



ROAD SAFETY AUDIT

New Fairfield—Gillotti Road

September 21, 2016

Prepared by:

Western Connecticut
Council of Governments



In Coordination with:

Town of New Fairfield & UConn
Technology Transfer Center



Disclaimer

The opinions, findings, and conclusions expressed in this publication are those of the author and do not necessarily reflect the official views or policies of the Western Connecticut Council of Governments, Connecticut Department of Transportation or the Town of New Fairfield. The conclusions of this report are advisory and intended for general planning purposes only.

Table of Contents

1	Introduction	3
2	Pre Audit	3
2.1	Gillotti Road	3
2.2	RSA Process	6
3	Field Audit	7
3.1	Observations	7
4	Post Audit.....	9
4.1	Discussion and Key Challenges	9
4.2	Recommendations	10
4.2.1	Short Term.....	10
4.2.2	Medium Term.....	13
4.2.3	Long Term.....	15
5	Moving Forward and Funding Opportunities	17
5.1	LOTICIP	17
5.2	LRARP	17
5.3	TAP	17

Tables

Table 1. Crashes between 2013 and 2014	5
Table 2. Crashes between 2015 and present.....	5

Figures

Figure 1. RSA Area (Source: Google Maps, 2016)	3
Figure 2. All Crashes from 2015 to present (Source: Connecticut Crash Data Repository)	4
Figure 3. Pre-Audit Briefing.....	6
Figure 4. RSA Process (Source: FHWA)	6
Figure 5. RSA team using digital level	7
Figure 6. RSA team discussing observations	7
Figure 7. Catch basin blocked by debris.....	8
Figure 8. Tire marks visible on grass	8
Figure 9. There are no shoulder lines	8
Figure 10. Outdated sign.....	8
Figure 11. Groups presented their findings and strategies to the entire RSA team.....	9
Figure 12. Paint shoulder lines.....	11
Figure 13. Clear all catch basins of debris.....	11

Figure 14. Paint stop bars	11
Figure 15. Chevron Alignment Signs	11
Figure 16. Centerline Rumble Strips (Source: CTDOT)	13
Figure 17. High Friction Surface Treatment (Source: FHWA)	13
Figure 18. Utility pole near intersection of Ball Pond Road East	15
Figure 19. Install sidewalks along Gillotti Road	15

1 Introduction

A Road Safety Audit (RSA) is a qualitative assessment of a roadway's existing conditions that evaluates potential safety issues and develops recommendations to mitigate the identified challenges. The goal of the RSA is to improve safety for all roadway users including motorists, pedestrians and cyclists.

For the purpose of this report, the RSA is divided into three phases:

1. **Pre Audit** – Provides an overview of the RSA process and RSA area.
2. **Field Audit** - Documents observations recorded during the field visit.
3. **Post Audit** – Discussion of findings and development of recommendations.

2 Pre Audit

2.1 Gillotti Road

The Town of New Fairfield selected Gillotti Road to be evaluated as part of the RSA. New Fairfield expressed concerns on the local road regarding challenges with roadway geometry and safety due to reported crash history. For the purpose of this RSA, the team focused on a particular corridor, approximately a third of a mile, between Route 39 (Ball Pond Road) and Titicus Mountain Road (Figure 1). Classified as a Collector road, Gillotti Road experiences approximately 5,500 average daily trips (ADT). This data was collected by the Connecticut Department of Transportation (CTDOT) on Gillotti Road between Jessie Street and Frisbie Street in 2013.



Figure 1. RSA Area (Source: Google Maps, 2016)

Gillotti Road serves as an east-west connection in town and has one travel lane in each direction; at the intersection with Route 39, westbound traffic has two lanes, one left turn and one right turn. The posted speed limit is 25 mph and there are no sidewalks or bicycle facilities. While this section is mostly residential, there are several local schools located on the eastern end of Gillotti Road outside of the RSA area.

Within the RSA area, Gillotti Road is intersected by five local roads: Lake Drive, Flora Street, Jessie Street, Frisbie Street, and Ball Pond Road East. The three local roads that intersect Gillotti Road from the south, Flora Street, Jessie Street, and Frisbie Street, are all neighborhood roads with no outlet.

Between 2013 and March 2016, there were 16 vehicles crashes in the RSA area. Table 1 and Table 2 provide information on the crashes that occurred on Gillotti Road between two different time periods: 2013 to 2014; and 2015 to present, respectively. These tables are separated because the State of Connecticut began using a new reporting format, the Model Minimum Uniform Crash Criteria, in 2015. Figure 2 displays crashes that occurred from 2015 to present; there is a cluster of crashes evident near one end of the “S curve” at the Ball Pond Road East and Frisbie Street intersections.

