Exhibit D
Transportation Effect and Route Evaluation Study

DICKINSON WRIGHT PLLC

TRANSPORTATION EFFECT AND ROUTE EVALUATION STUDY

FOR

Fox Squirrel Solar Boundary Change Area Project

Oak Run, and Range Townships, Madison County, Ohio

Developer:

EDF Renewables

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Prepared By:

FISHER ASSOCIATES

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Appendix A

Exhibit 1: Site Location/Road Study Map
Exhibit 2: Road Width and Conditions
Exhibit 3: Areas of Concern

Appendix B – ***Road Jurisdictions***

Appendix C – ***Road and Bridge Data***

Appendix D – ***Areas of Concern Photos and Descriptions***

Appendix E – ***Truck Load Estimate***

I. Project Overview

Fisher Associates, P.E., L.S., L.A., D.P.C (FA) has been contracted by EDF Renewables to complete a Transportation Study for the proposed Fox Squirrel Solar Boundary Change Area. This study has been prepared to satisfy the relevant portions of the Ohio Power Siting Board (OPSB) requirements specified in the Ohio Administrative Code, Sections 4906-4-06(F)(3) and 4906-4-06(F)(4).

Section 4906-4-06(F)(3) states: *"The applicant shall evaluate and describe the anticipated impact to roads and bridges associated with construction vehicles and equipment delivery. Describe measures that will be taken to improve inadequate roads and repair roads and bridges to at least the condition present prior to the project."*

Section 4906-4-06(F)(4) states: *"The applicant shall list all transportation permits required for construction and operation of the project and describe any necessary coordination with appropriate authorities for temporary or permanent road closures, lane closures, road access restrictions, and traffic control necessary for construction and operation of the proposed facility."*

The proposed Fox Squirrel Solar Boundary Change Area project is located in Oak Run and Range Townships, Madison County, Ohio as depicted on the location map in Appendix A, Exhibit 1. This study and report were performed to review the additional boundary areas and roadways that were not investigated in the original report and should be used a supplement the original report completed back in 2020. Any references to project, project area or site refer to the entire Fox Squirrel solar project including the boundary change area and initial project area. The proposed boundary change areas are shown on the exhibits provided in Appendix A.

A. Transportation Access Points

All construction equipment, aggregate, supplies, and general construction traffic should approach the additional boundary areas from the east off State Route 56. Unless authorized by the developer, this traffic will use existing interstate, federal highways, and state routes until it reaches the project's evaluated, designated public roads. The most likely route taken to access the overall project is from Interstate Highway 71, north onto State Route 56 and then south onto Van Wagener Road (CH 84) to any of the proposed potential access points, identified in the exhibits in Appendix A or to previously studied roads.

The jurisdictions of the additional boundary areas designated public roads proposed to be used as shown in Appendix B are:

- Madison County –Van Wagener Road (CH 84), Madden Higgins Road (CH 82)
- Ohio State – London-Circleville Road (SR 56)

Based on the additional boundary areas, it is estimated from the final layout that there will be 10 additional individual access points. The project will utilize existing field entrances where possible, but in most cases new gravel access roads with culverts may be constructed.

II. Pre-Construction Roadway Characteristics

A. Traffic Volumes and Accident Data

Existing data on vehicle traffic volumes and accidents within the project area was obtained from the ODOT Transportation Information Mapping System (TIMS) and can be found in Appendix C. The Annual Average Daily Traffic (AADT) is listed for the State and county roads, but the local town roads had limited traffic volume data. Detailed capacity analysis was not completed for this study; however, field observation of the transportation network did not reveal any locations where traffic flow and/or capacity appeared to create undue delay for the traveling public.

The table below summarizes the traffic conditions on the roads within the study area.

Roadway Name		Total Road Width(s)	AADT
County Highway 84	Van Wagener Road	17’	303
County Highway 82	Madden Higgins Road	15’	51

* AADT = Average Annual Daily Traffic
* Traffic volumes obtained from ODOT Transportation Information Mapping System (TIMS) on 06/02/2021.

According to TIMS, between 2017 and 2019, there were three (3) accidents along the approximate 5 miles of public roads within the transportation study area. Of these accidents, two were at intersections: one at the intersection of State Route 56 and Van Wagener Road, and one at the intersection of Van Wagener Road and Madden Higgens Road. Of the three total accidents, none were fatal, although there was a fatal accident along State Route 56 just outside the transportation study area. Therefore, the fatal accident rate (fatal accidents/ million vehicle miles) is zero (0) compared to the 2018 Ohio statewide average fatal accident rate of 0.93 fatal accidents/ 100 million vehicle miles as found on the United State Department of Transportation’s National Highway Traffic Safety Administration’s website.

B. School Bus Route Information and Mass Transit Systems

The students in the project area attend the Madison-Plains Local School District in London. The high school, intermediate school and elementary school are all located in the same vicinity off of Linson Road (CH 17), which is located about 5.5 miles west of the project site. Directions to the schools are head south/west along Shepherd Road (CH 73), north along Danville Road (CH 8), west along Watson Road (CH 99), north along State Route 38 and west onto Linson Road (CH 17). Due to the distance from the schools and lack of sidewalks, most of the students are picked-up/dropped-off at their place of residence. The number of stops and buses within the project area is limited due to the low density of houses within and adjacent to the project area. Because the majority of the project activities and deliveries will likely occur during the middle of the day, the impacts to the local school bus routes should be minimal.

There are no rail or bus mass transit systems in or around the project area.

C. Emergency Service Responder Information

The closest hospital to the project site is OhioHealth Doctors Hospital in Columbus, Ohio. These emergency services are located within 20 to 25 miles of the project, northeast of the project site. They can be reached by travelling north on State Route 56, east on CH 62, north on CH 54, northeast on CH 53, east on CH 11, north on Alkire Road, continue north onto Galloway Road, and east on W Broad Street (US HWY 40).

An Emergency Response Plan for the project will be implemented, which will include procedures (preconstruction through project operation) for fire and emergency services. This plan will outline on-site equipment and the procedures for fire suppression, medical and weather emergency evacuation as well as other critical areas. In addition, regularly scheduled meetings will be held with local emergency providers. As with any large-scale development, project components will meet all state and federal safety and fire codes.

D. Traffic Routes Load Bearing and Structural Rating Information

A field review of existing conditions along the roads within the boundary change area was conducted by Fisher Associates on May 17, 2021. Data observed during the site visit as depicted in Appendices A and D, includes:

- Bridge and Road Load Posting Restrictions
- Road Surface Type and Widths
- Culvert Cover and Conditions
- Posted Signs of Caution
- Overhead Clearance

Bridge and Road Load Posting Restrictions

There are no posted loading restrictions to the bridges located on the transport route. As shown in Appendix C, the ODOT bridge along the transportation study roads within the boundary change area is rated in good condition.

ODOT Structure Number	Roadway Name		Feature Intersected	Sufficiency Rating	National Bridge Inventory Rating
4930577	County Highway 84	Van Wagener Road	Running Ditch	89.9	Good

Road Surface Type and Widths

As depicted on the Road Width and Type Exhibit (Appendix A, Exhibit 2), the road surface types along the boundary change area transport route are asphalt and chip and seal. The table below summarizes the road conditions along the transport route studied as part of this supplemental report.

Roadway Name		Total Road Widths	Road Condition
County Highway 84	Van Wagener Road	17’	Moderate edge cracking
County Highway 82	Madden Higgins Road	15’	Moderate to severe edge and alligator cracking
State Route 56	London-Circleville Road	23’	Not Evaluated

Any roads that are less than 16’-18’ in width will require a construction traffic plan so as to not negatively impact the landowners/residents and limit trucks driving off the pavement surface. During our May 2021 site visit we noted some deteriorated pavement locations, which are depicted on the Areas of Concern Exhibit (Appendix A, Exhibit 3), corresponding photographs in Appendix D and summarized in the table above. The least stable section of the boundary change area appears to be Madden-Higgins Road (CH 82). This pavement section will need to be monitored during hauling and construction activities to ensure potholes and significant material loss does not occur. If problems do arise, patching and spot repairs may be required. The remainder of the transport roads do not appear to exhibit any underlying issues, but rather normal aging that requires routine maintenance. If necessary, road use agreements will be prepared with the county prior to construction to address any potential issues that may arise with the existing roads.

Culvert Cover and Conditions

During the May 2021 site visit, it was observed that there are several culverts of varying sizes that appear to be in satisfactory structural condition and have sufficient cover. One concrete culvert was identified as having less than optimal cover and was noted on the Areas of Concern Exhibit (Appendix A, Exhibit 3) and corresponding photograph in Appendix D. The culvert will need to be monitored or protected during construction to avoid damage.

- Van Wagener Road: 43’W x 39’L concrete elliptical culvert with less than 1’ of cover (Area of Concern 7).

Road use agreements may be prepared, if necessary, with the county prior to construction to address any potential issues with existing culverts.

Posted Signs of Caution

There were a few signs of reduced weight limits along County Road 82 Madden-Higgins Road.

Overhead Clearance

Because the construction vehicles for the project will be legal heights and no intersection improvements are proposed, there will not be any issues with vehicle clearance to overhead electric crossings and tree overhang locations.

III. Trip Generation Characteristics

A. Vehicle Trips Frequency

A truck load estimate calculation during the construction phase is included in Appendix E. Any assumptions in the calculations are based on typical anticipated solar project loads. Based on the boundary change area study, potential locations for proposed access roads off the transport roads are depicted on the exhibits in Appendix A. As the construction traffic volumes do not appear to exceed capacities, the roadways should not be significantly impacted by standard construction traffic.

During operation and maintenance, the facility will not generate a significant volume of traffic with the anticipation of only a few pickup trucks during routine scheduled maintenance as well as unanticipated unscheduled maintenance periods.

IV. Traffic and Transportation Impacts of the Facility

A. Projected Future Traffic Conditions

While construction vehicles are traveling along project area and delivery route roadways, the existing traffic may experience minor delays to allow for the safe passage of these vehicles.

During development of the potential road use agreements if necessary, the Applicant will coordinate with appropriate authorities to determine applicable thresholds and procedures for implementing temporary or permanent road closures, lane closures, road access restrictions, and traffic control.

During operation and maintenance, the facility will not generate a significant volume of traffic; therefore, any projected additional future traffic will be negligible.

B. Adequacy of the Road System to Accommodate Projected Traffic

Truck load assumptions are based on typical solar projects that will need to be finalized in conjunction with the anticipated county road use agreements, if required. Roads with low strength and/or poor surface conditions may require improvement after construction traffic. An area of concern from the initial project area is the stability of Johnstown Road, which had moderate to severe alligator cracking along the majority of the roadway. The rest of the transport roads do not appear to exhibit any major underlying issues, outside of normal aging that may require routine maintenance. During the pre-construction period, the applicant will coordinate with the County and Townships to determine if any pre-construction road maintenance will be needed, however significant structural improvements are not anticipated. During the initial project investigate, three different structures were noted to be in poor condition and should be continuously monitoring to ensure no further degradation occurs. Additionally, due to the width of some of the roads (less than 16’ wide), limited construction traffic management plans may need to be created to avoid negatively impacting the residents/local traffic.

