-way intersection, there are 32 points of conflict in which two vehicles may collide. Roundabouts have only eight conflict areas, greatly reducing the potential for crashes.





Drastically reduces severe crash injuries

The circulating movement of roundabouts nearly eliminates the potential for high-speed, right-angle, and left-turn/head-on collisions. Rear-end collisions are also reduced in roundabouts. Crashes in roundabouts are typically minor, translating into less severe injuries and property damage. National studies have shown roundabouts provide a:

- 90% reduction in fatal crashes
- 75% reduction in injury crashes
- 30-40% reduction in pedestrian crashes
- 10% reduction in bicycle crashes

Easier for beginning and senior drivers

Slower vehicle speeds mean drivers have more time to judge and react. This is especially important for beginning drivers and older drivers. A 2007 study by the University of Delaware looked at the needs of older drivers and recommended replacing conventional intersections with roundabouts, especially in areas where there are large populations of seniors.

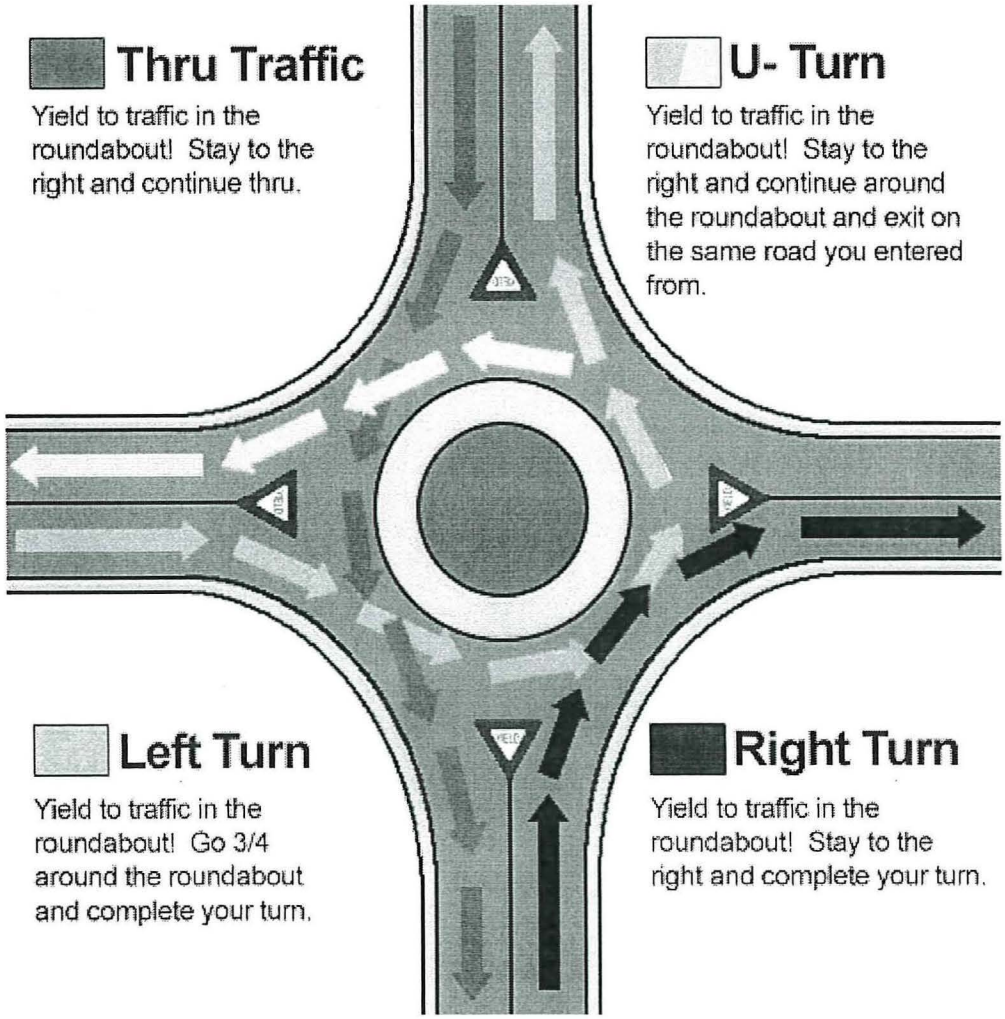
Select Language

Community Programs and Services

What is a Roundabout?

Roundabouts are circular intersections that incorporate new design features that reduce traffic accidents, traffic delays and traffic speeds when installed at appropriate locations. There are no traffic signals or stop signs in a roundabout. Most roundabouts have the following design features:

- Yield at Entry - Traffic entering the roundabout yields the right-of-way to vehicles already in the roundabout.
- One-Way Travel - Vehicles in a roundabout travel in one direction only (counterclockwise).
- Central Island - A raised, painted, or landscaped central island.
- Slower Speeds - Geometric features physically limit vehicle speeds to 25 mph or less.
- No parking
- No Pedestrian Access to Central Island



Select Language

Community Programs and Services

Roundabout History

It all began around 1905...

Traffic circles have been part of the transportation system in the United States since 1905, when the Columbus Circle designed by William Phelps Eno opened in New York City. After that, many large circles or rotaries were built in Canada and the United States. The designs at that time allowed vehicles to merge and weave at high speeds. Entering vehicles had the right-of-way, allowing high-speed entries. High crash experience and congestion in the circles led to rotaries falling out of favor in North America after the mid-1950s. Internationally, the experience with traffic circles was also bad, as many countries found that traffic circles locked up as traffic volumes increased.



Changes in the United Kingdom created the modern roundabout...

The modern roundabout was developed in the United Kingdom to fix traffic circle problems. In 1966, the United Kingdom adopted a mandatory "give-way" rule at all circular intersections that required entering traffic to give way, or yield, to circulating traffic. This rule prevented circular intersections from locking up, by not allowing vehicles to enter the intersection until there were enough gaps in circulating traffic. In addition, smaller circular intersections were proposed that made vehicles turn more tightly, resulting in slower entry and circulating speeds.

