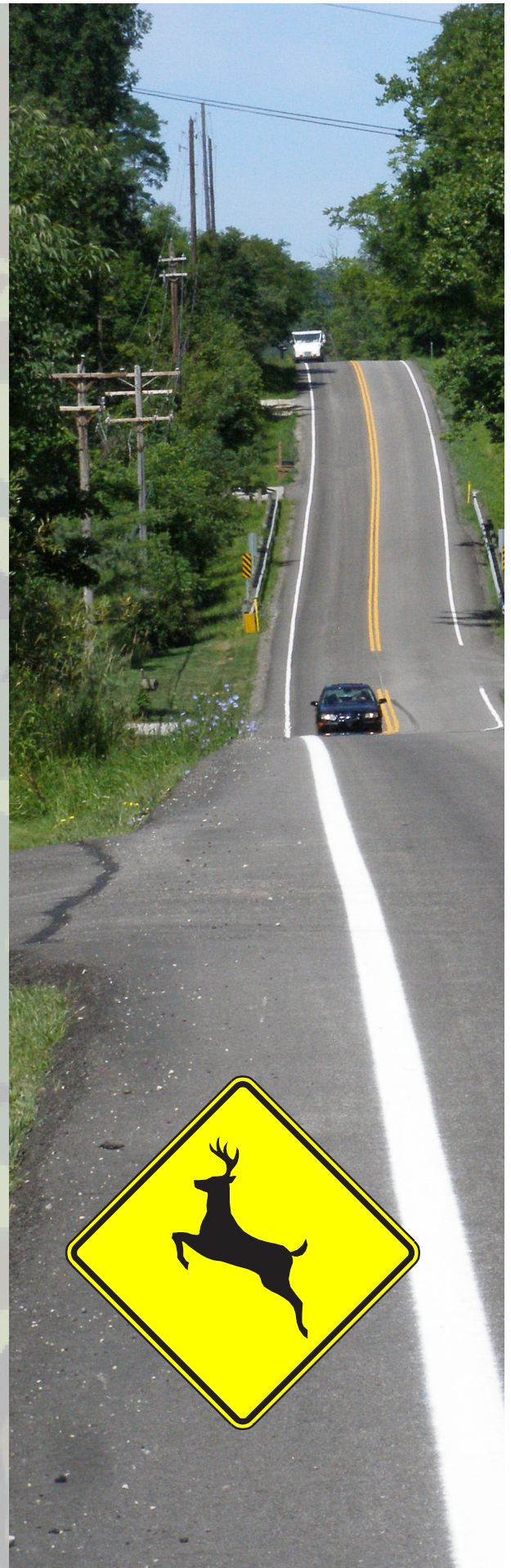


A Strategic Plan to Reduce Vehicle-Animal Accidents in Northeast Ohio

June 2009

Prepared by the
Northeast Ohio Areawide Coordinating Agency



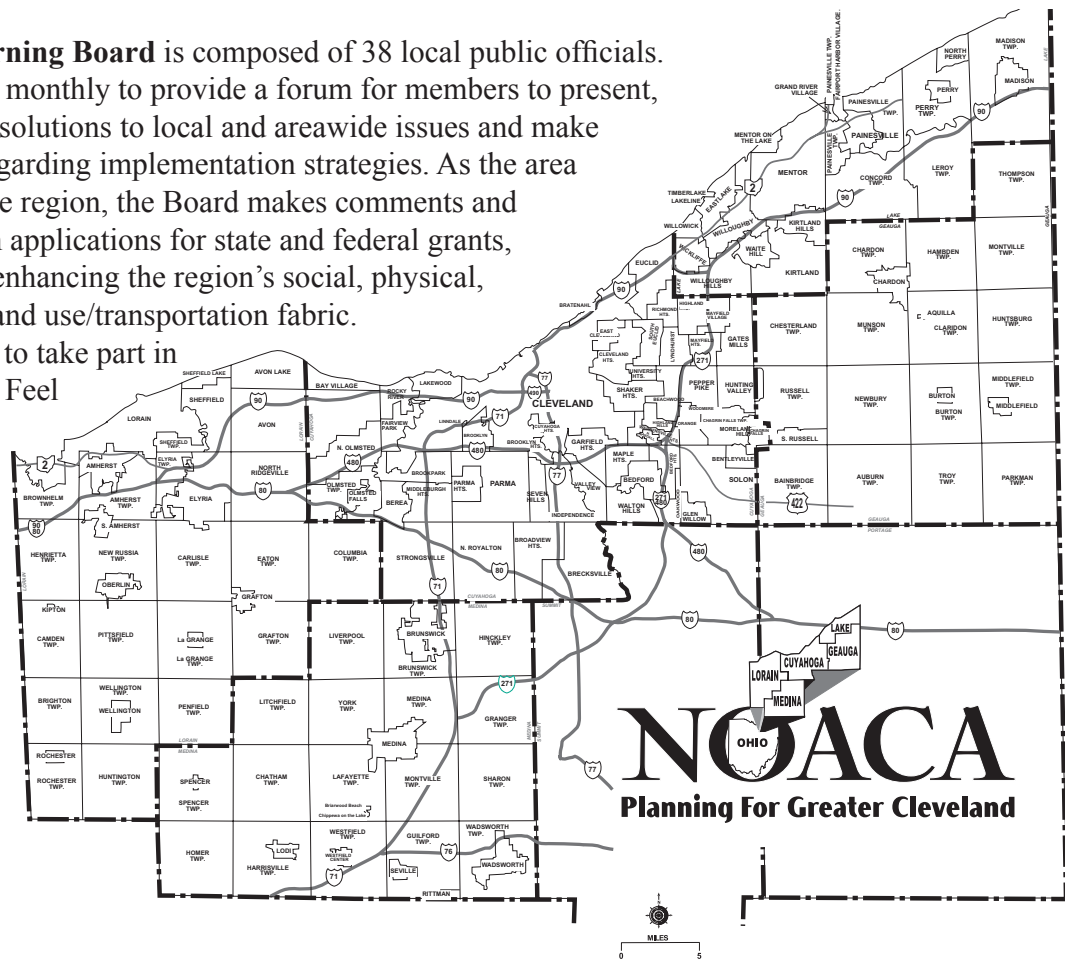
The Northeast Ohio Areawide Coordinating Agency (NOACA) is a public organization serving the counties of and municipalities and townships within Cuyahoga, Geauga, Lake, Lorain and Medina (covering an area with 2.1 million people). NOACA is the agency designated or recognized to perform the following functions:

- Serve as the Metropolitan Planning Organization (MPO), with responsibility for comprehensive, cooperative and continuous planning for highways, public transit, and bikeways, as defined in the current transportation law.
- Perform continuous water quality, transportation-related air quality and other environmental planning functions.
- Administer the area clearinghouse function, which includes providing local government with the opportunity to review a wide variety of local or state applications for federal funds.
- Conduct transportation and environmental planning and related demographic, economic and land use research.
- Serve as an information center for transportation and environmental and related planning.
- At NOACA Governing Board direction, provide transportation and environmental planning assistance to the 172 units of local, general purpose government.

The NOACA Governing Board is composed of 38 local public officials. The Board convenes monthly to provide a forum for members to present, discuss and develop solutions to local and areawide issues and make recommendations regarding implementation strategies. As the area clearinghouse for the region, the Board makes comments and recommendations on applications for state and federal grants, with the purpose of enhancing the region's social, physical, environmental and land use/transportation fabric.

NOACA invites you to take part in its planning process. Feel free to participate, to ask questions and to learn more about areawide planning.

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A Strategic Plan to Reduce Vehicle-Animal Accidents in Northeast Ohio

“The Lesson To Be Learned From Fragmented, Isolated Habitats Is Yeatsian: Things Fall Apart”*



June 2009

Prepared by

NORTHEAST OHIO AREAWIDE COORDINATING AGENCY

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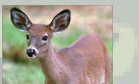
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* Source: An essay by David Quammen entitled “Planet of Weeds,” published in Harper’s, October 1998.



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National Problem

The National Highway Traffic Safety Administration reports 1.5 million deer-related accidents annually on our nation's roadways. The human toll is approximately 150 dead and 10,000 injured. Vehicular damage is estimated to be 1 billion. No value is placed on wildlife, in this case deer. This is a conservative estimate due to no national standard for reporting vehicle-deer crashes.¹

Ohio was the fourth highest state in vehicle-deer crashes according to a 2004-2005 insurance claims statistic study. Only Pennsylvania, Michigan and Illinois had more vehicle-deer crashes than Ohio. The peak period for these accidents is between October and December due to deer migration and mating.