As shown in Appendix E, the trucks assumed to be used for the project are WB-50’s (8.5 ft wide x 42.5 ft long x 10 ft high) for solar panel delivery and standard dump trucks for gravel delivery. Approximately 6,092 trucks have been calculated will be needed for both phases of the project, but none of the vehicles will be oversized or overweight. Roads will need to be monitored prior to and during construction and reviewed afterwards to determine the required repairs, if any. Upon completion of construction, roads will be returned to pre-construction conditions.

During operation and maintenance, the facility will not generate a significant volume of traffic; therefore, improvements to the road system are not necessary to accommodate projected operations traffic.

C. Traffic and Transportation Mitigation Measures

In conjunction with the anticipated county road use, mitigation measures to address maintenance will be developed and coordinated with Madison County, including obtaining all necessary right-of-way work permits. Final engineering design and layout should be finalized prior to construction activities beginning, to ensure all transportation related impacts have been addressed to the satisfaction of the local highway department(s). Special consideration and awareness of high traffic areas include the portion of Moorman Road, just east of the intersection with Van Wagener Road, and the stretch of Yankeetown Chenoweth, southeast of the intersection with Shepherd Road. Additional safety measures may also be considered, some of which include additional temporary signage, traffic control measures, halting hauling activities during local school bus pickup/ drop-offs.

All roads should be monitored during construction for potholing and pavement deterioration to ensure they are safe for general construction and local roadway traffic. The volume and weight of both the general construction traffic may cause some distress that could require temporary repairs. These temporary repairs/improvements could include repaving with asphalt, temporary traffic signs, etc. and be included as a condition of a road use agreement with the county or township. After completion of construction activities, there may be some improvements needed due to any damage caused by the high frequency of vehicle traffic (especially on any roads that had temporary repairs made during the construction activities). Returning the roadways to pre-construction conditions may include using treatments such as oil and stone or hot or cold mix asphalt. Other repairs will likely require some asphalt patching or possibly partial asphalt removal, subgrade compaction, and subsequent asphalt patching.

Although many of the culverts appear to be structurally sound, there are two locations that may require more thorough monitoring throughout construction. These locations are showing signs of minor asphalt deterioration overtop the culverts and may need repair work done during/after construction. Additionally, they have less than optimal cover, which could lead to cracking, deformation or crushing, should the pavement section above the pipe fail. Each culvert should be analyzed to determine if improvements are needed to accommodate the construction traffic.

D. Road Use and Restoration Agreements

For any overweight and/or oversized vehicles, additional permitting may be necessary. The remainder of the construction vehicles for the project will be legal heights, widths, and weights, and would not require obtaining special hauling permits. All permits necessary to transport the overweight electrical equipment will be secured as necessary during final engineering and design.

APPENDIX A

FOX SQUIRREL solar project

FISHER ASSOCIATES

EXHIBIT 1 : SITE LOCATION / ROAD STUDY MAP
FOX SQUIRREL SOLAR BOUNDARY CHANGE AREA
MADISON COUNTY, OH

- ODOT Bridges
- Potential Access Points with Direction
- Transportation Study Roads
- State Highway
- County Highway
- Town Road
- Other Road
- Boundary Change Area
- Townships
- Counties

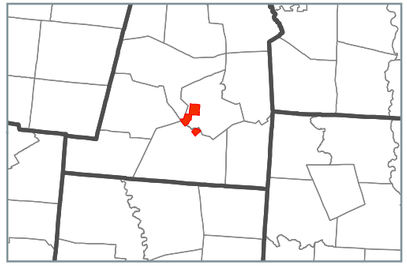
Project USGS Quad(s):

Big Plain, Walnut Run

Map Revision Date: 10/1/2021 | Map Author: MFA

0 2,000 4,000 Feet





Data Sources:

Roads, Bridges, Political Boundaries -
OhioTransportation Information Mapping System (ODOT TIMS)
www.gis.dot.state.oh.us.com

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Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS,

FOX SQUIRREL solar project

FISHER ASSOCIATES

EXHIBIT 2 : ROAD WIDTH AND TYPE
FOX SQUIRREL SOLAR BOUNDARY CHANGE AREA
MADISON COUNTY, OH

- ODOT Bridges
- Potential Access Points with Direction
- Transportation Study Roads
- State Highway
- County Highway
- Town Road
- Other Road
- Boundary Change Area
- Townships
- Counties

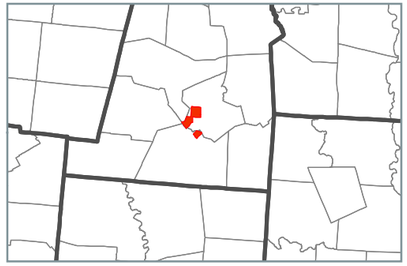
Project USGS Quad(s):

Big Plain, Walnut Run

Map Revision Date: 10/1/2021 | Map Author: MFA

0 2,000 4,000 Feet





Data Sources:

Roads, Bridges, Political Boundaries -
OhioTransportation Information Mapping System (ODOT TIMS)
www.gis.dot.state.oh.us.com

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Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS,

FOX SQUIRREL solar project

FISHER ASSOCIATES

EXHIBIT 3 : AREAS OF CONCERN
FOX SQUIRREL SOLAR BOUNDARY CHANGE AREA
MADISON COUNTY, OH

- ODOT Bridges
- Potential Access Points with Direction
- Transportation Study Roads
- State Highway
- County Highway
- Town Road
- Other Road
- Boundary Change Area
- Townships
- Counties

Project USGS Quad(s):

Big Plain, Walnut Run

Map Revision Date: 10/1/2021 | Map Author: MFA

0 2,000 4,000 Feet

Data Sources:

Roads, Bridges, Political Boundaries -
OhioTransportation Information Mapping System (ODOT TIMS)
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APPENDIX B

Madison County

LImited Access
US Highway
State Highway
County Highway
Township Road
City Road
Private Road
Freeway Ramp
Recreation Trail
Railroad
State Line
County Line
Zip Code Boundary
43064 Zip Code Number

Interstate Highway
U.S. Highway
State Highway
County Route
83,000 House Numbering System
Community
School
Point of Interest
Hospital
Police Station
Fire Station

Park
Golf Course
Airport
Shopping Center
University
Cemetery
Water
Correctional Facility
Trail Marker
Library
Post Office

N

0 1 2 3 mile
0 1 2 3 4 5 kilometer

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Burnaby, BC V5C 4C1

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Named after James Madison, 4th President of the United States, Madison County is located in central Ohio between Columbus and Springfield. Primarily an agricultural area, 88% of the land consist of farms. Madison County ranks fourth in both soybean and corn production throughout the state of Ohio.

Annually in September the Ohio State University hosts the Farm Science Review, one of the largest farm exhibitions in the world, at the Molly Caren Agricultural Center near London, Ohio. Madison County Attractions include Madison Lake State Park, the Red Brick Tavern, Rails to Trails, the Jonathan Alder Cabin, and the State and National Scenic River Big Darby Creek.

Madison County Statistics

Area	467 Sq Miles
Populations (2005)	41,802
Road Mileage	
State and Federal	196.61
County	343.55
Township	127.43



Madison County Engineer's Office
825 US 42 NE London, OH 43140

TO:

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2010-2011 Highway Map of Madison County Ohio

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David P. Brand, P.E., P.S.
County Engineer

County Commissioners
David Dhume
Mark Forrest
Chris Snyder

Amity Pike Bridge over Big Darby Creek State & National Scenic River in Canaan Township (Opened in 2009)