Modern roundabouts have improved traffic safety and traffic operations over older circles...

These changes improved the safety of the circular intersection by reducing the number and particularly the severity of collisions. The modern roundabout is significantly different from the older traffic circle both in how it operates and in how it is designed. The modern roundabout is greatly improved in terms of operations and safety, when compared with older rotaries and traffic circles. Many countries have adopted the modern roundabout as a common intersection form.

Modern roundabouts have improved environmental impacts...

A well designed, strategically placed modern roundabout is better for the environment than a signalized intersection because it creates shorter delays for motorists and shorter vehicle queues. The longer delays associated with traffic signals result in more vehicles idling for longer periods. Vehicles approaching a roundabout tend to arrive in a slow "rolling" pace rather than the typical stop/start behavior at signalized intersections. This results in lower fuel consumption. Recent studies have shown that idling vehicles emit larger amounts of some types of pollutants than vehicles traveling at moderate speeds. Based on this finding, fewer idling vehicles at a roundabout will result in lower emissions of certain pollutants than the same traffic at a signalized intersection.

References: Federal Highway Administration, Roundabouts: An Informational Guide, Report No. FHWA-RD-00-067, June 2000.

Select Language

Community Programs and Services

Frequently Asked Questions

Q. Once I'm in the roundabout, should I stop to let other vehicles enter the roundabout?
A. No, do not stop except to avoid a collision. You have the right-of-way over entering traffic.

Q. What determines the size of a roundabout?
A. Factors that determine the size of a roundabout generally include the amount of traffic, the size of the largest vehicle, and an appropriate travel speed.

Q. Are roundabouts appropriate everywhere?
A. No. The choice of using a roundabout versus other types of traffic control is a case-by-case decision.

Q. I drive a big truck, and that roundabout looks awfully tight. Will I fit?
A. Yes. The roundabout is designed so that large trucks can traverse them. Most trucks, even large ones, should drive on the travel lanes like most vehicles. Your trailer may track onto the portion of the center island termed the "truck apron".

Q. What if an emergency vehicle comes through the roundabout?
A. If you have not yet entered the roundabout, let the emergency vehicle pass you. If you are in the roundabout, continue on and exit as normal, then pull to the right where there is room for the emergency vehicle to pass. Do not stop inside the roundabout because you may block the emergency vehicle.

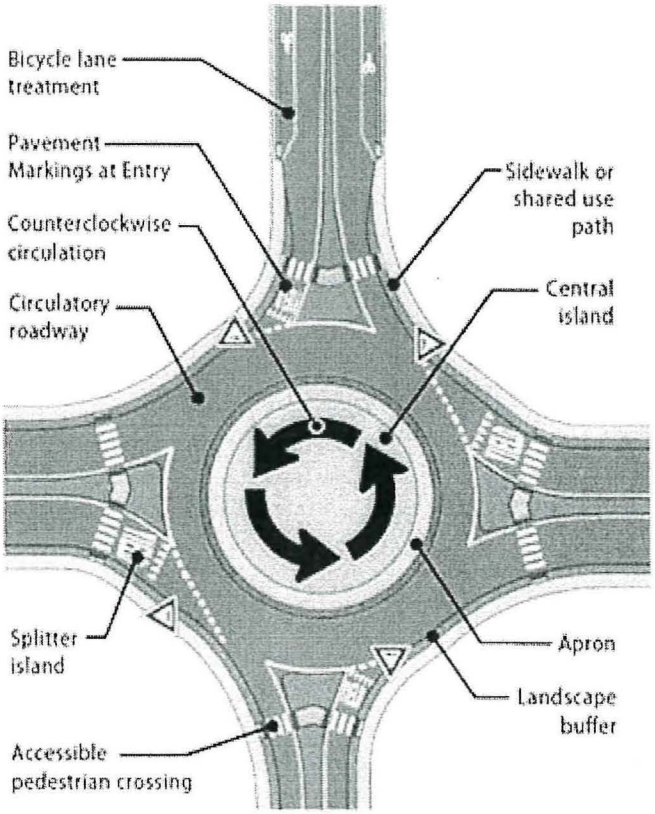
Q. What about snow removal at roundabouts?
A. A number of communities in snowy areas have installed roundabouts, including Hamilton, Ontario; Kemptville, Ontario; Howard (Green Bay), Wisconsin; Montpelier, Vermont; and Vail, Colorado. All have indicated that while there are some changes at first for snowplow crews, there are generally no major problems with snow removal in roundabouts. In Howard, Wisconsin for example, one truck will start on the truck apron and plow around the roundabout to the outside, while another truck will plow each entry and exit, pushing the snow to the outside. Roundabouts make it easier to turn snowplows.

U.S. Department of Transportation
Federal Highway Administration
1200 New Jersey Avenue, SE
Washington, DC 20590
202-366-4000

Safety

Roundabouts and Mini Roundabouts

Outreach & Education
Technical Materials
Other Resources
State & Federal Research
National Partners



A roundabout is a type of circular intersection, but is quite unlike a neighborhood traffic circle or large rotary. Roundabouts have been proven safer and more efficient than other types of circular intersections.

Roundabouts have certain distinguishing features and characteristics (as shown in the adjacent diagram). While these noted features are common to many roundabouts, they are not always present, as roundabouts are adapted to the context of the location. In fact, roundabouts don't even need to be perfectly circular! Successful roundabouts come in all shapes and sizes. Some are oval-, teardrop-, peanut- and dogbone- shaped. Some have as few as three legs and others as many as six. There are small, simple mini roundabouts, and larger, more complex multilane roundabouts. However, regardless of size, circular shape, or number of legs, the fundamental and essential characteristics of all roundabouts include:

Counterclockwise Flow. Traffic travels counterclockwise around a center island.

Entry Yield Control. Vehicles entering the roundabout yield to traffic already circulating.