Out of the sixteen total crashes, eleven resulted in property damage and five resulted in injuries. No fatalities were reported and there were no crashes involving pedestrians or cyclists. Two crashes involved motorists that lost control of their vehicle, veered off the roadway and struck a fence. Inclement weather played a role in safety issues on Gillotti Road with road surface conditions (wet, icy, snow, slush) contributing to twelve of the reported crashes. In addition, twelve crashes involved striking fixed objects including curbing, fences, walls, ledges and utility poles. Additional information on each of the reported crashes that have occurred on Gillotti Road can be found in the appendix.

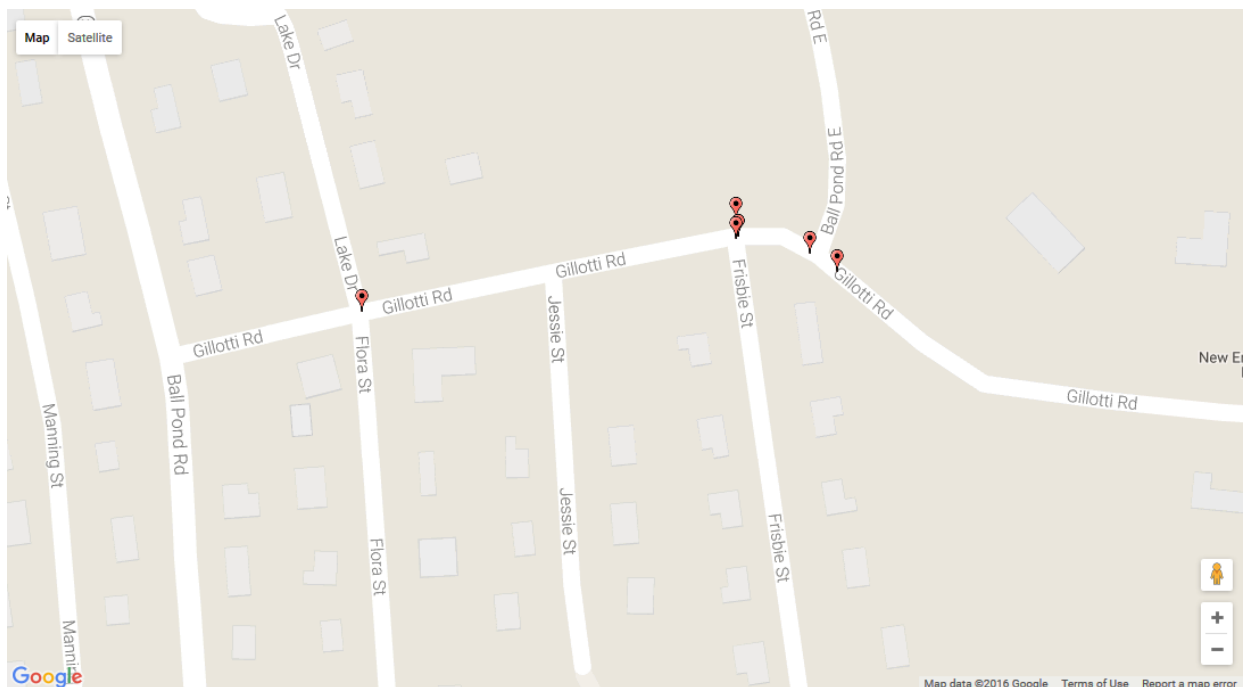


Figure 2. All Crashes from 2015 to present (Source: Connecticut Crash Data Repository)

Table 1. Crashes between 2013 and 2014

Crashes 2013 - 2014		
Crash Severity		
Property Damage Only	8	89%
Injury	1	11%
Fatality	0	0%
Crash Type		
Fixed Object	9	100%
Contributing Factor		
Speeding Too Fast for Conditions	8	89%
Under the Influence	1	11%
Weather Condition		
No Adverse Condition	3	33%
Rain	4	44%
Snow	2	22%
Road Surface Condition		
Dry	1	11%
Wet	5	56%
Ice	2	22%
Snow/Slush	1	11%
Lighting Condition		
Daylight	6	67%
Dark-Not Lighted	3	33%