STREET INDEX

NAME	ROAD #	MILES	KMS	GRID
A				
ALKIRE RD	11	0.14	0.22	T28
AMISH RD	30A	3.16	5.08	D22
AMITY PIKE NE	36	4.25	6.84	D26,E29
ANDERSON ANTIOCH RD	59	2.38	3.82	AB27,AC26
ANDERSON ANTIOCH RD SE	59	1.60	2.57	AD25
ARBUCKLE RD	110	6.01	9.67	L13,N17
ARMSTRONG RD	83	2.69	4.33	X17
ARTHUR BRADLEY RD	132	1.68	2.70	I18
ASHTON CT		0.03	0.05	P28
ASHTON RD	1103	0.04	0.06	O28
AW WILSON RD	31	3.29	5.30	H22
B				
BALDWIN RD	121	0.73	1.18	AI21
BATES RD	84	0.47	0.76	A14
BEACH RD	150	0.18	0.30	J28
BEALE RD	122	0.91	1.46	AI24
BECKER RD	120	1.71	2.75	G14
BEECH CT	1	0.02	0.03	O28
BETHEL RD	79	0.26	0.42	AF19
BETTY WILSON RD	135	1.80	2.90	P17
BIG PLAIN CIRCLEVILLE RD	4	9.32	15	V19,X26
BLAUGHER AVE	1035	0.23	0.37	W13
BONNER RD	145	1.82	2.93	V9
BOOKWALTER RD	78	1.25	2.01	AH10
BOTKIN RD	112	1.32	2.13	W7
BOYD NORTH RD	61	0.21	0.34	B22
BOYD RD	42	1.86	2.99	B23
BOYD RD	163	0.24	0.39	Z28
BRAGG RD	68	2.13	3.42	AG22,AH22
BRIGHTON RD	106	0.94	1.52	R9
W BROAD ST	40	3.26	5.25	O28,O29
BUTLER AVE	3	0.47	0.75	A27
BYERLY MILL RD	137	0.92	1.49	L21,M21
BYERLY RD	115	1.30	2.09	N21
C				
CANAAN BLVD	273	0.05	0.08	I26
CARTERS MILL RD	39	1.91	3.08	E30,F30
CEDAR CIR	277	0.04	0.06	L19
CEDAR CT	276	0.04	0.06	L19
CEDAR DR	275	0.04	0.07	L19
CEDARWOOD LN	279	0.05	0.08	L19
CEMETERY PIKE	34	1.69	2.72	C28
CENTER CT	2	0.05	0.07	E29
E CENTER ST	665	1.17	1.89	T16
W CENTER ST	38	1.07	1.18	T15
CHAMBERLIN RD	248	0.54	0.86	Y28
CHARLESTON CHILLICOTHE RD	15B	3.09	4.97	AG12
CHARLESTON CHILLICOTHE RD	15A	4.05	6.51	AB6,AD8
CHESSELDINE RD	133A	0.77	1.25	U20
CHILLICOTHE ST	42	0.07	0.11	A27
CHRISMAN RD	20	3.33	5.36	AD17
CIRCLE DR	1015	0.06	0.10	T26
CIRCLE DR	1013	0.06	0.10	T26
CIRCLE DR	1014	0.07	0.11	T26
COLUMBUS - CINCINNATI RD	142	2.56	4.12	Q22
COLUMBUS - CINCINNATI RD	42	0.13	0.20	T14
COLUMBUS - CINCINNATI RD SW	142	2.24	3.60	R20
COLUMBUS - CINCINNATI RD SW	42	5.51	8.86	W7
COLUMBUS - WASHINGTON C.H. RD SE	62	2.50	4.02	AG27,AJ24
E COLUMBUS ST	62	0.41	0.67	AH26
COLVIN DR	1111	0.30	0.49	J27
COMMUNITY RD	269	0.10	0.16	I26
COMPTON RD	99	0.75	1.21	AH6
CONVERSE CHAPEL RD NE	41	1.13	1.82	C24
CONVERSE HUFF RD	30	3.50	5.63	C25,C26
COOK AVE	1043	0.27	0.44	AH25
COOK YANKEETOWN RD	34	0.96	1.55	A21
CORRELL MAXEY RD	97	2.28	3.66	YZ,YA,ZB
COUNTS RD	75	2.83	4.55	AG15
CRAWFORD RD	19	2.47	3.97	AD14
CREEK RD	12	0.46	0.74	G28
CUMBERLAND RD E	40	2.02	3.26	O23
CUMBERLAND RD NE	40	3.90	6.28	O19,P15
CUMBERLAND RD NW	40	4.66	7.49	P13
CUMBERLAND RD SW	40	3.13	5.03	P10
CURRY RD	81	2.30	3.71	AF3
D				
DANVILLE RD	8	9.75	15.69	Z15,AD15,AG17
DARBY DR	1100	0.07	0.10	O28
DARBY LAKES DR	3	0.20	0.33	I27
DARBYMOOR DR	4	0.25	0.40	H27
DARBYTON DR	6	0.22	0.35	I27
DAVID BROWN RD	119	1.26	2.03	G13
DAVIDSON RD	147	1.02	1.64	X27
DAVIS RD	95	2.39	3.84	T10,U10
DEBOLT RD	54	0.37	0.59	A21
DEBOLT RD	129	1.56	2.51	C21
DECK RD	144	1.51	2.43	X16
DEER CREEK LN	306	0.23	0.36	U20
DEER RUN LN	1106	0.50	0.81	Q18
DIVINE DR	267	0.15	0.24	I26
DIXIE AVE	1041	0.26	0.42	AH25
DOGWOOD CT	1131	0.38	0.60	Q26
DORN RD	76	1.10	1.77	AG15
DRURY RD	23	3.91	6.30	Y12,AA11
DUN RD	114	1.64	2.63	AE20,AE24
DYER RD	66	4.02	6.48	AE20,AE24
E				
EAST DR	7	0.12	0.19	E28
EAST ST	1047	0.09	0.15	AF26
EDGEMONT DR	8	0.09	0.14	J28
EDGINGTON DR	10	0.07	0.12	H27
ELM CT	13	0.02	0.04	P28
ELM ST	38	1.84	2.96	R15
ERA RD	500	0.85	1.38	AF28
F				
FAIRWOOD DR	14	0.08	0.12	P28
FEDERAL RD SW	2	1.82	2.93	AE3
FEDERAL ST	323	0.19	0.31	AF13
FEDERAL ST SE	323	1.06	0.10	AF12
FINLEY GUY RD NE	123	3.15	5.07	G20
FINLEY GUY RD NW	123	3.57	5.75	E15
FIRST AVE	1012	0.08	0.12	U26
FIRST ST	1038	0.18	0.29	AH25
FITZGERALD OUTLET RD	157	0.30	0.48	AF26
FLORANCE AVE	1036	0.08	0.13	W9
FLORENCE AVE	1042	0.27	0.44	AH25
FOODY RD	87	2.05	3.31	AB10
FORD RD	143	0.20	0.32	AG13
FORRESTWOOD AVE	310	0.43	0.69	N25
FOSTER REDMAN RD	74	3.09	4.98	AE17
FOURTH ALY	1071	0.17	0.28	T26
FOURTH ALY	1115	0.10	0.16	X25
FOURTH ALY	1070	0.07	0.12	T26
FOURTH AVE	303	0.06	0.10	I18
FRALICK RD	86	2.25	3.62	AE10
G				
GARDNER RD	281	0.73	1.17	Q28
GARRELD AVE	136	0.72	1.15	S15
GATES LN	97	0.27	0.43	AA8
GENESIS AVE	266	0.12	0.20	I26
GERICH LILLY CT SE	1016	0.03	0.04	T26
GERICH LILLY RD SE	1065	0.10	0.16	T26
GERICH LILLY RD SE	52	0.44	0.71	R27,S26
GLADE RUN RD	70	6.80	10.94	P21,T21
GLENVIEW DR	1124	0.31	0.50	I27
GOODSON RD	48	1.53	2.46	M22
GRAPE GROVE RD	0026	1.33	2.14	AG1
GREEN LN	112	4.21	6.77	J14,M15
GREENE RD	105	0.26	0.42	AH13
GREENWOOD DR	1102	0.04	0.06	O28
GREENWOOD DR	1104	0.10	0.16	O28
GREGG MILL RD	100	1.14	1.83	X20
GREGG RD	43	2.62	4.22	R23
GREWELL RD	131	1.43	2.31	I20
GUY AVE	128	1.58	2.55	D21
GUY CEMETERY RD	122	1.56	2.51	F14
GWYNNE RD	111	1.71	2.76	O14
H				
HARROLD RD	98	2.47	3.97	AC6
HAYDEN RUN RD	38	2.49	4.01	F29
HAYMARKET ST	303	0.78	1.25	O25
HERON DR	1132	0.45	0.72	P27
HICKS RD	67	2.36	3.80	AG23
HIDDEN CREEK DR	1126	0.24	0.39	P27
HIGH FREE PIKE	28	0.46	0.73	L28
HIGH ST	142	2.35	3.79	S17
HIGH ST	1055	0.18	0.29	AE5
HIGH ST	1046	0.10	0.16	AF26
E HIGH ST	142	0.39	0.63	S16
E HIGH ST	42	0.20	0.31	T15
W HIGH ST	42	1.71	2.75	T13,T14
HUME LEVER RD	63	4.79	7.71	X24
HUNTINGTON RD	370	3.02	4.87	X5
HUNTINGTON RD	159	0.07	0.12	Y7
HUTSON RD	91	1.35	2.18	Z9
I				
IAMS RD	35	2.19	3.52	C30
INNER DR	17	0.04	0.06	E29
IRWIN RD	26	3.01	4.84	C13
IRWIN RD	85	0.85	1.36	A13
J				
JACOB RD	268	0.13	0.21	I27
JEFFERSON ST	42	0.29	0.46	B26
JERICHO WAY	264	0.20	0.32	J27
JOHNSTON RD	85	1.86	3	AA18
JONES MARSH RD SE	133B	1.07	1.72	U21
JOSIAH MORRIS RD	126	1.01	1.62	G18
JUNK RD	21	3.89	6.25	AD21
K				
KADEN CT		0.23	0.36	Q26
KAREN DR	305	0.20	0.33	O12
KAUFMAN RD	153	0.87	1.39	D23
KELLOUGH RD	138	0.22	0.35	A00
KILE RD	5	0.56	1.06	A30
KILE WARNER RD	142	0.19	0.31	B31
KILLBURY HUBER RD	33	2.41	3.88	E24
KILLBURY RD	40	3.16	5.09	D25
KING PIKE	47	2.26	3.64	K24
KIOUSVILLE GEORGESVILLE RD	53	5.26	8.46	W27,Z25
KIOUSVILLE PALESTINE RD	54	0.65	1.04	AD27
KIOUSVILLE PALESTINE RD SE	54	4.03	6.48	AB25
KITCHEN LN	1010	0.13	0.21	T26
KRAMER RD	42	0.39	0.63	B24
L				
LAFAYETTE PLAIN CITY RD NE	5	13.87	22.32	G21,H20,N18
LAFAYETTE ST	42	2.05	3.29	H16
LAKE DR	161	0.72	1.16	U20
LAKEVIEW DR	311	0.17	0.27	N25
LANGEN RD	151	1.91	3.07	AB16
LANGTON RD	152	0.93	1.50	G30
LARKSPUR DR SE	1128	0.53	0.86	P27
LEWIS RD	117	2.33	3.75	H12
LILLY CHAPEL GEORGESVILLE RD SE	102	4.35	7.01	T25
LILLY CHAPEL LILLY CHAPEL				