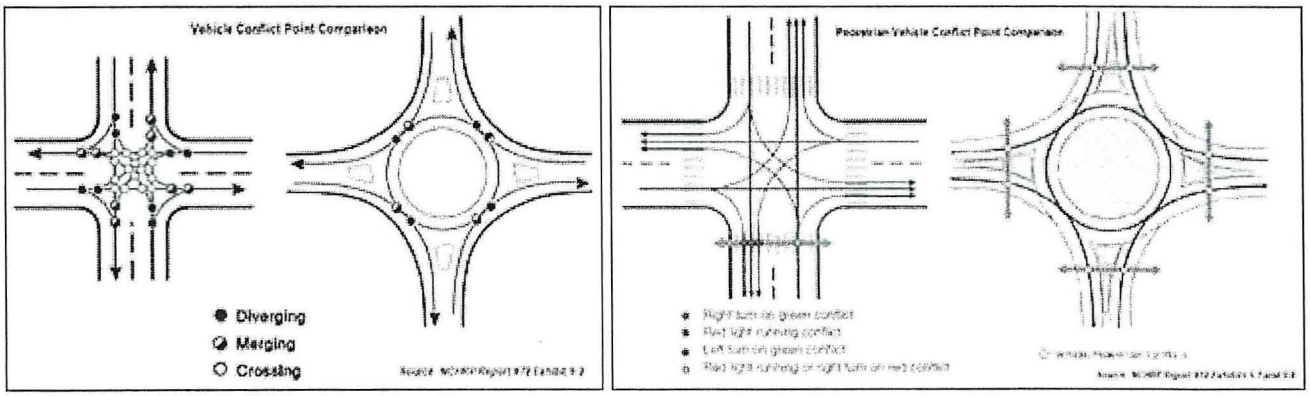
Low Speed. Curvature that results in lower vehicle speeds, generally 15-25 MPH, throughout the roundabout.

Roundabouts can provide lasting benefits and value in many ways. They are often safer, more efficient, less costly and more aesthetically appealing than conventional intersection designs.

Furthermore, roundabouts are an excellent choice to complement other transportation objectives – including Complete Streets, multimodal networks, and corridor access management – without compromising the ability to keep people and freight moving through our towns, cities and regions, and across the Nation. The FHWA Office of Safety identified roundabouts as a ***Proven Safety Countermeasure*** because of their ability to substantially reduce the types of crashes that result in injury or loss of life. Roundabouts are designed to improve safety for all users, including pedestrians and bicycles.

Most significantly, roundabouts REDUCE the types of crashes where people are seriously hurt or killed by 78-82% when compared to conventional stop-controlled and signalized intersections, per the AASHTO Highway Safety Manual.

By reducing the number and severity of conflict points, and because of the lower speeds of vehicles moving through the intersection, roundabouts are a significantly safer type of intersection. The diagram below excerpted from ***Roundabouts: An Informational Guide, Second Edition*** (published as NCHRP Report 672) illustrates the difference in conflict points between a conventional, four-legged intersection and an equivalent single lane roundabout. There are 32 conflict points associated with a conventional intersection – 8 merging (or joining), 8 diverging (or separating) and 16 crossing. In contrast, there are only 8 total conflict points at an equivalent roundabout – 4 merging and 4 diverging. Not only are conflict points halved with the roundabout, the type of conflicts that remain are the same-direction variety, which result in substantially less severity, and as a result, less likelihood of injury. The reduction of both the total number of conflict points and their severity is also true for pedestrians, also shown below in diagrams excerpted from the *Guide*.



Outreach and Education

Like any new technology or idea, it is necessary that people understand how roundabouts work and why they are needed. This conversation begins by communicating the magnitude and importance of the intersection safety challenge. With roughly ¼ of all traffic fatalities in the United States associated with intersections, it is critical that safer designs are implemented as widely and routinely as possible. But safer designs must also keep people and goods moving. Roundabouts have proven to be a safer *and* more efficient type of intersection. Still, because they may be unfamiliar to most people, successful implementation of a roundabout requires extra outreach and education. To help state and local road agencies advance roundabouts, the FHWA produces materials intended to communicate the advantages and benefits of roundabouts to a variety of different audiences. Many of these resources can be found in the ***Roundabouts Outreach & Education Toolbox***, and are also listed below:

STREET & ALLEY SURVEY

CITY OF DOVER

DEPARTMENT OF PUBLIC WORKS

2/13/2017

INFRASTRUCTURE ELEMENTS

CURRENT AND RATED INVENTORY:

- CITY STREETS – 93.22 miles
- ALLEYS – 16.70 miles
- TOTAL – 109.92 miles

ROAD RATINGS

- A PHYSICAL INSPECTION OF THE ROADWAY SURFACE WAS PERFORMED TO ESTABLISH EXISTING ROAD CONDITIONS.
- RATINGS ARE BASED UPON SEVERITY AND EXTENT OF DISTRESSES, TRAFFIC VOLUME AND ROAD IMPORTANCE.
- UTILIZED ROAD SYSTEM MANAGEMENT SOFTWARE (RSMS 11).

PAVEMENT DISTRESSESS

- ALLIGATOR CRACKING
- LONGITUDINAL / TRANSVERSE CRACKING
- EDGE CRACKING
- PATCHING / POTHOLES
- ROUGHNESS
- RUTTING
- ROADSIDE DRAINAGE