Table 2. Crashes between 2015 and present

Crashes 2015 to present		
Crash Severity		
Property Damage Only	3	43%
Injury	4	57%
Fatality	0	0%
Crash Type		
Angle	1	14%
Front to Rear	2	29%
Sideswipe, Opposite Direction	2	29%
Not Applicable	2	29%
Contributing Circumstances		
Road Surface Condition	7	100%
Weather Condition		
Clear	2	29%
Rain	2	29%
Snow	3	43%
Road Surface Condition		
Dry	1	14%
Wet	3	43%
Snow	2	29%
Sand	1	14%
Lighting Condition		
Daylight	7	100%

2.2 RSA Process

The RSA in New Fairfield was conducted on September 21, 2016 and led by the UConn Technology Transfer Center with support from the Town of New Fairfield and Western Connecticut Council of Governments (WestCOG). RSA participants included the New Fairfield First Selectman, town employees, CTDOT, UConn, WestCOG, and representatives from other municipalities.



Figure 3. Pre-Audit Briefing

During the Pre Audit, participants were trained on how to conduct an RSA following processes developed by the Federal Highway Administration (FHWA) (Figure 4). The presentation focused on the purpose and benefits of conducting an RSA. Case studies were presented allowing the group to practice identifying roadway challenges and discussing solutions to improve those issues. This exercise provided the group with the framework for conducting the field audit.

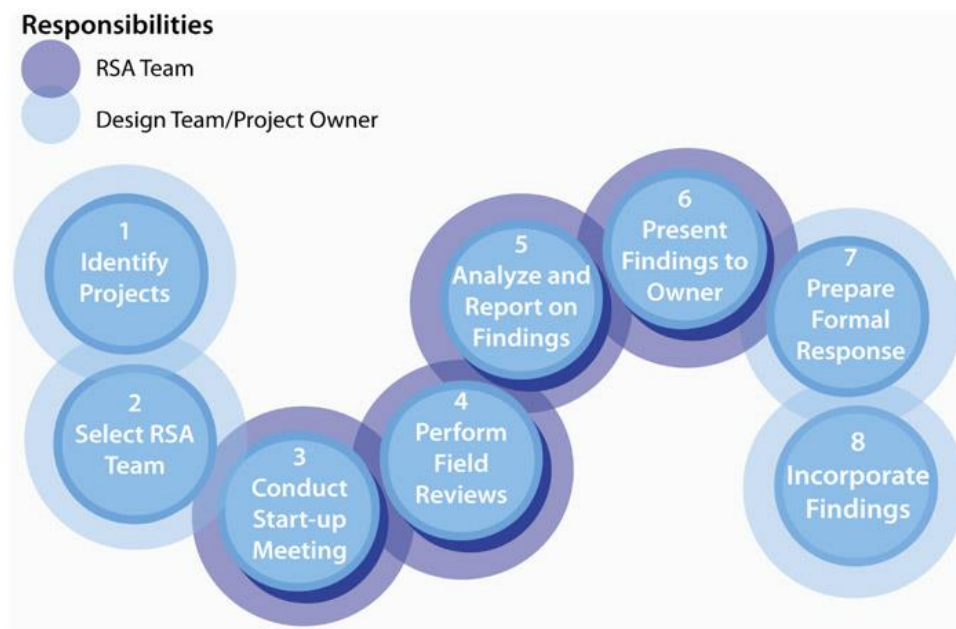


Figure 4. RSA Process (Source: FHWA)

3 Field Audit

RSA participants were divided into three groups for the field audit. Each group was provided with a map of Gillotti Road and a prompt list identifying categories to consider while evaluating the RSA area. Equipment was available to help during the field audit including a measuring wheel, range finder, ball bank indicator, radar gun, and a digital level. Groups recorded their observations and findings throughout the field visit.



Figure 5. RSA team using digital level



Figure 6. RSA team discussing observations

3.1 Observations

Below are some of the observations made during the field audit by the RSA teams:

- Catch basins are blocked with debris (Figure 7).
- On the westbound side of Gillotti Road, tire marks are visible in the middle of the “S curve” indicating a vehicle had veered off the roadway (Figure 8).
- Vegetation is overgrown, particularly along the “S curve” area.
- The intersection at Ball Pond Road East has a wide radius.
- Vehicles were observed stopping past the stop sign or rolling through the stop.
- There are no stop bars painted at the intersection roads.
- Cyclist traveling westbound onto Gillotti Road from Ball Pond Road East did not stop at the stop sign.
- There are no shoulder lines striped on Gillotti Road (Figure 9).
- Road width varies through the RSA area.
- There are no sidewalks for pedestrians.
- Some of the signs are outdated and are not retroreflective (Figure 10).