OPOSSUM RUN RD SE	72	1.01	1.63	U26
LILLY CHAPEL RD	285	0.28	0.46	P26
LINSON RD	17	4.75	7.65	AA10
LITTLE DARBY RD	116	2.79	4.49	K20,L20
LOCUST CT	285	0.05	0.09	L19
LOCUST DR	286	0.06	0.10	K19
LOCUST PARK	283	0.07	0.11	K19
LOCUST PL NE	282	0.02	0.03	L19
LOCUST WAY	284	0.06	0.10	K19
LOMBARD CHUCKERY RD	29	2.19	3.53	B20
LOMBARD RD	59	0.15	0.24	A19
LONDON - CIRCLEVILLE RD SE	56	1.11	1.78	T16
LONDON - CIRCLEVILLE RD SE	56	14.09	22.68	W19,Z22,AE25
LONDON - DELAWARE RD	42	0.16	0.26	C26
LONDON - DELAWARE RD NE	42	13.65	21.98	D26,E24,M21
LONDON - DELAWARE RD SE	42	2.08	3.34	Q17
LONDON - LOCKBORNE RD SE	665	1.59	2.56	V28
LONDON - LOCKBORNE RD SE	665	9.42	15.16	T16,T20,U24
LONDON RD	3	0.17	0.28	Z28
LONDON RD	142	2.41	3.87	P25
LONDON ST	56	0.46	0.75	AH27
LUCAS RD	45	2.97	4.78	I26
LUNDY LN	377	1.07	1.72	M10
LUTHER RD	1101	0.05	0.07	O28
LYNN CT	35	0.03	0.05	O28
M				
MADDEN HIGGINS RD	82	2.77	4.47	Y17
MAIN ST	161	0.36	0.59	B28
MAIN ST	1002	0.11	0.17	B30
MAIN ST	38	0.23	0.37	AF13
MAIN ST	62	0.49	0.78	AG26
E MAIN ST	40	0.45	0.73	O27
E MAIN ST	161	0.57	0.91	B27
E MAIN ST	323	0.18	0.29	AE5
S MAIN ST	56	0.49	0.79	T15
W MAIN ST	62	0.64	1.03	AH26
W MAIN ST	2	0.10	0.16	AE4
W MAIN ST	161	0.40	0.64	A26
W MAIN ST	40	3.16	5.09	O26
MAIN ST S	38	0.29	0.47	AF13
MANTLE RD	164	1.23	1.99	AA28
MAPLE WAY	297	0.07	0.11	L19
MARKLEY RD	105	3.03	4.87	Q10
MARYSVILLE - LONDON RD N	38	12.91	20.78	G18,M16
MARYSVILLE - LONDON RD S	38	1.32	2.12	Q15
MCCLIMANSVILLE CEMETERY RD SE	57	1.32	2.12	AF26
MCGUIRE RD	64	3.13	5.04	U23
MCKENDREE RD	55	1.23	1.98	AA25,AB26
MEADOW LN	304	0.08	0.13	N25
MECHANICSBURG SANFORD RD	27	4.04	6.50	F14
MIDDLE PIKE	10	5.16	8.30	K25
MIDWAY RD	390	2.08	3.34	AA5
MIDWAY ST	38	0.06	0.09	U15
MINSHALL RD	88	1.93	3.11	AE12
MOON RD	80	1.63	2.62	AF6
MOORMAN RD	69	4.06	6.54	Z20,AB19
MORGAN RD	46	1.26	2.03	K26
MOUNT STERLING - WATERLOO RD SE	207	2.19	3.53	AI26
MY HIGH RD NE	44	2.21	3.56	H25
N				
E NATIONAL RD	40	2.52	4.05	P9
NEAR ST	1044	0.10	0.16	AH26
NEIL EAST RD	93	1.88	3.03	W10
NEIL RD	92	2.35	3.78	W9,X10
NEIL WEST RD	94	1.77	2.85	X8
NIOGA TOOPS RD	60	3.13	5.04	AA27,AB26
NORTH HOUSTON PIKE	375	0.34	0.54	L10
NORTH RD	301	0.42	0.68	M23
O				
O'DAY HARRISON RD	18	6.69	10.76	AG24,AH20
O'HARRA RD	43	0.30	0.49	A22
OAK CT	36	0.03	0.05	P28
ODNIR RD	15	0.14	0.22	R11
OLD 729 RD	250	0.04	0.07	AF9
OLD COLUMBUS RD	362	1.42	2.29	N9
OLD SPRINGFIELD RD	13	5.05	8.13	S12
OLD SR 56	1118	0.17	0.28	D22
OLD US 40	1052	0.01	0.01	O13
OLD XENIA RD SE	12	3.28	5.29	W15
OLD XENIA RD SW	12	6.72	10.82	W13,Y9
OLIVE BRANCH RD	261	0.04	0.07	I26
OLMSTEAD RD	51	3.63	5.83	P26,R27
OPOSSUM RUN RD	72	0.23	0.38	Z28
OPOSSUM RUN RD	138	0.63	1.02	Y28
OUTER DR	38	0.19	0.30	E28
P				
PANCAKE SELSOR RD	90	2.46	3.96	AB8
PARK LN	309	0.08	0.13	U19
PARKWOOD DR	1096	0.06	0.09	P28
PATRICK RD	198	0.73	1.18	E11
PAYNE THOMPSON RD SE	101	2.83	4.55	T18
PERRY PIKE	40	0.55	0.89	B26
PLAIN CITY - DUBLIN RD NE	161	2.56	4.12	B29
PLAIN CITY GEORGESVILLE RD NE	7	8.21	13.21	C28,G27,I27
PLAIN CITY GEORGESVILLE RD SE	7	1.88	3.03	P28
PLATTSBURG RD	364	0.18	0.29	R8
PLEASANT VIEW RD	95	0.21	0.34	AG2
PLUMWOOD MHP	41	0.05	0.08	AG22
POTTEE RD	107	1.22	1.96	O10
PRAIRIE RD	25	0.74	1.19	AI11
PRAIRIE RD SW	77	2.07	3.33	AG12
PRICE HILLIARDS RD NE	32	5.43	8.74	AG27,AH27
PRINGLE BENJAMIN RD SE	65	1.68	2.71	V26
R				
RANGE ST	1050	0.11	0.17	AF17
REID RD	23	0.39	0.62	AH10
RESACA ST	1026	0.22	0.35	F19
RINGS RD	33	0.61	0.98	E31
RIVERSIDE DR	1099	0.44	0.71	Q29
ROBERTS MILL RD	96	6.39	10.28	Q12,S12,V12
ROBERTS RD	148	1.04	1.67	Q27,R27
ROBISON RD	62	1.34	2.16	AB23
ROSEDALE MILFORD CENTER RD	11	8.35	13.44	B15,G16
ROSEDALE PLAIN CITY RD NE	24	4.68	7.53	C21,D18
ROSEDALE PLAIN CITY RD NW	24	2.57	4.14	D17
ROSEDALE RD	25	6.09	9.80	E14
ROSEDALE RD	197	0.58	0.94	E11
RUSTIC CT	57	0.05	0.09	P28
S				
SCENIC DR	302	0.08	0.12	N25
SCHADEL RD	1037	0.21	0.35	AH25
SECOND ST	1039	0.18	0.29	AH25
SELSOR MOON RD	16	6.98	11.23	AC11,AE7
SEVENTEENTH ALY	1067	0.03	0.06	T26
SHADY GROVE RD	158	0.05	0.07	AG3
SHEPHERD RD	73	2.62	4.21	AB16
SHOCKLEY RD	0144	0.65	1.05	AB2
SIMPSON RD	104	0.11	0.17	P18
SIMPSON RD SE	104	2.50	4.02	P19
SIXTH ALY	1072	0.06	0.10	T26
SLAUGHTER RD	729	2.13	3.42	AH9
SMITH CALHOUN RD	37	1.14	1.83	D28,E28
SOLON RD	0137	0.70	1.13	AE2
SOUTH DR	115	1.57	2.53	A19
SOUTH HOUSTON PIKE	97	1.22	1.96	W8
SOUTH RD NE	301	0.49	0.80	M24
SOUTH ST	1048	0.10	0.16	AF26
SPARLING RD	152	2.40	3.86	S22
SPRING VALLEY RD	71	5.59	8.99	Q18
SPRINGFIELD - WASHINGTON C.H. RD SW	41	5.86	9.43	AA5,AG4
STATE OF OHIO RD	1058	0.17	0.28	U19
SURREY LN	1125	0.30	0.49	E27
SYCAMORE LN	160	0.65	1.04	U20
T				
TAYLOR BLAIR RD	14	8.20	13.20	K22,M25
TENNY RD	165	0.75	1.20	AE28
THIRD ALY	1017	0.21	0.33	X25
THIRD ST	1040	0.18	0.29	AI25
THIRTEENTH ALY	1068	0.03	0.05	T26
THOMAS LN	1116	0.31	0.51	Q26
THOMAS RD	121	2.49	4.01	H15
THOMAS RD	376	1.48	2.38	T7
THORN LOCUST LN	95	0.21	0.34	AG2
TIMMONS DR	1121	0.09	0.14	J27
TRADERSVILLE POTTEE RD	107	1.22	1.96	O10
PRAIRIE RD	25	0.74	1.19	AI11
PRAIRIE RD SW	77	2.07	3.33	AG12
PRICE HILLIARDS RD NE	32	5.43	8.74	AG27,AH27
PRINGLE BENJAMIN RD SE	65	1.68	2.71	V26
U				
UNIONVILLE RD	55	0.31	0.50	A22
URBANA - LONDON RD NW	56	3.94	6.34	M11
URBANA - LONDON RD SW	56	2.99	4.81	Q13
URBANA - WEST JEFFERSON RD NE	29	7.01	11.29	K17,N23
URBANA - WEST JEFFERSON RD NW	29	7.57	12.18	F10
V				
VAL WILSON RD	108	0.96	1.55	N11
VAN NESS RD	243	0.72	1.17	B11
VAN WAGENER RD	84	3.84	6.18	Y19,Z19
VOGLESBURG RD	124	1.05	1.69	E19
W				
WALNUT ST	10	0.21	0.34	O27
WARE RD	118	0.91	1.47	F12
WARNER RD	6	0.27	0.44	B29
WASHINGTON - LONDON RD S	38	11.67	18.78	V14,AA13,AD13
WASHINGTON ST	41	0.18	0.29	AE4
WATSON RD	99	1.46	2.36	AB14
WEST DR	68	0.03	0.05	E29
WEST JEFFERSON KIOUSVILLE RD	22	0.37	0.60	P25
WEST JEFFERSON KIOUSVILLE RD SE	22	15.79	15.71	T26,Y25
WEST RD	301	0.12	0.20	M23
WEST ST	1045	0.04	0.06	AF26
WESTWOOD DR	1097	0.08	0.14	O28
WHITE OAK DR	1105	0.12	0.19	T26
WILLIAM LUCAS RD	89	2.47	3.98	AD3
WILLOWOOD LN	300	0.03	0.06	L19
WILSON RD	103	3.45	5.55	R24
WISSLER RD	115	1.57	2.53	A19
WOOD LN	307	0.19	0.30	U19
WOODLAND CT	1133	0.57	0.92	Q26
WOODS & OPOSSUM RUN RD SE	56	2.04	3.29	AC27,AE27
WOODS WEST AVE	125	4.56	7.34	D20
X				
XENIA LONDON RD	115	2.37	3.82	Z5
Y				
YANKEETOWN CHENOWETH RD	9	11.96	19.25	Z16,AD19,AG19