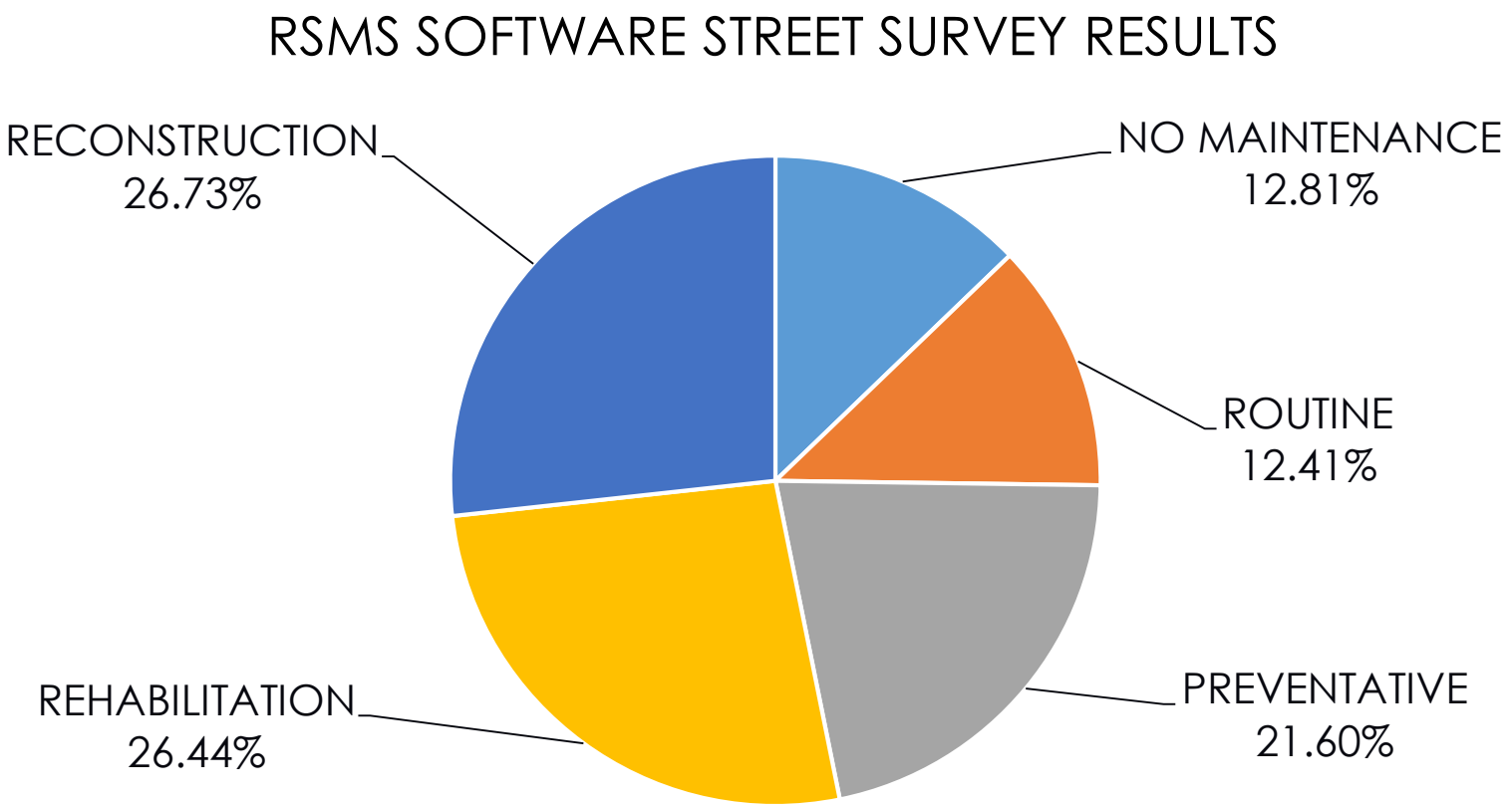
MAINTENANCE STRATEGIES

- NO MAINTENENACE- ROADS ARE IN EXCELLENT CONDITION AND REQUIRE NO MAINTENANCE.
- ROUTINE- ROADS ARE IN REASONABLY GOOD CONDITION AND ONLY PERIODIC LOWER COST REPAIRS ARE REQUIRED TO MAINTAIN THEIR CONDTION. PROPOSED SOLUTION - PATCHING AND CRACK SEALING.
- PREVENTATIVE- ROADS ARE IN FAIR CONDITION AND REQUIRE MORE EXPENSIVE REPAIRS DESIGNED TO STOP DETERIORATION BEFORE IT BECOMES A SERIOUS PROBLEM. PROPOSED SOLUTION - SURFACE COAT.