Figure 7. Catch basin blocked by debris



Figure 8. Tire marks visible on grass



Figure 9. There are no shoulder lines



Figure 10. Outdated sign

4 Post Audit

4.1 Discussion and Key Challenges

Once the field audit was complete, each group gathered to discuss their findings and observed safety concerns. A series of short, medium, and long-term recommendations were developed to mitigate these challenges. Groups presented their strategies to the entire RSA team for discussion.



Figure 11. Groups presented their findings and strategies to the entire RSA team

Key Challenges



Lighting – Aside from one streetlight near the Route 39 intersection, Gillotti Road is not lighted. The dark lighting conditions may contribute to decreased visibility where motorists may have a harder time seeing and navigating the roadway's challenges, particularly the "S curve"



Signage – Lack of signage. The existing signage on Gillotti Road to warn motorists of the "S curve" is limited to one advisory sign on the westbound side "Slow Curve Ahead". There is no advisory speed limit sign to encourage motorists to travel slower.



Roadway geometry – The biggest challenge with roadway geometry pertains to the "S curve" due to grading and cross slope and sightline issues. Westbound traffic travels downhill through this section. Several reported crashes involved vehicles losing control and veering off the roadway through the "S curve".



Pavement markings – While the centerlines are painted on Gillotti Road, there are no shoulder lines. Road width varies throughout the corridor, and shoulder lines could help keep lane width consistent. In addition, shoulder lines create a perceived smaller lane and may reduce travel speeds and help guide vehicles through the curves by better showing the edge of road.



Overgrown vegetation and debris – There are areas with overgrown vegetation, particularly around the "S curve" section which is heavily wooded. In addition to reducing sightlines, this also contributes to the debris that has accumulated in the catch basins. Blocked catch basins impede drainage and may cause ponding or wet roadway conditions that contribute to crashes.



Speed limit – As evidenced by the number of crashes caused by motorists speeding too fast for conditions, speed limit is a concern on Gillotti Road. Currently posted at 25 mph, there is no advisory speed limit for the "S curve" which may warrant a lower traveling speed due to its geometry challenges.

4.2 Recommendations

The following short, medium and long term recommendations provide New Fairfield with a strategy to plan ahead for improvements to Gillotti Road.

4.2.1 Short Term

Short term strategies include recommendations that can be implemented in a quick timeframe and have a relatively low cost.

1. **Paint shoulder lines along Gillotti Road.** Striping the shoulder lines could provide a visual guide to help vehicles stay in their lane (Figure 12). Depending on shoulder width, the newly defined shoulder area may also serve as space for cyclists to use.
2. **Clear catch basins of debris.** Observations during the RSA indicated several of the grates were blocked by debris including branches and leaves (Figure 13). Clearing the blockage may improve drainage, potentially reducing wet or icy roadway conditions.
3. **Paint stop bars.** Adding stop bars at each of the intersecting roads will alert motorists where to stop and may reduce the amount of vehicles rolling through the stop (Figure 14).
4. **Evaluate relocation of school bus stops.** The current bus stops along Gillotti Road are located near the intersection of Frisbie Street and Ball Pond Road East. This particular area is situated at the end of the “S curve” and relocating these bus stops to another section of Gillotti Road could be safer for students to cross and for vehicles to stop when the bus is picking up or dropping off students.
5. **Install new signage and upgrade outdated signage.** Consider installing chevron signing along the “S curve” (Figure 15). Installing flashing beacons at key sections on Gillotti Road could aid in alerting motorists of approaching roadway challenges, such as a steep grade change or curve, or of school bus stops. Signage should be updated to ensure proper retroreflectivity for maximum visibility. Consider adding reflectors to existing utility poles and sign posts.
6. **Evaluate if an advisory speed is warranted for “S curve” area.** The current speed limit is 25 mph along Gillotti Road. A slower advisory speed posted at either end of the “S curve” may help reduce speed related crashes.
7. **Clear any overgrown shrubbery or vegetation.** This can help improve sightlines for motorists. Clearing vegetation along the shoulder line may also reduce the amount of debris that accumulates at the catch basins.
8. **Evaluate strategies for targeted speed enforcement.**



Figure 12. Paint shoulder lines



Figure 13. Clear all catch basins of debris



Figure 14. Paint stop bars



Figure 15. Chevron Signs

Short Term Recommendations



Paint shoulder lines

Clear catch basins of debris

Upgrade signage

Evaluate bus stop locations

Paint stop bar lines

Clear overgrown vegetation

Determine if advisory speed limit is needed

4.2.2 Medium Term

Medium term strategies include recommendations that may take more time to implement due to coordination with departments or agencies, or have a higher cost.