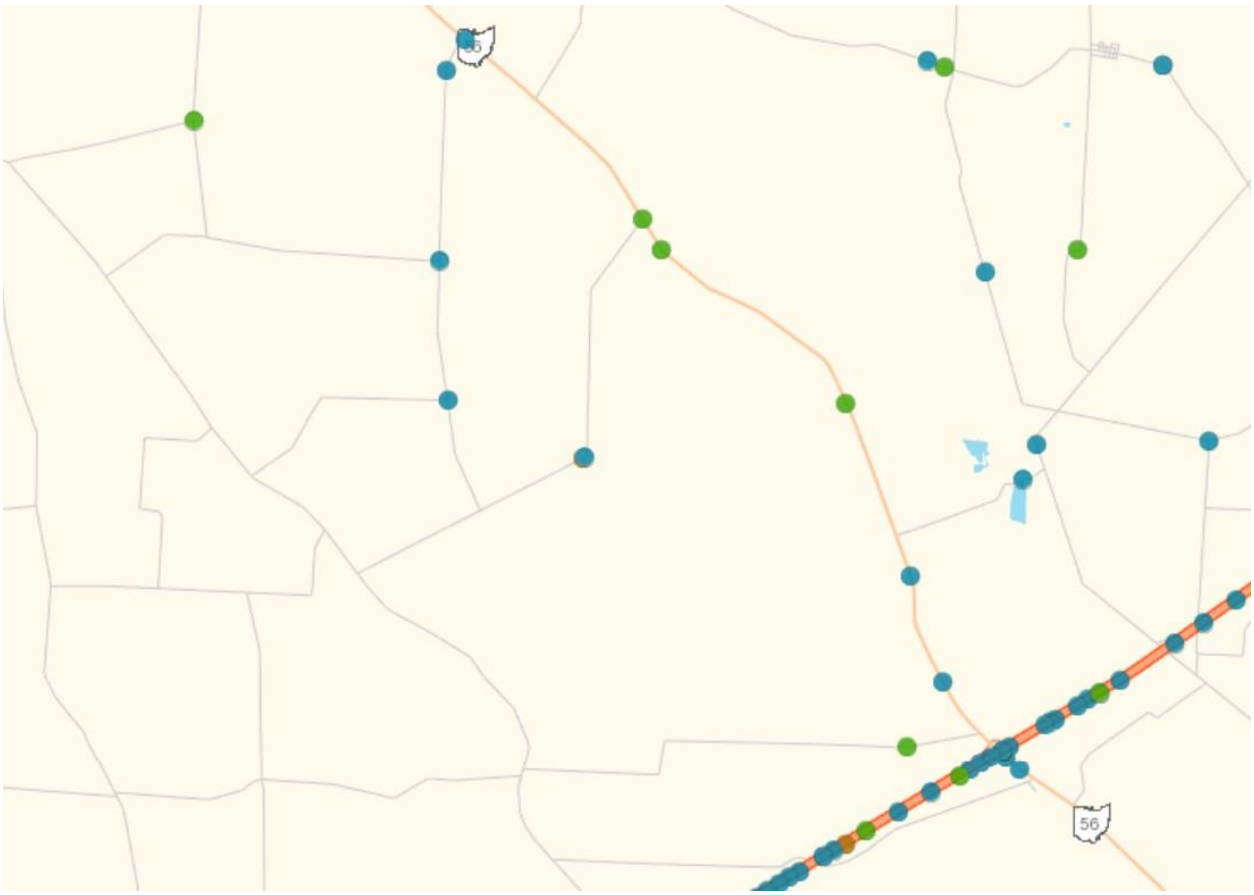
APPENDIX C

Fox Squirrel Solar Existing Accident Data Table
6/3/2021

Route/Road Name		From	To	Town	Total Recorded Accidents 2017 - 2019	Average Accidents Per Year	Intersection Accidents	Non-Intersection Accidents	Fatal Accidents	Length of Road (miles)	AADT	Accident Rate (Accidents/Million Vehicle Miles)	Fatal Accident Rate (Fatal Accidents/Million Vehicle Miles)	Ohio Statewide Avg. Fatal Accident Rate 2018 (Fatal Accidents/ 100 Million Vehicle Miles)
County Highway 84	Van Wagener Road	Madden Higgins Road	State Route 56	London	2	0.67	1	1	0	2.00	303	3.01	0.00	0.93
County Highway 82	Madden Higgins Road	Yankeetown Chenoweth	Van Wagener Road	London	1	0.33	1	0	0	2.80	51	6.40	0.00	0.93

Fox Squirrel Solar – Accident Data

2017 Crash Data

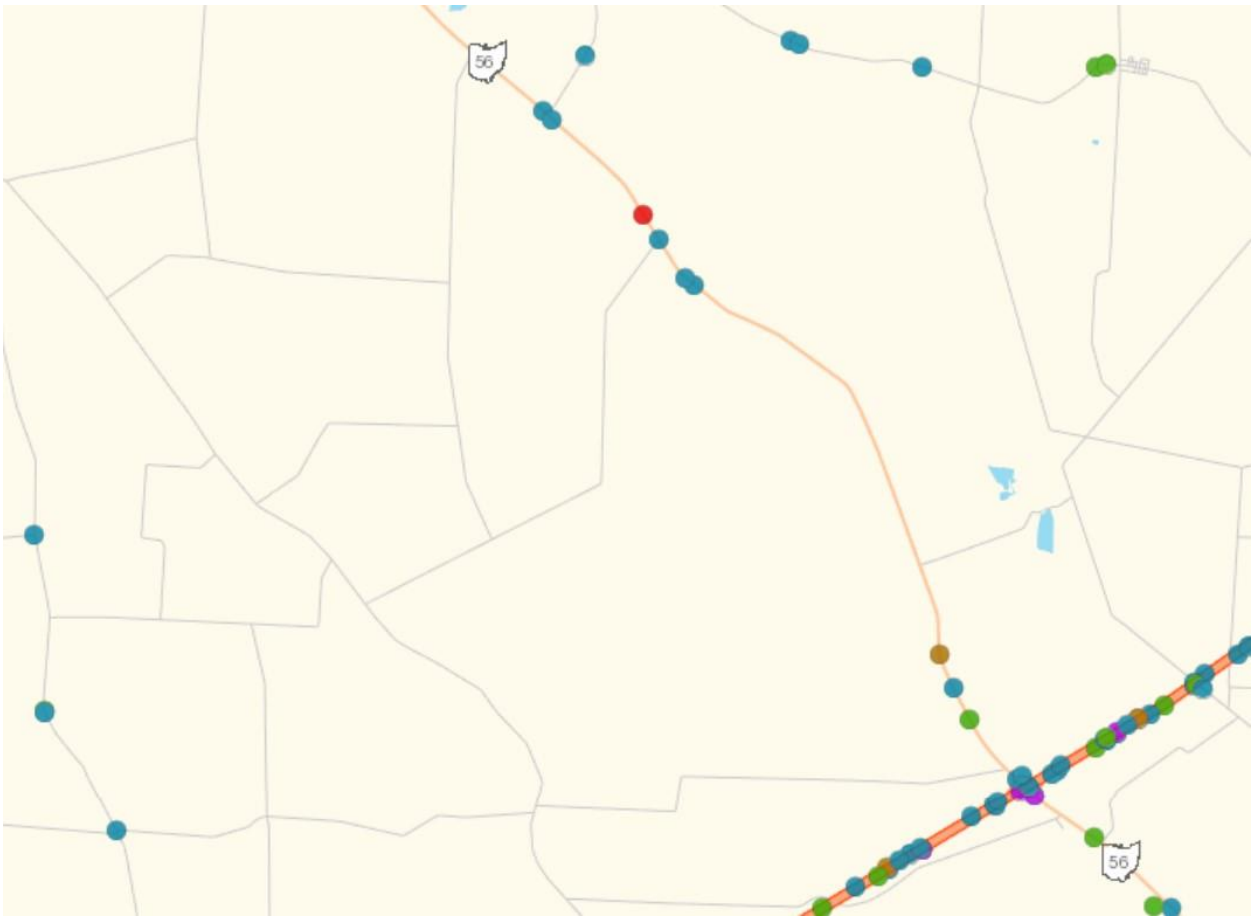


Legend https://gis.dot.state.oh.us/tims/map

- PDO / No Injury
- Possible Injury
- Visible Injury
- Serious Injury
- Fatal Injury

Fox Squirrel Solar – Accident Data

2018 Crash Data



Legend

https://gis.dot.state.oh.us/tims/map

- PDO / No Injury
- Possible Injury
- Visible Injury
- Serious Injury
- Fatal Injury

Fox Squirrel Solar – Accident Data

2019 Crash Data



Legend https://gis.dot.state.oh.us/tims/map

- PDO / No Injury
- Possible Injury
- Visible Injury
- Serious Injury
- Fatal Injury

Fatality Facts 2018
State by state

Overview

The number and types of motor vehicle crash deaths differ widely among the 50 states and the District of Columbia. A state's population has an obvious effect on the number of motor vehicle deaths. Fatality rates per capita and per vehicle miles traveled provide a way of examining motor vehicle deaths relative to the population and amount of driving. However, many factors can affect these rates, including types of vehicles driven, travel speeds, rates of licensure, state traffic laws, emergency care capabilities, weather, and topography.

The following facts are based on analysis of data from the U.S. Department of Transportation's (https://www-fars.nhtsa.dot.gov) Fatality Analysis Reporting System (FARS).

Posted December 2019.

Fatal crash totals

There were 33,654 fatal motor vehicle crashes in the United States in 2018 in which 36,560 deaths occurred. This resulted in 11.2 deaths per 100,000 people and 1.13 deaths per 100 million miles traveled. The fatality rate per 100,000 people ranged from 4.4 in the District of Columbia to 22.2 in Mississippi. The death rate per 100 million miles traveled ranged from 0.54 in Massachusetts to 1.83 in South Carolina.[1] (#fn1)

Population, fatal motor vehicle crashes, motor vehicle crash deaths and motor vehicle crash death rates per state, 2018

State	Population	Vehicle miles traveled (millions)	Fatal crashes	Deaths	Deaths per 100,000 population	Deaths per 100 million vehicle miles traveled
Alabama	4,887,871	71,167	876	953	19.5	1.34
Alaska	737,438	5,487	69	80	10.8	1.46
Arizona	7,171,646	66,145	916	1,010	14.1	1.53
Arkansas	3,013,825	36,675	472	516	17.1	1.41

Population, fatal motor vehicle crashes, motor vehicle crash deaths and motor vehicle crash death rates per state, 2018

State	Population	Vehicle miles traveled (millions)	Fatal crashes	Deaths	Deaths per 100,000 population	Deaths per 100 million vehicle miles traveled
California	39,557,045	348,796	3,259	3,563	9.0	1.02
Colorado	5,695,564	53,954	588	632	11.1	1.17
Connecticut	3,572,665	31,596	276	294	8.2	0.93
Delaware	967,171	10,179	104	111	11.5	1.09
District of Columbia	702,455	3,691	30	31	4.4	0.84
Florida	21,299,325	221,816	2,915	3,133	14.7	1.41
Georgia	10,519,475	131,456	1,407	1,504	14.3	1.14
Hawaii	1,420,491	10,887	110	117	8.2	1.07
Idaho	1,754,208	17,709	212	231	13.2	1.30
Illinois	12,741,080	107,954	948	1,031	8.1	0.96
Indiana	6,691,878	81,529	774	858	12.8	1.05
Iowa	3,156,145	33,282	291	318	10.1	0.96
Kansas	2,911,505	32,190	366	404	13.9	1.26
Kentucky	4,468,402	49,544	664	724	16.2	1.46
Louisiana	4,659,978	50,045	716	768	16.5	1.53
Maine	1,338,404	14,784	128	137	10.2	0.93
Maryland	6,042,718	59,775	474	501	8.3	0.84
Massachusetts	6,902,149	66,772	343	360	5.2	0.54
Michigan	9,995,915	102,398	905	974	9.7	0.95
Minnesota	5,611,179	60,438	349	381	6.8	0.63
Mississippi	2,986,530	40,730	597	664	22.2	1.63
Missouri	6,126,452	76,595	848	921	15.0	1.20
Montana	1,062,305	12,700	168	182	17.1	1.43
Nebraska	1,929,268	20,975	201	230	11.9	1.10
Nevada	3,034,392	28,319	300	330	10.9	1.17
New Hampshire	1,356,458	13,776	134	147	10.8	1.07
New Jersey	8,908,520	77,539	525	564	6.3	0.73
New Mexico	2,095,428	27,288	350	391	18.7	1.43
New York	19,542,209	123,510	889	943	4.8	0.76
North Carolina	10,383,620	121,127	1,321	1,437	13.8	1.19
North Dakota	760,077	9,856	95	105	13.8	1.07
Ohio	11,689,442	114,474	996	1,068	9.1	0.93