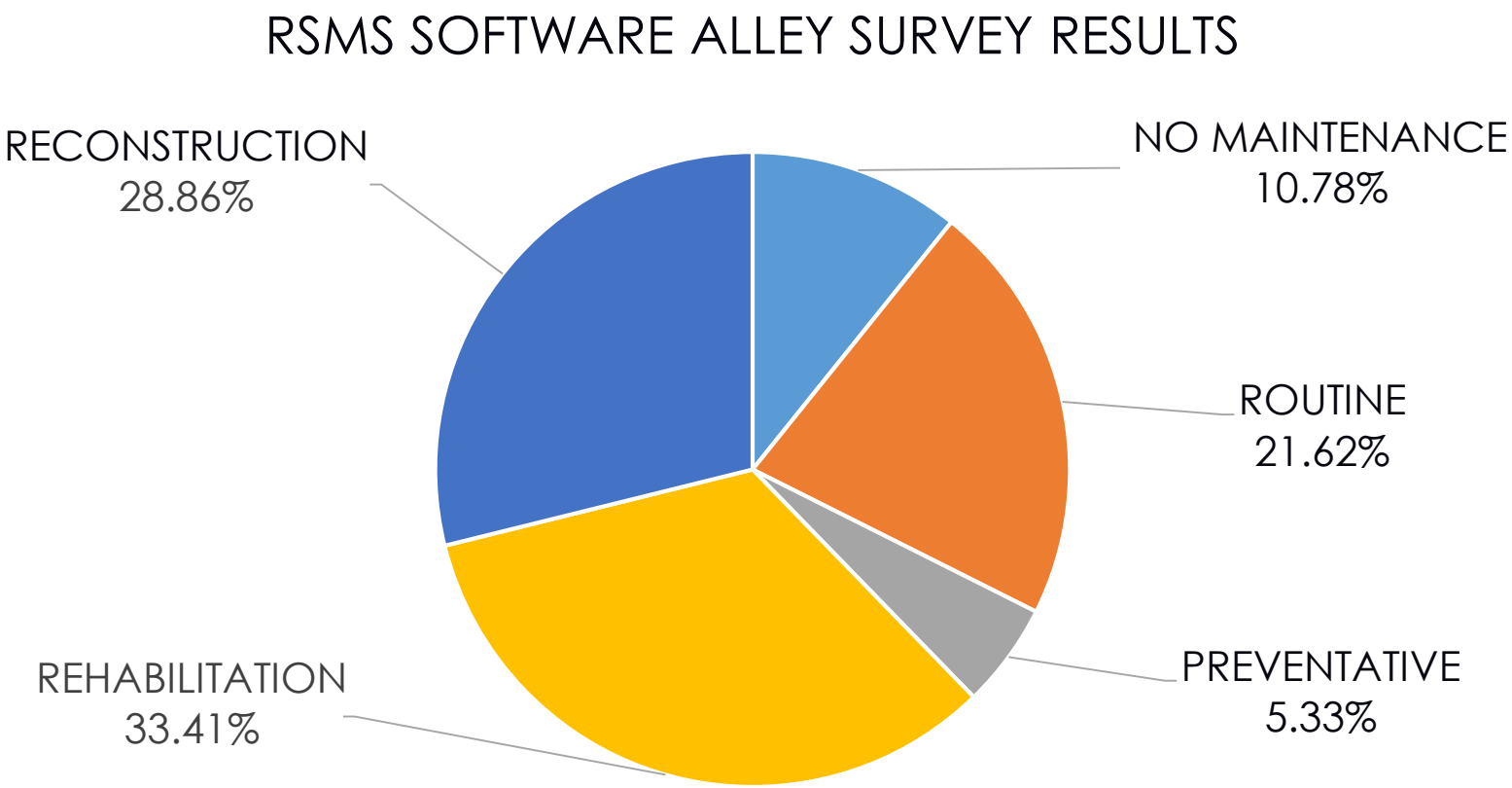
MAINTENANCE STRATEGIES

- REHABILITATION- ROADS REQUIRE SIGNIFICANT REPAIRS THAT USUALLY REQUIRE SOME MAJOR FUNDING AND WILL ADD MANY YEARS OF LIFE IF DONE CORRECTLY. PROPOSED SOLUTION - OVERLAYS (ASPHALT), GRADE/ADD MATERIAL (UNPAVED).
- RECONSTRUCTION- ROADS HAVE REACHED THE END OF THEIR USEFUL LIFE AND MUST BE COMPLETELY REBUILT. PROPOSED SOLUTION - REBUILD/REPLACE.
- DRAINAGE- ROAD DRAINAGE IS A CRITICAL FACTOR IN DETERMINING THE FUTURE CONDITION OF THE ROAD. PROPOSED SOLUTION - CLEAN DITCHES, PATCHING, CRACK SEALING.

STREET MAINTENANCE



ALLEY MAINTENANCE



MAINTENANCE REQUIREMENTS

20–YEAR PLANNING HORIZON

- CURRENT STRATEGY:
  - PAVEMENT REHABILITATION / RECONSTRUCTION
  - REPAIR OR REPLACE CURB, SIDEWALK AND CATCH BASINS
  - BRING ALL CURB RAMPS, SIDEWALKS AND CROSSWALKS INTO ADA COMPLIANCE
  - ADJUST UTILITIES / INSTALL MISCELLANEOUS LANDSCAPING
- ESTIMATED CAPITAL MAINTENANCE COSTS

  *$51 MILLION +/-
- ANNUAL FUNDING NEEDS (ROUGH ESTIMATE):

  *$2.5 MILLION +/-

*THE ESTIMATED COSTS SHOWN ABOVE WERE CALCULATED FOR A COMPLETE MILL AND OVERLAY IN EACH OF THE MAINTENANCE CATEGORIES.

RATINGS AND MAINTENANCE

- RATINGS RESULTED IN EACH STREET AND ALLEY BEING PRIORITIZED WITHIN ONE OF THE FIVE MAINTENANCE CATEGORIES.
- THE HIGHER THE PRIORITY NUMBER, THE MORE DETERIORATED THE SURFACE CONDITIONS ARE WITHIN THAT CATEGORY.
- STREETS AND ALLEYS WITH THE WORST PRIORITY NUMBER AND MAINTENANCE CATEGORY WILL BE SELECTED FOR FY18 STREET PROGRAM.