National Response

Road planners, designers, builders, and operators give minimal thought to wildlife habitat destruction and fragmentation in the placement, design and use of infrastructure. The transportation system has become a barrier to the safe movement of wildlife and companion animals, or pets, in urban, suburban, exurban and rural settings. The response to this problem must begin with an understanding of human and animal behavior within these ecosystems. Paul A. Garrett and Fred G. Bank first offered an approach to this challenge in a paper presented to the Standing Committee on the Environment at the annual meeting of the American Association of State Highway and Transportation Officials in October 1995 entitled "The Ecosystem Approach and Transportation Development."²

In "The Scan of the Wild," published in November 2002, Fred G. Bank, under the auspices of FHWA, AASHTO and NCHRP, inventoried efforts worldwide to reduce the impact of transportation on wildlife and their habitat. In August 2002 Fred Bank and the rest of his scanning team released a report entitled "Wildlife Habitat Connectivity Across European Highways" (FHWA-PL-02-011).

As a result of the trip, the team formed conclusions and recommendations for U.S. applications in the

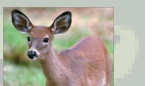
areas of policy, communications, guidance manuals, and research. In particular, the group recommends:

1. including wildlife/transportation issues in the FHWA and AASHTO strategic plans;
2. creating a central source of contact for international exchange of information;
3. developing a number of guidance manuals pertaining to assessment methodologies, interagency coordination, terminology, and structures design;
4. using pooled funds to study connectivity needs for all types of wildlife; and
5. funding a national connectivity study.

Most of these objectives have been achieved. That is, The Wildlife-Vehicle Collision Report to Congress dealing with national connectivity is now available online at <http://www.tfhr.gov/safety/pubs/08034>. The Best Practices Manual can be accessed at <http://www.fhwa.dot.gov/environment/hconnect/wvc/index.htm>. And an information clearinghouse has been established under Mary Gray's (FHWA) leadership at <http://www.deercrash.com> as a pooled fund resource. <http://www.pooledfund.org/projectdetails.asp?id=352&status=4>.

¹ <http://www.car-accidents.com/pages/deer-accident-statistics.html>

² Fred G. Bank and Paul A. Garrett attached to the Federal Highway Administration Office of Environment and Planning Environmental Analysis Division in Washington D.C during the 1990s.



Regional Landscape

In SFY2009 NOACA embarked on a regional effort to provide for safer movement of people and animals within the region. This report is designed to provide an impetus and direction for this effort. Similar efforts are under way in the northwest and have been well-established in other parts of the world.

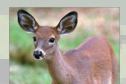
The concept has been introduced in southern Ohio as part of the U.S. 33 Nelsonville Bypass Project, but this unique initiative is a first for our region. There is a growing toolbox of effective measures to employ, from light and sound technology to under- and overpasses.

The table below and the map that follows on page three provide the Greater Cleveland five-county regional scale and distribution of the problem.

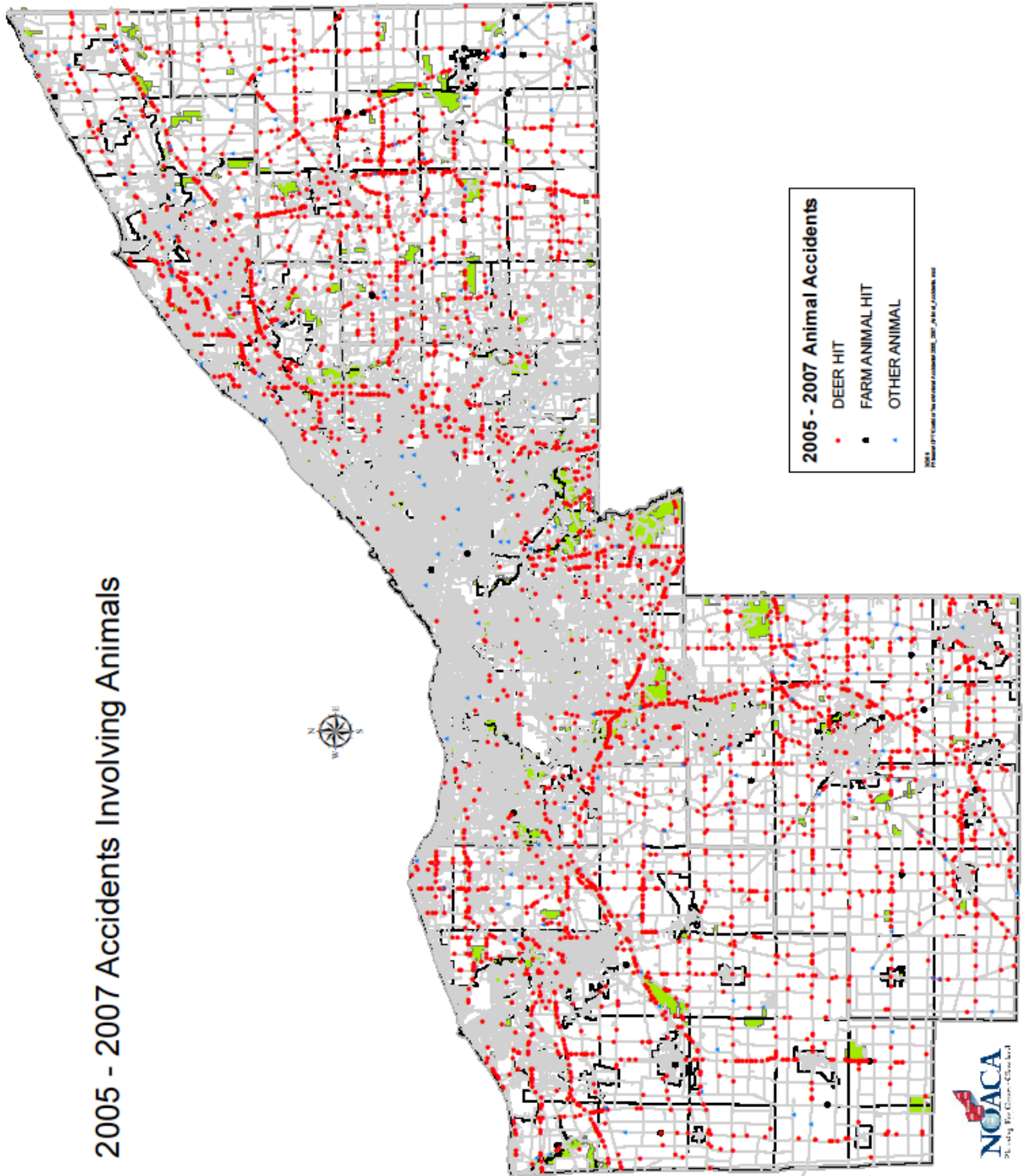
During the years 2005-2007, Lorain and Cuyahoga counties had the first and second highest numbers of animal-related crashes with 1,557 and 1,438 crashes, respectively, while Geauga and Medina Counties led in percent of total crashes with 17.51 percent and 10.81 percent, respectively, according to ODOT-released crash data.