Population, fatal motor vehicle crashes, motor vehicle crash deaths and motor vehicle crash death rates per state, 2018

State	Population	Vehicle miles traveled (millions)	Fatal crashes	Deaths	Deaths per 100,000 population	Deaths per 100 million vehicle miles traveled
Oklahoma	3,943,079	45,433	603	655	16.6	1.44
Oregon	4,190,713	36,848	450	506	12.1	1.37
Pennsylvania	12,807,060	102,109	1,103	1,190	9.3	1.17
Rhode Island	1,057,315	8,009	56	59	5.6	0.74
South Carolina	5,084,127	56,801	970	1,037	20.4	1.83
South Dakota	882,235	9,719	110	130	14.7	1.34
Tennessee	6,770,010	81,321	974	1,041	15.4	1.28
Texas	28,701,845	282,037	3,305	3,642	12.7	1.29
Utah	3,161,105	32,069	237	260	8.2	0.81
Vermont	626,299	7,346	60	68	10.9	0.93
Virginia	8,517,685	85,336	778	820	9.6	0.96
Washington	7,535,591	62,367	497	546	7.2	0.88
West Virginia	1,805,832	19,447	265	294	16.3	1.51
Wisconsin	5,813,568	65,885	530	588	10.1	0.89
Wyoming	577,737	10,438	100	111	19.2	1.06
U.S. total	327,167,434	3,240,323	33,654	36,560	11.2	1.13

Deaths by road user

In 2018, the types of motor vehicle crash deaths varied across states. For example, Wyoming had the highest percentage of deaths involving SUV and pickup occupants (49 percent) and a relatively low percentage of deaths involving car occupants (23 percent). In contrast, Vermont had the highest percentage of deaths involving car occupants (49 percent) and a relatively low percentage of deaths involving SUV and pickup occupants (26 percent). Hawaii reported relatively low proportions of fatalities for both cars (15 percent) and SUVs and pickups (15 percent), but a high percentage of motorcyclist deaths (29 percent) and the highest percentage of pedestrian deaths (36 percent). The District of Columbia had the highest percentage of crash deaths involving bicyclists (10 percent) and a high percentage involving pedestrians (35 percent) and motorcyclists (26 percent).

Motor vehicle crash deaths by road user type and state, 2018

*Total includes other and/or unknowns

Motor vehicle crash deaths by road user type and state, 2018

State	Car occupants		Pickup and SUV occupants		Large truck occupants		Motorcyclists		Pedestrians		Bicyclists		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number
State	**Car occupants**		**Pickup and SUV occupants**		**Large truck occupants**		**Motorcyclists**		**Pedestrians**		**Bicyclists**		**Total**
	Number	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**
Alabama	419	44	305	32	17	2	82	9	107	11	9	1	959
Alaska	22	28	25	31	1	1	12	15	14	18	0	0	80
Arizona	269	27	217	21	14	1	149	15	237	23	23	2	1,010
Arkansas	163	32	187	36	24	5	66	13	62	12	3	1	516
California	1,248	35	654	18	38	1	488	14	893	25	154	4	3,563
Colorado	186	29	210	33	12	2	103	16	89	14	22	3	632
Connecticut	125	43	49	17	5	2	49	17	60	20	1	0	294
Delaware	39	35	24	22	1	1	17	15	23	21	6	5	111
District of Columbia	7	23	1	3	0	0	8	26	11	35	3	10	31
Florida	1,009	32	562	18	42	1	574	18	704	22	160	5	3,133
Georgia	550	37	426	28	31	2	154	10	261	17	30	2	1,504
Hawaii	17	15	18	15	0	0	34	29	42	36	2	2	117
Idaho	76	33	72	31	7	3	38	16	17	7	2	1	231
Illinois	419	41	241	23	23	2	119	12	165	16	24	2	1,031
Indiana	357	42	198	23	19	2	117	14	114	13	22	3	858
Iowa	128	40	92	29	7	2	43	14	22	7	7	2	318
Kansas	139	34	148	37	11	3	64	16	29	7	5	1	404
Kentucky	298	41	214	30	14	2	95	13	73	10	10	1	724
Louisiana	248	32	214	28	10	1	79	10	164	21	28	4	768
Maine	60	44	40	29	0	0	23	17	7	5	2	1	137
Maryland	196	39	95	19	9	2	62	12	128	26	5	1	501
Massachusetts	129	36	75	21	4	1	59	16	78	22	4	1	360
Michigan	377	39	250	26	8	1	143	15	142	15	21	2	974
Minnesota	144	38	105	28	3	1	59	15	42	11	7	2	381
Mississippi	262	39	228	34	16	2	41	6	88	13	6	1	664
Missouri	367	40	286	31	22	2	113	12	95	10	2	0	921
Montana	48	26	85	47	4	2	21	12	15	8	2	1	182
Nebraska	88	38	77	33	11	5	23	10	24	10	0	0	230
Nevada	103	31	67	20	2	1	59	18	79	24	8	2	330
New Hampshire	52	35	47	32	3	2	28	19	9	6	2	1	147

*Total includes other and/or unknowns

Motor vehicle crash deaths by road user type and state, 2018

State	Car occupants		Pickup and SUV occupants		Large truck occupants		Motorcyclists		Pedestrians		Bicyclists		Total
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number
New Jersey	205	36	84	15	13	2	53	9	173	31	18	3	564
New Mexico	112	29	114	29	8	2	45	12	83	21	11	3	391
New York	301	32	163	17	8	1	149	16	262	28	29	3	943
North Carolina	567	39	372	26	21	1	191	13	225	16	18	1	1,437
North Dakota	25	24	49	47	2	2	16	15	6	6	2	2	105
Ohio	469	44	251	24	23	2	145	14	127	12	22	2	1,068
Oklahoma	236	36	207	32	25	4	91	14	60	9	16	2	655
Oregon	156	31	129	25	11	2	78	15	80	16	9	2	506
Pennsylvania	469	39	273	23	14	1	165	14	197	17	18	2	1,190
Rhode Island	18	31	12	20	0	0	18	31	7	12	1	2	59
South Carolina	389	38	285	27	16	2	141	14	165	16	23	2	1,037
South Dakota	50	38	44	34	4	3	16	12	10	8	0	0	130
Tennessee	402	39	284	27	17	2	168	16	136	13	8	1	1,041
Texas	1,160	32	1,191	33	98	3	416	11	612	17	69	2	3,642
Utah	86	33	69	27	8	3	47	18	36	14	3	1	260
Vermont	33	49	18	26	2	3	7	10	6	9	0	0	68
Virginia	349	43	200	24	22	3	100	12	118	14	12	1	820
Washington	186	34	139	25	5	1	80	15	102	19	16	3	546
West Virginia	107	36	90	31	10	3	39	13	22	7	5	2	294
Wisconsin	251	43	164	28	7	1	83	14	56	10	4	1	588
Wyoming	26	23	54	49	6	5	15	14	6	5	0	0	111
U.S. total	13,138	36	9,404	26	678	2	4,985	14	6,283	17	854	2	36,560

*Total includes other and/or unknowns

Crash types

Nationwide, 53 percent of motor vehicle crash deaths in 2018 occurred in single-vehicle crashes. Montana had the highest percentage of deaths in single-vehicle crashes (71 percent), while Nebraska had the highest percentage of deaths in multiple-vehicle crashes (57 percent).

Deaths by crash type and state, 2018						
State	Single-vehicle		Multiple-vehicle		All crashes	
	Number	%	Number	%	Number	%
Alabama	514	54	439	46	953	100
Alaska	45	56	35	44	80	100
Arizona	581	58	429	42	1,010	100
Arkansas	285	55	231	45	516	100
California	1,956	55	1,607	45	3,563	100
Colorado	346	55	286	45	632	100
Connecticut	166	56	128	44	294	100
Delaware	55	50	56	50	111	100
District of Columbia	20	65	11	35	31	100
Florida	1,621	52	1,512	48	3,133	100
Georgia	831	55	673	45	1,504	100
Hawaii	72	62	45	38	117	100
Idaho	129	56	102	44	231	100
Illinois	528	51	503	49	1,031	100
Indiana	427	50	431	50	858	100
Iowa	143	45	175	55	318	100
Kansas	201	50	203	50	404	100
Kentucky	378	52	346	48	724	100
Louisiana	448	58	320	42	768	100
Maine	83	61	54	39	137	100
Maryland	260	52	241	48	501	100
Massachusetts	214	59	146	41	360	100
Michigan	460	47	514	53	974	100
Minnesota	188	49	193	51	381	100
Mississippi	367	55	297	45	664	100
Missouri	478	52	443	48	921	100
Montana	129	71	53	29	182	100
Nebraska	98	43	132	57	230	100
Nevada	173	52	157	48	330	100
New Hampshire	87	59	60	41	147	100
New Jersey	309	55	255	45	564	100
New Mexico	220	56	171	44	391	100
New York	562	60	381	40	943	100
North Carolina	745	52	692	48	1,437	100
North Dakota	53	50	52	50	105	100

Deaths by crash type and state, 2018						
State	Single-vehicle		Multiple-vehicle		All crashes	
	Number	%	Number	%	Number	%
Ohio	535	50	533	50	1,068	100
Oklahoma	300	46	355	54	655	100
Oregon	275	54	231	46	506	100
Pennsylvania	629	53	561	47	1,190	100
Rhode Island	36	61	23	39	59	100
South Carolina	573	55	464	45	1,037	100
South Dakota	82	63	48	37	130	100
Tennessee	543	52	498	48	1,041	100
Texas	1,840	51	1,802	49	3,642	100
Utah	137	53	123	47	260	100
Vermont	37	54	31	46	68	100
Virginia	470	57	350	43	820	100
Washington	325	60	221	40	546	100
West Virginia	154	52	140	48	294	100
Wisconsin	312	53	276	47	588	100
Wyoming	61	55	50	45	111	100
U.S. total	19,481	53	17,079	47	36,560	100

Alcohol involvement

Some states report blood alcohol concentration (BAC) for only a small percentage of passenger vehicle drivers. If BAC is missing for a driver, it is estimated by the U.S. Department of Transportation's multiple imputation model.[2 (#fn2)] However, BAC information is most precise in states that report a high percentage of crashes where BAC information is reported. In the following table, estimated percentages of fatally injured passenger vehicle drivers with BACs at or above 0.08 percent are shown only for states in which BAC reporting for fatally injured drivers was 70 percent or higher. Estimated percentages are based on known BAC when available and imputed BAC for the remaining drivers.

For the nation in 2018, BAC was reported for 65 percent of fatally injured passenger vehicle drivers. Reporting rates varied substantially, from a high of 100 percent (District of Columbia) to a low of 26 percent (Indiana).