LOWEST RATED STREETS

	Road Name	Sec	Subdivision	From	To	Length	Import	Traffic	Surface	Drainage	FY17 Cost
1	Beiser Blvd.		Enterprise Business Park	Gateway Blvd.	Enterprise Place	0.38	med-high	med-high	Reconstruct-8	Good-8	**$237,902**
2	Bicentennial Blvd.	2	Bicentennial Village III	Patriot Drive	Declaration Drive	0.14	med-high	med-high	Reconstruct-8	Good-8	**$93,552**
3	Bicentennial Blvd.	3	Bicentennial Village III	Declaration Drive	Colony Drive	0.17	med-high	med-high	Reconstruct-8	Good-8	**$113,598**
4	Bicentennial Blvd.	4	Bicentennial Village III	Colony Drive	Paul Revere Court	0.08	med-high	med-high	Reconstruct-8	Good-8	**$53,459**
5	Blue Hen Blvd.-north	2	Blue Hen Mall Complex	S. Bay Road	County Entrance	0.06	med-high	med-high	Reconstruct-8	Good-8	**$38,407**
6	Blue Hen Blvd.south	3	Blue Hen Mall Complex	S. Bay Road	County Entrance	0.06	med-high	med-high	Reconstruct-8	Good-8	**$40,094**
7	Buttner Place	1		Walker Road	Woodcrest Turn	0.06	med-high	med-high	Reconstruct-8	Good-8	**$40,094**
8	Caroline Place		Hampton Square	Greenway Lane	Hampton Drive	0.04	med-high	med-high	Reconstruct-8	Good-8	**$26,729**
9	Carver Rd	2		Bend	Saulsbury Road	0.09	med-high	med-high	Reconstruct-8	Good-8	**$56,345**
10	Clara Street	1		Pear Street	N. West Street	0.07	med-high	med-high	Reconstruct-8	Good-8	**$46,776**
11	Clara Street	2		N. West Street	N. Queen Street	0.14	med-high	med-high	Reconstruct-8	Good-8	**$93,552**
12	Clara Street Ext			Saulsbury Road	End	0.24	med-high	med-high	Reconstruct-8	Good-8	**$62,023**
13	E. Water Street-North	1	Capital Green	River Road	New Castle Ave.	0.13	med-high	med-high	Reconstruct-8	Good-8	**$72,250**
14	E. Water Street-South	2	Capital Green	River Road	New Castle Ave.	0.13	med-high	med-high	Reconstruct-8	Good-8	**$72,250**
15	Hope Street			S. Governors Ave.	S. State Street	0.14	med-high	med-high	Reconstruct-8	Good-8	**$88,632**
16	Innovation Way			E. Loockerman St.	End	0.08	med-high	med-high	Reconstruct-8	Good-8	**$55,145**
17	Kesselring Avenue	1	Mayfair	New Burton Road	Alder Road	0.12	med-high	med-high	Reconstruct-8	Good-8	**$80,188**
18	Mary Street	3		N. New Street	N. Governors Ave.	0.07	med-high	med-high	Reconstruct-8	Good-8	**$47,760**
19	Mont Blanc Blvd.	3	Four Seasons	Matterhorn Drive	Matterhorn Drive	0.22	med-high	med-high	Reconstruct-8	Good-8	**$125,362**
20	Park Drive	1	Eastover Hills	E. Loockerman St.	Greenhill Road	0.09	med-high	med-high	Reconstruct-8	Good-8	**$60,141**
21	Park Drive	2	Eastover Hills	Greenhill Road	E. Division Street	0.16	med-high	med-high	Reconstruct-8	Good-8	**$106,917**
22	River Road	1	Capital Green	MLK Jr. Blvd	Kent Ave.	0.11	med-high	med-high	Reconstruct-8	Good-8	**$71,959**
23	River Road	5	Capital Green	New Castle Ave.	S. Dupont Hwy.	0.07	med-high	med-high	Reconstruct-8	Good-8	**$46,284**
24	S. American Ave.			E. Division Street	Kings Hwy. SW	0.10	med-high	med-high	Reconstruct-8	Good-8	**$66,823**
25	S. Bradford Street	1		W Division Street	W Reed Street	0.13	med-high	med-high	Reconstruct-8	Good-8	**$88,698**