1. **Install additional lighting.** Providing overhead street lights could better illuminate the roadway of potential challenges.
2. **Install centerline rumble strips.** This type of roadway treatment, which is a proven safety countermeasure by FHWA, can help alert motorists when their vehicle has exited their lane and veered into oncoming traffic (Figure 16).
3. **Upgrade roadway with high friction pavement.** This is a type of surface treatment (Figure 17) that offers skid resistance and helps reduce roadway departure. This treatment, which is a proven safety countermeasure by FHWA, has been successful in improving safety in roadways with geometry challenges.

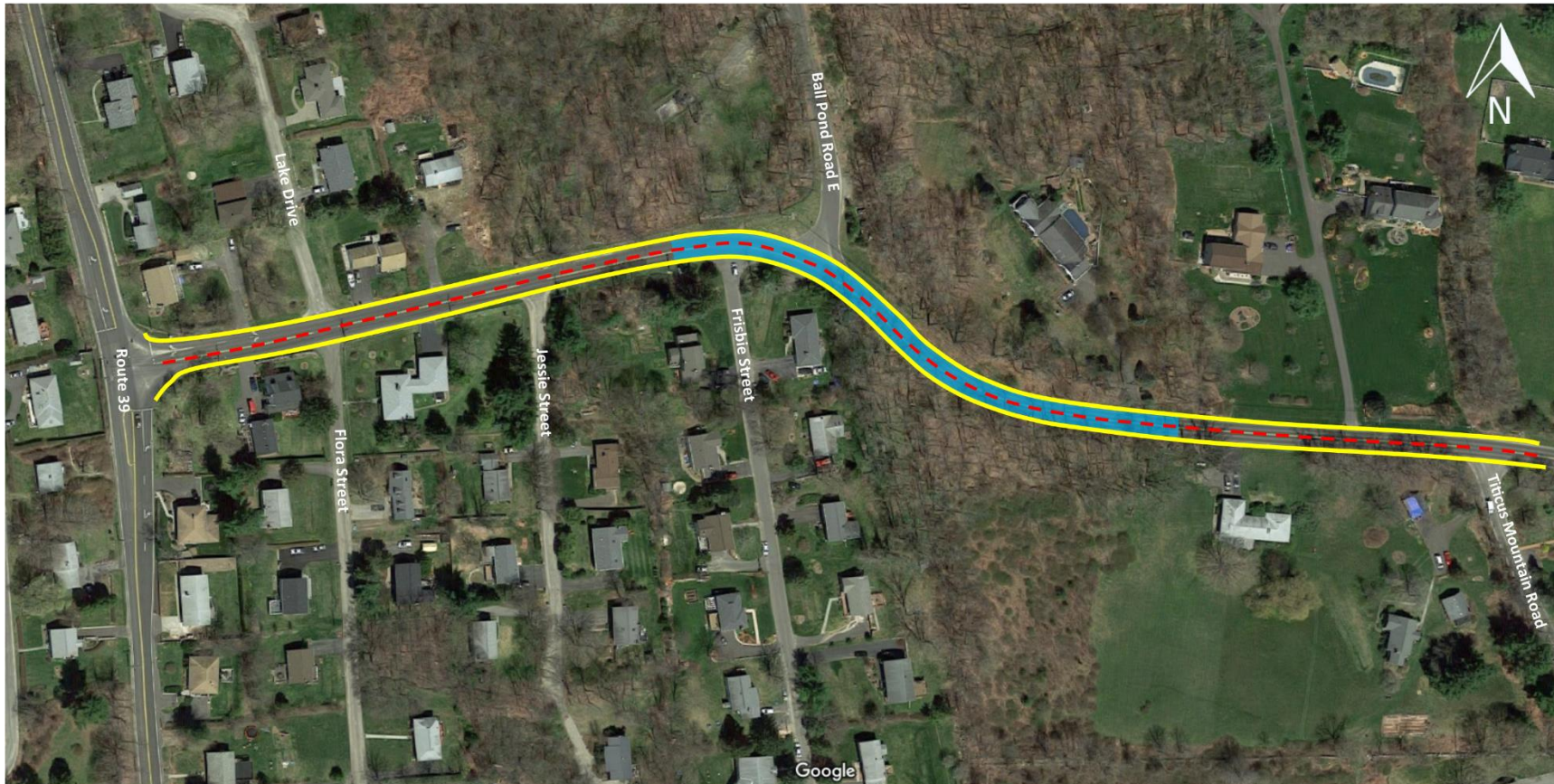





Figure 16. Centerline Rumble Strips (Source: CTDOT)



Figure 17. High Friction Surface Treatment (Source: FHWA)

Medium Term Recommendations



-  Install street lights
-  Install centerline rumble strips
-  Use high friction surface treatment

4.2.3 Long Term

Long term strategies include recommendations that may take longer to implement due to high capital costs or lengthy coordination processes.