Thirty-one states and the District of Columbia had BAC reporting rates of at least 70 percent. Among these states, Montana had the highest estimated percentage of fatally injured drivers with BACs of 0.08 percent or higher (45 percent) and West Virginia had the lowest (12 percent).

Estimated number and percent of fatally injured passenger vehicle drivers with BAC ≥ 0.08 percent by state, 2018

State	Total drivers killed	Drivers killed with known BAC results		Estimated drivers killed with BACs ≥ 0.08	
	Number	Number	%	Number	%
Alabama	566	325	57	‡	‡
Alaska	32	20	63	‡	‡
Arizona	353	219	62	‡	‡
Arkansas	280	202	72	73	26
California	1,369	896	65	‡	‡
Colorado	286	252	88	96	34
Connecticut	127	62	49	‡	‡
Delaware	46	37	80	16	34
District of Columbia	5	5	100	1	20
Florida	1,162	687	59	‡	‡
Georgia	754	397	53	‡	‡
Hawaii	26	21	81	9	34
Idaho	114	80	70	29	26
Illinois	509	435	85	151	30
Indiana	435	115	26	‡	‡
Iowa	180	107	59	‡	‡
Kansas	229	70	31	‡	‡
Kentucky	401	286	71	74	18
Louisiana	363	312	86	108	30
Maine	78	64	82	18	23
Maryland	210	159	76	48	23
Massachusetts	169	153	91	56	33
Michigan	483	257	53	‡	‡
Minnesota	193	169	88	56	29
Mississippi	378	177	47	‡	‡
Missouri	505	389	77	124	25
Montana	108	94	87	48	45

‡ Cells with missing data have insufficient reporting of results for reliably estimating percent of fatally injured drivers with BACs ≥ 0.08 Percent.

Estimated number and percent of fatally injured passenger vehicle drivers with BAC ≥ 0.08 percent by state, 2018

State	Total drivers killed	Drivers killed with known BAC results		Estimated drivers killed with BACs ≥ 0.08	
	Number	Number	%	Number	%
Nebraska	115	88	77	33	28
Nevada	134	93	69	‡	‡
New Hampshire	80	75	94	22	27
New Jersey	210	171	81	56	27
New Mexico	158	113	72	47	30
New York	359	239	67	‡	‡
North Carolina	724	354	49	‡	‡
North Dakota	56	47	84	17	30
Ohio	569	464	82	147	26
Oklahoma	351	318	91	69	20
Oregon	199	140	70	54	27
Pennsylvania	584	302	52	‡	‡
Rhode Island	21	17	81	7	35
South Carolina	542	384	71	163	30
South Dakota	68	60	88	25	37
Tennessee	518	242	47	‡	‡
Texas	1,760	883	50	‡	‡
Utah	110	96	87	28	25
Vermont	37	33	89	10	27
Virginia	437	377	86	135	31
Washington	237	193	81	73	31
West Virginia	148	130	88	18	12
Wisconsin	328	275	84	116	35
Wyoming	62	25	40	‡	‡
U.S. total	17,168	11,109	65	4,946	29

‡ Cells with missing data have insufficient reporting of results for reliably estimating percent of fatally injured drivers with BACs ≥ 0.08 Percent.

Restraint use

Based on daytime observational surveys conducted by the states, the nationwide rate of seat belt use among front seat passenger vehicle occupants in 2018 was 90 percent. The state with the highest observed seat belt use for front seat occupants was Hawaii, at 98 percent, while the lowest was New Hampshire at 76 percent.[3 (#fn3)]

Rates of restraint use among fatally injured motor vehicle occupants will be lower than the overall observed restraint use rate because unrestrained occupants are more likely than restrained ones to be fatally injured in a crash. Restrained fatally injured occupants include occupants in child safety seats and occupants restrained by seat belts. In 2018, fatally injured occupants were approximately half as likely to have been restrained compared with the nationwide average. California had the highest restraint use percentage among fatally injured occupants at 61 percent. New Hampshire had the lowest restraint use among fatally injured occupants at just 28 percent.

Rates of observed daytime front-seat belt use and number and percent of fatally injured passenger vehicle occupants by restraint use and state, 2018

State and percent of observed seat belt use		Restrained fatally injured occupants		Unrestrained fatally injured occupants		Unknown restraint status of fatally injured occupants		Total fatally injured passenger vehicle occupants
		Number	%	Number	%	Number	%	Number
Alabama	**92**	301	42	359	50	63	9	723
Alaska	**92**	20	43	22	47	5	11	47
Arizona	**86**	197	39	235	47	69	14	501
Arkansas	**78**	144	41	178	51	30	9	352
California	**96**	1,170	61	594	31	160	8	1,924
Colorado	**86**	172	43	216	54	15	4	403
Connecticut	**92**	76	43	69	39	32	18	177
Delaware	**92**	29	46	33	52	1	2	63
District of Columbia	**95**	3	38	1	12	4	50	8
Florida	**91**	844	53	703	44	45	3	1,592
Georgia	**96**	448	45	442	44	105	11	995
Hawaii	**98**	12	33	15	42	9	25	36
Idaho	**85**	59	38	82	53	13	8	154
Illinois	**95**	330	49	249	37	96	14	675
Indiana	**93**	272	48	214	38	79	14	565
Iowa	**94**	120	54	78	35	26	12	224
Kansas	**84**	133	46	130	45	25	9	288
Kentucky	**90**	236	46	281	54	0	0	517
Louisiana	**87**	212	45	223	47	36	8	471

Rates of observed daytime front-seat belt use and number and percent of fatally injured passenger vehicle occupants by restraint use and state, 2018

State and percent of observed seat belt use		Restrained fatally injured occupants		Unrestrained fatally injured occupants		Unknown restraint status of fatally injured occupants		Total fatally injured passenger vehicle occupants
		Number	%	Number	%	Number	%	Number
Maine	**89**	51	50	50	50	0	0	101
Maryland	**90**	159	54	104	36	29	10	292
Massachusetts	**82**	65	31	103	49	42	20	210
Michigan	**93**	354	55	182	28	104	16	640
Minnesota	**92**	123	48	84	33	47	19	254
Mississippi	**80**	208	42	281	57	5	1	494
Missouri	**87**	233	35	385	58	46	7	664
Montana	**87**	45	33	87	64	3	2	135
Nebraska	**86**	57	35	88	53	20	12	165
Nevada	**92**	89	51	77	45	7	4	173
New Hampshire	**76**	29	28	71	70	2	2	102
New Jersey	**95**	159	53	126	42	13	4	298
New Mexico	**90**	90	39	116	51	23	10	229
New York	**93**	259	55	153	33	57	12	469
North Carolina	**91**	522	54	395	41	44	5	961
North Dakota	**83**	29	39	37	49	9	12	75
Ohio	**85**	321	44	334	46	77	11	732
Oklahoma	**86**	205	46	209	46	36	8	450
Oregon	**96**	156	54	76	26	57	20	289
Pennsylvania	**89**	266	35	386	51	104	14	756
Rhode Island	**89**	13	43	13	43	4	13	30
South Carolina	**90**	318	47	332	49	33	5	683
South Dakota	**79**	29	31	60	63	6	6	95
Tennessee	**91**	345	50	293	42	52	8	690
Texas	**91**	1,241	52	946	40	200	8	2,387
Utah	**89**	87	55	50	32	20	13	157
Vermont	**90**	20	39	29	57	2	4	51
Virginia	**84**	255	46	296	53	6	1	557
Washington	**93**	186	56	109	33	39	12	334
West Virginia	**91**	94	47	72	36	33	17	199
Wisconsin	**89**	204	48	158	38	59	14	421
Wyoming	**86**	33	40	43	52	7	8	83

Rates of observed daytime front-seat belt use and number and percent of fatally injured passenger vehicle occupants by restraint use and state, 2018								
State and percent of observed seat belt use		Restrained fatally injured occupants		Unrestrained fatally injured occupants		Unknown restraint status of fatally injured occupants		Total fatally injured passenger vehicle occupants
		Number	%	Number	%	Number	%	Number
U.S. total	90	11,023	48	9,869	43	1,999	9	22,891

Rural versus urban

Nationwide, 45 percent of motor vehicle crash deaths in 2018 occurred in rural areas. The states with the highest percentage of crash deaths on rural roads were South Dakota (90 percent), Vermont (88 percent), and North Dakota (87 percent). The states with the lowest percentage were New Jersey (8 percent) Massachusetts (10 percent), and Connecticut (13 percent). The District of Columbia had 0 crash deaths in rural areas because its entirety is coded as an urban area.

Number and percent of motor vehicle crash deaths by land use and state, 2018							
State	Urban		Rural		Unknown		Total
	Number	%	Number	%	Number	%	Number
Alabama	412	43	541	57	0	0	953
Alaska	39	49	41	51	0	0	80
Arizona	680	67	318	31	12	1	1,010
Arkansas	210	41	306	59	0	0	516
California	2,490	70	1,072	30	1	<1	3,563
Colorado	373	59	259	41	0	0	632
Connecticut	252	86	39	13	3	1	294
Delaware	57	51	54	49	0	0	111
District of Columbia	31	100	0	0	0	0	31
Florida	1,860	59	724	23	549	18	3,133
Georgia	996	66	508	34	0	0	1,504
Hawaii	91	78	26	22	0	0	117
Idaho	63	27	168	73	0	0	231
Illinois	645	63	386	37	0	0	1,031
Indiana	333	39	524	61	1	<1	858
Iowa	64	20	254	80	0	0	318
Kansas	95	24	308	76	1	<1	404

Number and percent of motor vehicle crash deaths by land use and state, 2018

State	Urban		Rural		Unknown		Total
	Number	%	Number	%	Number	%	Number
Kentucky	208	29	515	71	1	<1	724
Louisiana	463	60	304	40	1	<1	768
Maine	19	14	117	85	1	1	137
Maryland	403	80	90	18	8	2	501
Massachusetts	323	90	36	10	1	<1	360
Michigan	566	58	407	42	1	<1	974
Minnesota	160	42	218	57	3	1	381
Mississippi	224	34	440	66	0	0	664
Missouri	409	44	512	56	0	0	921
Montana	28	15	154	85	0	0	182
Nebraska	59	26	171	74	0	0	230
Nevada	239	72	89	27	2	1	330
New Hampshire	69	47	78	53	0	0	147
New Jersey	509	90	45	8	10	2	564
New Mexico	158	40	231	59	2	1	391
New York	477	51	466	49	0	0	943
North Carolina	593	41	843	59	1	<1	1,437
North Dakota	14	13	91	87	0	0	105
Ohio	580	54	471	44	17	2	1,068
Oklahoma	225	34	429	65	1	<1	655
Oregon	178	35	328	65	0	0	506
Pennsylvania	660	55	524	44	6	1	1,190
Rhode Island	43	73	15	25	1	2	59
South Carolina	356	34	681	66	0	0	1,037
South Dakota	13	10	117	90	0	0	130
Tennessee	570	55	471	45	0	0	1,041
Texas	2,110	58	1,520	42	12	<1	3,642
Utah	165	63	93	36	2	1	260
Vermont	7	10	60	88	1	1	68
Virginia	346	42	471	57	3	<1	820
Washington	305	56	235	43	6	1	546
West Virginia	116	39	178	61	0	0	294
Wisconsin	199	34	386	66	3	1	588
Wyoming	14	13	96	86	1	1	111
U.S. total	19,499	53	16,410	45	651	2	36,560

Footnotes

1

Federal Highway Administration. 2019. Highway statistics, 2018. Washington, DC: US Department of Transportation.