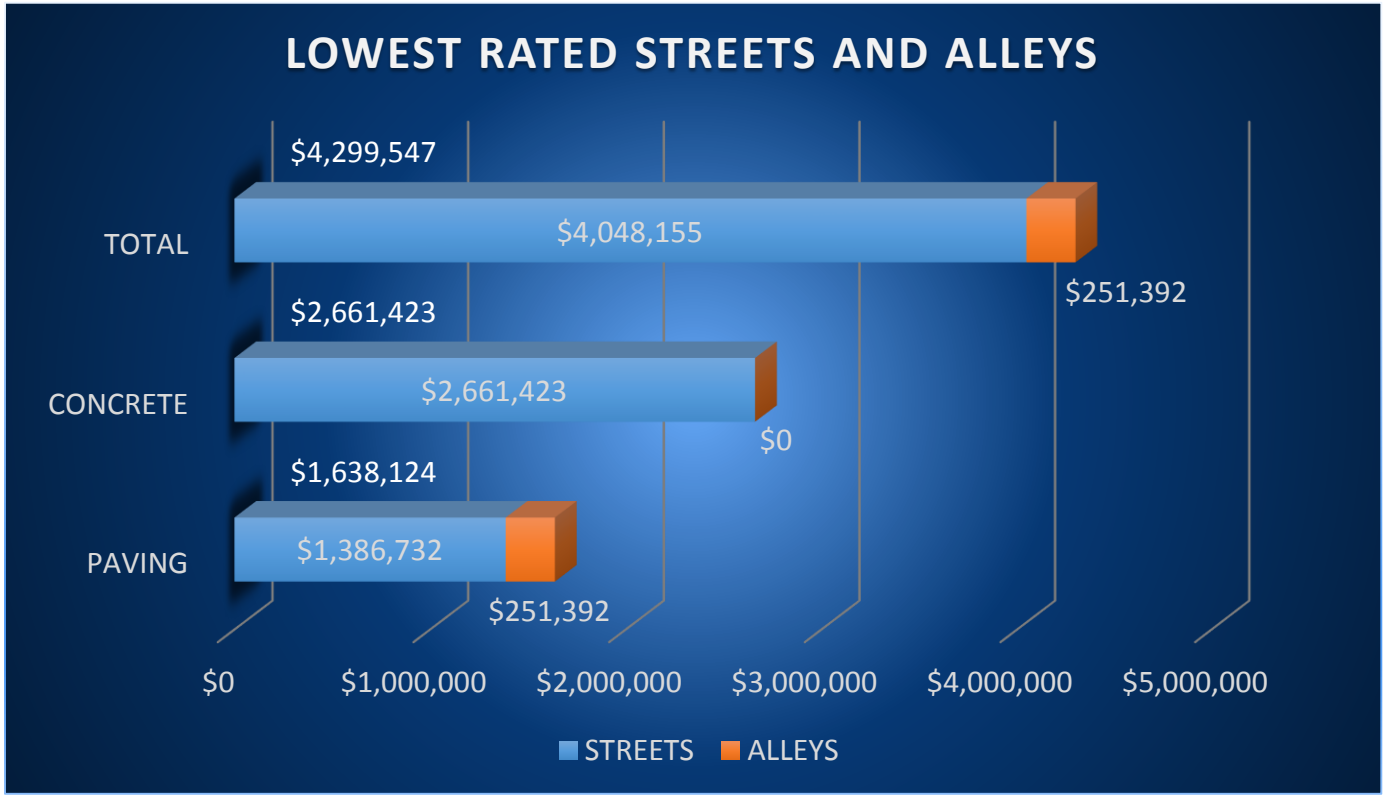
LOWEST RATED STREETS

	Road Name	Sec	Subdivision	From	To	Length	Import	Traffic	Surface	Drainage	FY17 Cost
26	S. Bradford Street	2		W Reed Street	W. Loockerman St.	0.13	med-high	med-high	Reconstruct-8	Good-8	**$88,698**
27	S. New Street	3		W. Loockerman St.	Bank Lane	0.15	med-high	med-high	Reconstruct-8	Good-8	**$102,343**
28	S. New Street	4		Bank Lane	W. Water Street	0.10	med-high	med-high	Reconstruct-8	Good-8	**$66,823**
29	S. New Street	5		South Street	W. Water Street	0.14	med-high	med-high	Reconstruct-8	Good-8	**$93,552**
30	S. New Street	6		South Street	Dover Street	0.23	med-high	med-high	Reconstruct-8	Good-8	**$153,692**
31	S. Queen Street	3		W. Loockerman St.	W North Street	0.09	med-high	med-high	Reconstruct-8	Good-8	**$60,141**
32	Silver Lake Blvd	3		1st parking ent.	2nd parking ent.	0.13	med-high	med-high	Reconstruct-8	Good-8	**$86,870**
33	Townsend Blvd	1	Towne Point	N. Dupont Hwy.	Burlington- west ent	0.06	med-high	med-high	Reconstruct-8	Good-8	**$50,215**
34	Townsend Blvd	2	Towne Point	Burlington- west ent	Burlington- east ent	0.05	med-high	med-high	Reconstruct-8	Good-8	**$37,629**
35	Townsend Blvd	3	Towne Point	Burlington- east ent	Buckson Drive	0.04	med-high	med-high	Reconstruct-8	Good-8	**$26,729**
36	Townsend Blvd	4	Towne Point	Buckson Drive	Nimitz Road	0.33	med-high	med-high	Reconstruct-8	Good-8	**$220,515**
37	W. North Street	1		S. West Street	S. Queen Street	0.13	med-high	med-high	Reconstruct-8	Good-8	**$75,905**
38	W. North Street	2		S. Queen Street	S. Governors Ave.	0.14	med-high	med-high	Reconstruct-8	Good-8	**$81,744**
39	Weston Drive	2		School Ent	End	0.11	med-high	med-high	Reconstruct-8	Good-8	**$78,144**
40	Whatcoat Drive			Saulsbury Road	Cul-de-sac	0.17	med-high	med-high	Reconstruct-8	Good-8	**$113,598**
41	William Street	1	Fairview	End	Pear Street	0.10	med-high	med-high	Reconstruct-8	Good-8	**$66,823**
42	Acacia Place	1	Acorn Farms	Shadybrook Drive	N. Little Creek Rd	0.10	medium	med-high	Reconstruct-7	Good-7	**$66,823**
43	Alder Road	1	Mayfair	Kesselring Avenue	Kesselring Avenue	0.30	medium	med-high	Reconstruct-7	Good-7	**$179,382**
44	Alder Road	2	Mayfair	Kesselring Avenue	Mayberry Lane	0.20	medium	med-high	Reconstruct-7	Good-7	**$119,588**
45	Augusta Court		Retreat	Pine Valley Road	Cul-de-sac	0.05	medium	med-high	Reconstruct-7	Good-7	**$32,709**
46	Bacon Ave.	2	Towne Point	Nimitz Road	Cul-de-sac	0.10	medium	med-high	Reconstruct-7	Good-7	**$59,794**
47	Baker Turn		Crossgates	Fiddlers Green	Shadow Court	0.05	medium	med-high	Reconstruct-7	Good-7	**$29,897**
48	Baltusrol Road	3	Fox Hall	Bellrive Court	Oakmont Drive	0.16	medium	med-high	Reconstruct-7	Good-7	**$91,173**
49	Bank Lane	1		S. West Street	S. Queen Street	0.13	medium	med-high	Reconstruct-7	Good-7	**$86,870**
50	Bank Lane	2		S. Queen Street	S. Governors Ave.	0.14	medium	med-high	Reconstruct-7	Good-7	**$93,552**