1. **Consider realignment of the roadway, particularly the “S curve” section.** Realigning Gillotti Road would entail significant time due to planning, engineering designs and construction. Realigning the roadway may require New Fairfield to acquire property. During this process, evaluate improvements to roadway grade and cross slopes. Two considerations were presented by the RSA team:
 - a. **Installing a roundabout at the intersection of Gillotti Road and Ball Pond Road East.**
 - b. **Realigning the “S curve” to be straighter.**
2. **Relocate utility pole at the Ball Pond Road East intersection.** This utility pole is located on the northwest corner of the intersection and on the outside curve of the roadway (Figure 18). Relocating this pole to the opposite side and on the inside curve of the roadway could reduce the potential of vehicles hitting the pole in an accident. When motorists lose control of their vehicle in a curve, the vehicle is more like to veer to the outside of the curve.
3. **Install sidewalks.** Consider installing sidewalks on at least one side of Gillotti Road for pedestrians (Figure 19).

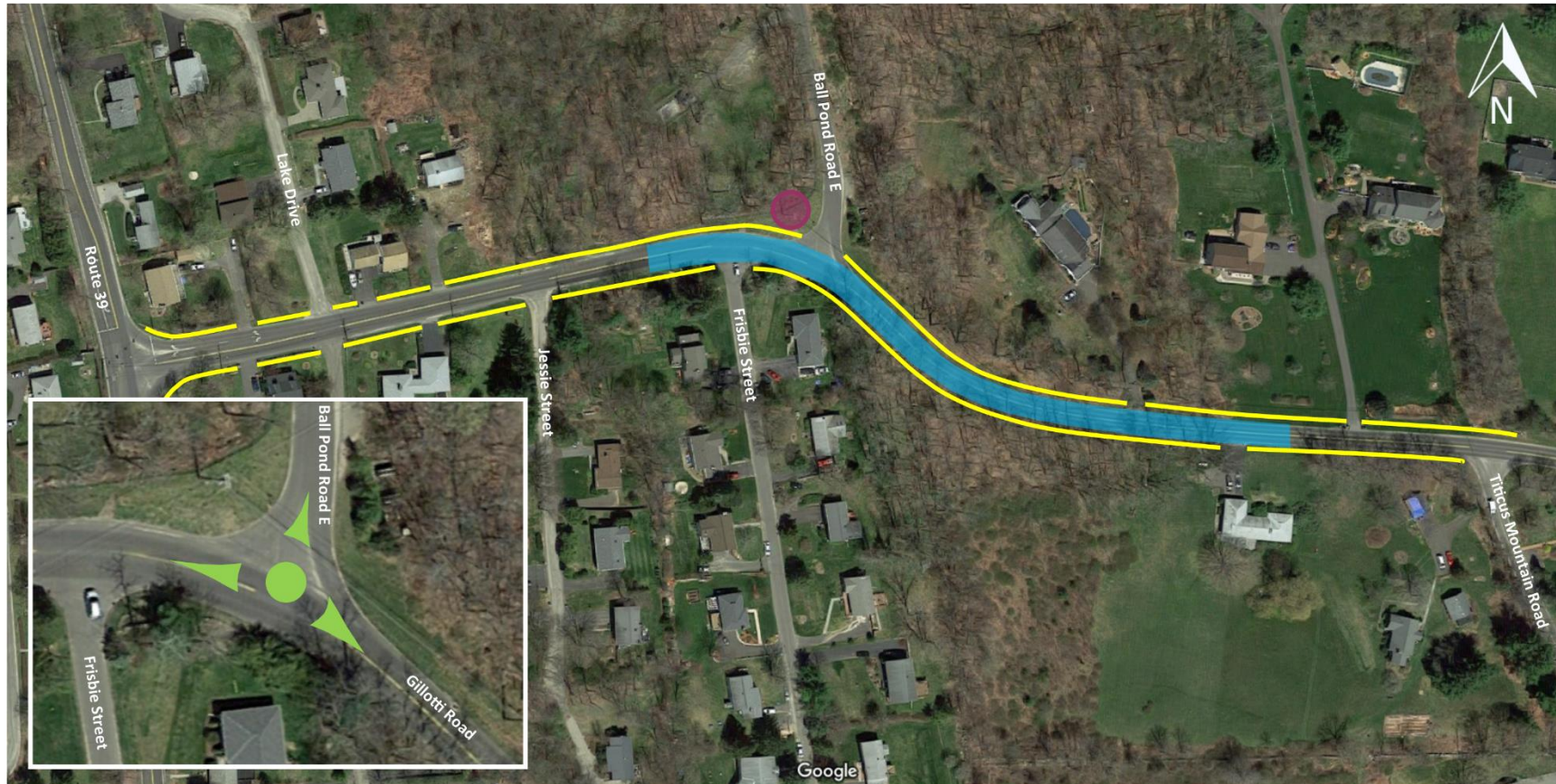


Figure 18. Utility pole near intersection of Ball Pond Road East



Figure 19. Install sidewalks along Gillotti Road

Long Term Recommendations



Install sidewalks

Evaluate for realignment to straighten out curve

Evaluate feasibility of a roundabout

Relocate utility pole

5 Moving Forward and Funding Opportunities

The recommendations documented in this report represent the analysis and collaborative discussion by the RSA team. New Fairfield may use these strategies to prioritize and implement the recommendations as funding becomes available. As Gillotti Road is a town-owned facility, New Fairfield would be responsible for providing funds to implement any of the aforementioned strategies. The following grant programs offer New Fairfield opportunities to acquire funding to implement some of these recommendations.

5.1 LOTCIP

Local Transportation Capital Improvement Program – This program is funded by the Connecticut Department of Transportation and may be used for transportation projects on local roads. Projects are solicited, reviewed, and prioritized by WestCOG. Funds may be used for construction and property acquisition; any costs associated with engineering designs are the municipality's responsibility.

5.2 LRARP

Local Road Accident Reduction Program (or its successor) – This funding program is targeted for roadways that have demonstrated safety concerns related to crash history and accident potential. Projects funded through this program are typically for low to moderate cost improvements with a \$500,000 cap. These funds may be used for construction and capital costs. Any costs associated with preliminary engineering, design, and any property acquisition are the municipality's responsibility.

5.3 TAP