(#fn1ref1)

2

Subramanian, R. 2002. Transitioning to multiple imputation — a new method to impute missing blood alcohol concentration (BAC) values in FARS. Report no. DOT HS-809-403. Washington, DC: National Highway Traffic Safety Administration.

(#fn2ref1)

3

National Highway Traffic Safety Administration. 2019. Seat belt use in 2018 — use rates in the states and territories. Report no. DOT HS-812-763. Washington, DC: U.S. Department of Transportation.

(#fn3ref1)

The Insurance Institute for Highway Safety (IIHS) is an independent, nonprofit scientific and educational organization dedicated to reducing the losses — deaths, injuries and property damage — from motor vehicle crashes.

The Highway Loss Data Institute (HLDI) shares and supports this mission through scientific studies of insurance data representing the human and economic losses resulting from the ownership and operation of different types of vehicles and by publishing insurance loss results by vehicle make and model.

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Madison County Annual Average Daily Traffic 2011

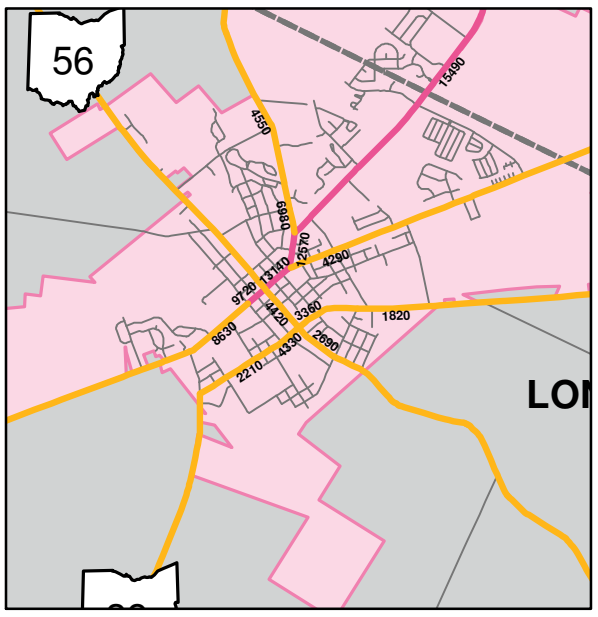
Ohio Department of Transportation
Office of Technical Services
Traffic Monitoring Section

ODOT.Traffic.Counts@dot.state.oh.us
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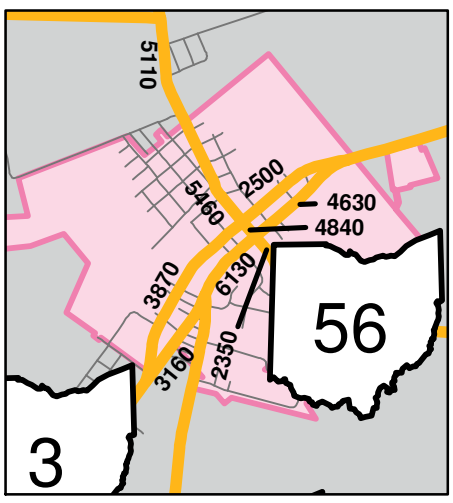
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17800 to 26700	Municipalities
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35600 to 44500	Townships
44500 to 53400	A Townships

London



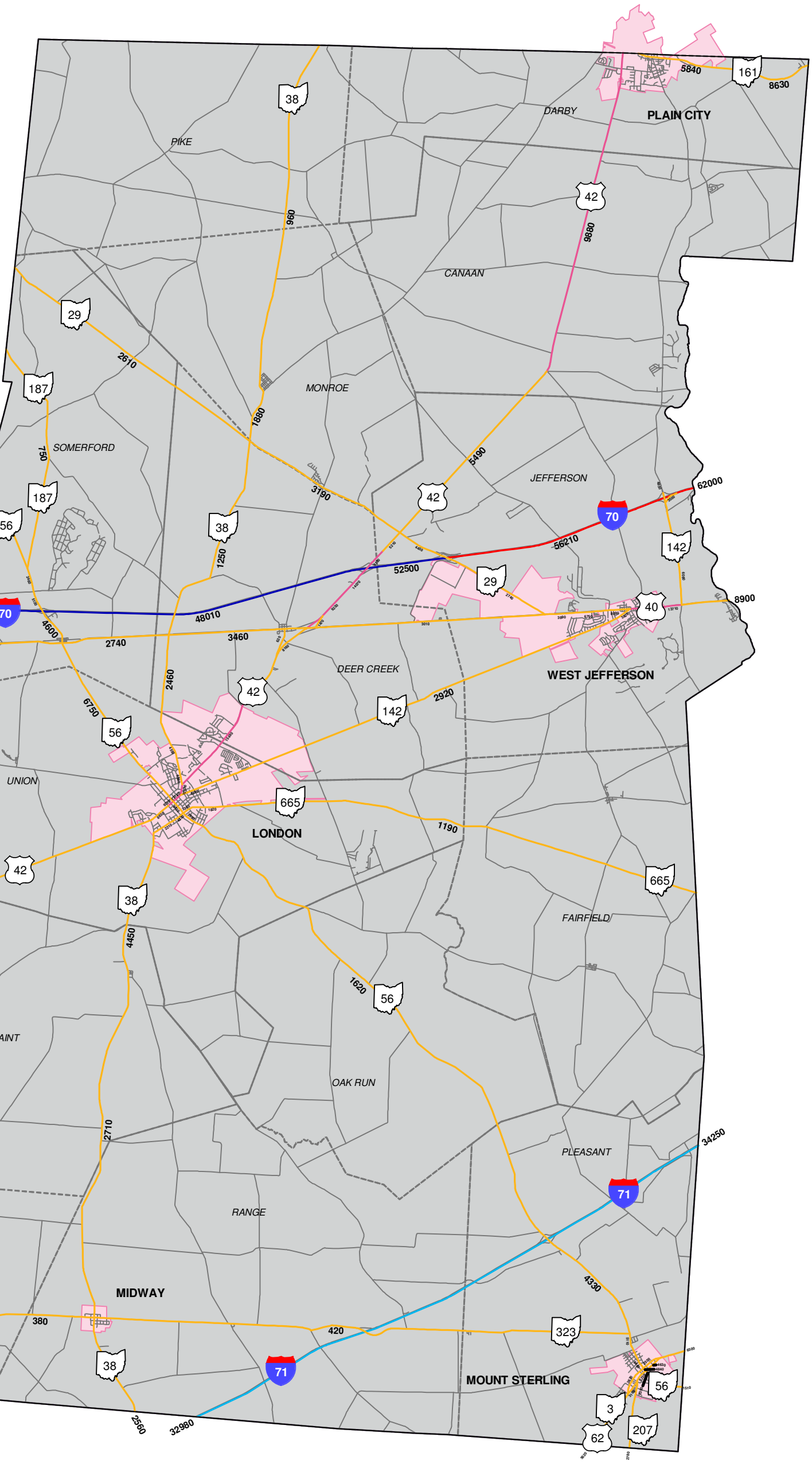
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ObjectID	SFN	BRIDGE_ROAD_WIDTH	BYPS_DETOUR_LENGTH	DECK_GEOMETRY	STRUCTL_EVALUATION	UNDERCLEAR_VERT_HORIZ	COUNTY_CD	CULVERTS	FEATURES_INTERSECTED	LENGTH_OF_MAXIMUM_SPAN	STRUCTURE_LENGTH	LOCATION_TXT	FACILITY_CARRIED_BY_STRUCT	SUFF_RATING	YEAR_BUILT	GEN_APPR_CONDITION_RATING	INSPECTION_DATE
48888358	4930577	24	4	5	8	N	MAD		BRADFORD CREEK	45	46.2	2.51 mi n of moorman rd	van wagner	89.9	6/1/2016 0:00	8	12/20/2018 0:00

APPENDIX D

Area of Concern 1: Madden-Higgins Road

Reduction in Weight Limit on Road



Area of Concern 2: Madden-Higgins Road

Reduction in Weight Limit on Road



Area of Concern 3: Madden-Higgins Road

Moderate to severe alligator cracking on road



Area of Concern 4: Madden-Higgins Road

Moderate to severe alligator cracking on road



Area of Concern 5: Madden-Higgins Road

Moderate to severe alligator cracking on road



Area of Concern 6: Madden-Higgins Road

Reduction in weight limit on road



Area of Concern 7: Van Wagener Road

Shallow cover over 43” x 37” elliptical concrete culvert.



APPENDIX E

Fox Squirrel Solar- Truck Load Estimation
6/30/2020 revised 10/8/2020

Solar Panel Truck Estimation

Project Solar Panels	1,325,100	
# Solar Panels/Truck	575	
Trucks Needed for Solar Panel Delivery	**2,305**	**trucks**

Notes/Assumptions:
1. Panels are approximately 144-cell modules.
2. Panel size is approximately 7.5'x3.8'
3. Truck deliveries include racking, transformer, inverters, etc.

Gravel Truck Estimation

Number of Access Road (Assumed)	30	
Length of Average Access Road (Assumed)	3,000	ft
Width of Access Road	16	ft
Depth of Aggregate for Access Road	0.5	ft
Volume of Access Road Aggregate	720,000	cf
Total Gravel Volume of All Access Roads	26,667	cy
Trucks Needed for Gravel Delivery	**2,222**	**trucks**

Notes/Assumptions:
1. Once access layout is finalized, the number, length, width, and depth of access roads will be recalculated.
2. Assumed 12 cy/truck for gravel delivery.

Other Facilities Truck Estimation

Length of Fencing	120,000	ft
Linear Feet per Truck	10,000	
Trucks Needed for Fencing	**17**	**trucks**
Other Facilities	**1,548**	**trucks**

Notes/Assumptions:
1. Assuming five trucks will be necessary for posts and gates.
2. Number of trucks assumed for other facilities is based off of the assumption from other solar projects that solar panels make up 60% of non-aggregate/earthwork number of trucks needed for project.
3. Trucks used for hauling are assumed to be WB-50. Dimension assumed to be 8.5' wide x 42.5' long x 10' high with 90% truck capacity.

Total Estimation of Trucks for Project	**6,092**	**trucks**


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Case No(s). 21-1031-EL-BGA

Summary: Application - 7 of 24 (Exhibit D - Transportation Effect and Route Evaluation Study) electronically filed by Christine M.T. Pirik on behalf of Fox Squirrel Solar, LLC