LOWEST RATED ALLEYS

	Road Name	Sec	Subdivision	From	To	Length	Import	Traffic	Surface	Drainage	FY17 Cost
1	Elm Terrace North Alley			S. State St. E. Alley	Kerbin Street	0.09	low-med	med-high	Reconstruct-6	Good-6	**$6,326**
2	Kent Ave. North Alley		Capital Green	River Road	New Castle Ave.	0.08	low-med	med-high	Reconstruct-6	Good-6	**$6,748**
3	Kent Ave. South Alley		Capital Green	River Road	New Castle Ave.	0.10	low-med	med-high	Reconstruct-6	Good-6	**$8,434**
4	Lotus St. South Alley	1	Morris Estates	S. State Street	Park Avenue	0.08	low-med	med-high	Reconstruct-6	Good-6	**$8,434**
5	Pine St. North Alley	1	Morris Estates	S. State Street East Alley	Park Avenue	0.06	low-med	med-high	Reconstruct-6	Good-6	**$5,061**
6	Pine St. North Alley	2	Morris Estates	Park Avenue	Orchard Avenue	0.11	low-med	med-high	Reconstruct-6	Good-6	**$9,278**
7	Pine St. North Alley	3	Morris Estates	Orchard Avenue	U.S. 13 West Alley	0.07	low-med	med-high	Reconstruct-6	Good-6	**$5,904**
8	River Road East Alley	1	Capital Green	Sussex Ave. North Alley	Sussex Ave.	0.02	low-med	med-high	Reconstruct-6	Good-6	**$1,968**
9	River Road West Alley		Capital Green	End	End	0.16	low-med	med-high	Reconstruct-6	Good-6	**$16,869**
10	River Road West Alley North Ent.		Capital Green	River Road	River Road West Alley	0.03	low-med	med-high	Reconstruct-6	Good-6	**$3,163**
11	S. Edgehill Ave. West Alley	2	Edgehill	E. Division Street	E. Loockerman St.	0.14	low-med	med-high	Reconstruct-6	Good-6	**$11,808**
12	S. State Street Alley			W Reed Street	W. Loockerman St.	0.12	low-med	med-high	Reconstruct-6	Good-6	**$13,495**
13	S. State Street East Alley	1	Morris Estates	Pine Street North Alley	Pine Street	0.04	low-med	med-high	Reconstruct-6	Good-6	**$3,374**
14	S. State Street East Alley			Elm Terrace North Alley	Elm Terrace	0.01	low-med	med-high	Reconstruct-6	Good-6	**$1,054**
15	Sussex Ave. North Alley		Capital Green	New Castle Ave.	River Road East Alley	0.10	low-med	med-high	Reconstruct-6	Good-6	**$9,840**
16	E. Division Street North Alley	1		Pennsylvania Ave.	Maple Ave.	0.07	low	med-high	Reconstruct-5	Good-5	**$5,904**
17	E. Division Street North Alley	2		Maple Ave.	Kent Ave.	0.06	low	med-high	Reconstruct-5	Good-5	**$4,639**
18	E. Division Street South Alley	2		S. Edgehill Ave.	Halsey Rd.	0.22	low	med-high	Reconstruct-5	Good-5	**$18,557**
19	E. Loockerman St. North Alley		Edgehill	E. Division Street S. Alley	S. Edgehill Ave. East Alley	0.24	low	med-high	Reconstruct-5	Good-5	**$18,557**
20	Green Blade Drive West Alley		Greens of Dover	Green Blade Drive	Independence Blvd.	0.23	low	med-high	Reconstruct-5	Good-5	**$19,399**
21	Holmes Street East Alley		Stoney Creek	Moriarity Street	Holmes Street	0.37	low	med-high	Reconstruct-5	Poor-5	**$36,028**
22	Maple Pkwy South Alley	1	Edgehill	N. Edgehill Ave. West Alley	N. Edgehill Ave.	0.04	low	med-high	Reconstruct-5	Good-5	**$2,812**
23	Marsh Creek Lane West Alley		Marsh Creek	Marsh Creek Lane	Marsh Creek Lane	0.09	low	med-high	Reconstruct-5	Good-5	**$7,591**
24	N. Edgehill Ave. East Alley	1	Edgehill	Maple Pkwy	E. Division Street	0.18	low	med-high	Reconstruct-5	Good-5	**$15,182**
25	N. Edgehill Ave. East Alley	2	Edgehill	Maple Pkwy	N. Edgehill Ave.	0.13	low	med-high	Reconstruct-5	Good-5	**$10,965**

COST ESTIMATE SUMMARY



* CONCRETE COSTS WERE DETERMINED USING THE AVERAGE COST OF CONCRETE WORK PER MILE OF ROAD REPAIRED IN THE FY 16 AND FY 17 STREET AND ALLEY PROGRAMS.

CAPITAL FUNDING SOURCES

- COMMUNITY TRANSPORTATION FUNDS (CTF)
- CITY OF DOVER GENERAL FUND (GF)

COMMUNITY TRANSPORTATION FUNDS

- LEGISLATORS ARE ALLOTED DISCRETIONARY FUNDS FOR EACH FISCAL YEAR.

- HISTORICALLY, THE CITY HAS RECEIVED EXCELLENT COOPERATION IN CTF ASSISTANCE FOR STREET PROGRAM PROJECTS.

CURRENT FUNDING (FY17)

CITY OF DOVER GENERAL FUND:

- $812,000

COMMUNITY TRANSPORTATION FUNDS:

- $247,600

STREET PROGRAM PROGRESS

TALLOWICK LANE

BEFORE 2016
STREET PROGRAM



AFTER 2016
STREET PROGRAM



STREET PROGRAM PROGRESS

MILLER ROAD

BEFORE 2016
STREET PROGRAM



AFTER 2016
STREET PROGRAM



STREET PROGRAM PROGRESS

MARTIN STREET

BEFORE 2016
STREET PROGRAM



AFTER 2016
STREET PROGRAM



STREET PROGRAM PROGRESS

MAPLE PARKWAY

BEFORE 2016
STREET PROGRAM



AFTER 2016
STREET PROGRAM

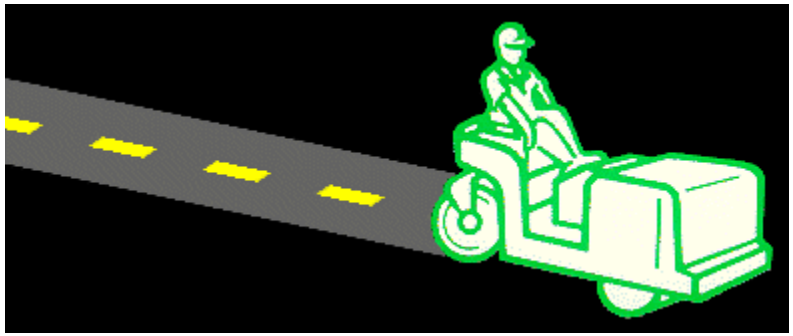


STREET PROGRAM GOALS

1) 5 YEAR CAPITAL INVESTMENT PLAN
2) ROUTINE MAINTENANCE PROGRAM







DEPARTMENT OF PUBLIC WORKS

DEDICATED TO THE
DELIVERY OF
CAPITAL PROJECTS
AND SERVICES
WHICH MAKE
THE CITY OF DOVER
A PLACE
WHERE PEOPLE
WANT TO LIVE.



SHARON J. DUCA, P.E.
DIRECTOR/CITY ENGINEER