Transportation Alternatives Program – This program provides funding for projects that focus on improvements for non-motorized transportation users, particularly recreational trails and facilities for pedestrians and cyclists. Connecticut Department of Transportation administers this program on behalf of FHWA; funds are allocated through the Councils of Governments.



APPENDIX



Crashes between 2013 to 2014																				
Date Of Crash	Time Of Crash	Severity	Number Of Vehicles	Number Of Pedestrians	Number Of Qualifying Commercial Vehicles	Route Direction	Cumulative Route Mileage	At or Between Intersections	Name of Road that Crash Occurred On	Name or Route Number of Road at which Crash Occurred	Measure Distance	Unit Of Measure	Name of Nearest Intersection, Street, Town Line or Mile Marker	Alpha Description of Crash Location	Weather Condition	Road Surface Condition	Light Condition	Crash Occurred On	Other Roadway Feature	Contributing Factor
10/7/2013	15:36:00	Property Damage Only	1	0	0	East	0.01	Crash occurred BETWEEN intersections	GILLOTTI RD		10	Feet	Ball Pond Rd East	50 feet East of RT 39-BALL POND R	Rain	Wet	Daylight	Main Roadway	None	Speed Too Fast for Conditions
8/6/2014	0:35:00	Property Damage Only	1	0	0	East	0.03	Crash occurred BETWEEN intersections	GILLOTTI RD		150	Feet	Ball Pond Rd E	150 feet East of RT 39-BALL POND	Rain	Wet	Dark-Not Lighted	Main Roadway	None	Under the Influence
1/18/2014	22:34:00	Property Damage Only	1	0	0	East	0.11	Crash occurred BETWEEN intersections	GILLOTTI RD					50 feet East of JESSIE ST	Snow	Ice	Dark-Not Lighted	Main Roadway	None	Speed Too Fast for Conditions
1/25/2014	15:36:00	Property Damage Only	1	0	0	East	0.11	Crash occurred BETWEEN intersections	GILLOTTI RD		10	Feet	Jessie St.	30 feet East of JESSIE ST	Snow	Snow/Slush	Daylight	Main Roadway	None	Speed Too Fast for Conditions
1/5/2013	23:10:00	Property Damage Only	1	0	0	East	0.14	Crash occurred AT an intersection	GILLOTTI RD	at FRISBIE ST				at FRISBIE ST	No Adverse Condition	Ice	Dark-Not Lighted	Main Roadway	Int. Public Road	Speed Too Fast for Conditions
10/23/2014	8:27:00	Property Damage Only	1	0	0	East	0.18	Crash occurred BETWEEN intersections	GILLOTTI RD					100 feet East of BALL POND RD EAS	Rain	Wet	Daylight	Main Roadway	None	Speed Too Fast for Conditions
9/1/2013	13:29:00	Property Damage Only	1	0	0	East	0.21	Crash occurred BETWEEN intersections	GILLOTTI RD					285 feet East of BALL POND RD EAS	No Adverse Condition	Wet	Daylight	Main Roadway	None	Speed Too Fast for Conditions
10/6/2013	11:02:00	Property Damage Only	1	0	0	East	0.21	Crash occurred BETWEEN intersections	GILLOTTI RD		250	Feet	Ball Pond Road East	250 feet East of BALL POND RD EAS	Rain	Wet	Daylight	Main Roadway	None	Speed Too Fast for Conditions
1/5/2013	8:15:00	Injury (No fatality)	1	0	0	East	990.91	Crash occurred BETWEEN intersections	GILLOTTI RD					? on Gillotti Rd	No Adverse Condition	Dry	Daylight	Main Roadway	None	Speed Too Fast for Conditions

Model Minimum Uniform Crash Criteria
2015 Crashes to Present

Date Of Crash	Day of the Week	Day of the Week	Time of Crash	Crash Severity	Roadway Name	Intersecting Roadway Name	First Harmful Event	Manner of Crash / Collision Impact	Location of First Harmful Event	Weather Condition	Light Condition	Road Surface Condition	Contributing Circumstances, Environment	Contributing Circumstances, Road	Crash Specific Location	Type of Intersection	School Bus Related	Mile-marker	Trafficway Ownership	Number Of Motor Vehicles	Latitude	Longitude
2/7/2015	7	Saturday	11:58:00	Property Damage Only	GILLOTTI RD		Motor Vehicle in Operation	Sideswipe, opposite direction	On Roadway	Snow	Daylight	Snow	Weather Conditions	Road Surface Condition (wet, icy, snow, slush, etc.)	Through Roadway	Not at Intersection	No	0.74	Public Road	2	41.455596	-73.522809
2/12/2015	5	Thursday	16:55:00	Injury of any type (Serious, Minor, Possible)	Gillotti Rd	BALL POND RD EAST	Motor Vehicle in Operation	Sideswipe, opposite direction	On Roadway	Snow	Daylight	Snow	Weather Conditions	Road Surface Condition (wet, icy, snow, slush, etc.)	Intersection	T-Intersection	No	0.16	Public Road	2	41.455801	-73.520694
9/30/2015	4	Wednesday	10:38:00	Injury of any type (Serious, Minor, Possible)	Frisbie St		Other Non-Fixed Object	Angle	On Roadway	Rain	Daylight	Wet	Weather Conditions	Road Surface Condition (wet, icy, snow, slush, etc.)	Non-Junction	Not at Intersection	No	0.01	Public Road	2	41.455861	-73.521035
1/9/2015	6	Friday	8:30:00	Property Damage Only	GILLOTTI RD	Ball Pond Rd	Motor Vehicle in Operation	Front to rear	On Roadway	Snow	Daylight	Sand	None	None	Through Roadway	Not at Intersection	No	0.26	Public Road	2	41.455737	-73.520566
11/12/2015	5	Thursday	14:18:00	Injury of any type (Serious, Minor, Possible)	Gillotti Rd	FRISBIE ST	Fence	Not Applicable	Roadside	Rain	Daylight	Wet	Weather Conditions	Road Surface Condition (wet, icy, snow, slush, etc.)	Non-Junction	Not at Intersection	No	0.14	Public Road	1	41.455924	-73.521042
1/14/2016	5	Thursday	12:16:00	Injury of any type (Serious, Minor, Possible)	Gillotti Rd	FRISBIE ST	Fence	Not Applicable	Roadside	Clear	Daylight	Wet	None	None	Non-Junction	Not at Intersection	No	0.14	Public Road	1	41.455853	-73.521046
3/22/2016	3	Tuesday	18:20:00	Property Damage Only	Frisbie St		Motor Vehicle in Operation	Front to rear	On Roadway	Clear	Daylight	Dry	None	None	Non-Junction	Not at Intersection	No	0.02	Public Road	2	41.455861	-73.521035