Approximately 87 percent of animal-related crashes in the ODOT released crash data had x and y coordinates allowing them to be mapped. The crashes cluster along major arterials that connect or are in proximity to park areas, in contrast to national data that reveals concentrations on two-laned, low-volume, low-speed roadways as the more likely locations for vehicle-animal crashes. The animals involved are predominantly deer.

2005-2007 Crash Data Animal-Related Accidents (By County)			
	Animal-Related Accidents	Total Accidents	Percent Animal Related
Cuyahoga	1,438	105,676	1.36%
Gauga	1,284	7,218	17.51%
Lake	829	18,354	4.52%
Lorain	1,557	22,042	7.06%
Medina	1,238	11,429	10.81%
NOACA Total	6,324	164,719	3.84%



2005 - 2007 Accidents Involving Animals



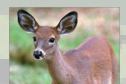
Regional Response

Drawing on best management practices gleaned from national and international sources, NOACA staff is developing a multidisciplinary and multijurisdictional hierarchical approach that proceeds from habitat creation, protection, and restoration and proceeds through discouragement and detection.

Some aspects of this approach may include land banking, conservation, sustainable development, wildlife underpasses and overpasses, detection and warning devices, fencing, plantings and combinations thereof. These techniques and devices may be employed in all ecosystems to avoid crashes with a variety of creatures, including pets and small mammals. Most of these crashes go unreported because they don't involve driver injury

or vehicle damage and no monetary value is placed on non-human animals. Deer-involved crashes make up the bulk of those reported, with farm and other animal categories making up the difference. Implementation will require a multijurisdictional and multidisciplined effort led by NOACA and its partners.

Staff has already introduced ecosystem-based transportation planning concepts into project reviews and corridor studies concerning watershed and water quality issues over the past several years. This past year, reducing wildlife collisions was a recommended component of one of the agency's Road Safety Audits (RSAs). Reducing vehicle-wildlife crashes has become a stand-alone effort according to its recent transportation plan update.



Implementation

A recent Transportation Research Board (TRB) Webinar provided a unique learning experience for those concerned about the complex problem of vehicle-wildlife crashes and some thoughtful responses to it.³ The speakers, Mary Gray of FHWA and Patrick McGowen & Marcel Huijser of the Western Transportation Institute at Montana State University offered insights into the problem and possible solutions that reflect the multidisciplinary and context-driven orientation necessary to reduce the likelihood of animal-vehicle crashes. Responses to the problem include methods to prevent, minimize and mitigate vehicle-animal crashes.

A successful strategy is connected to an understanding of how people and animals interact within ecosystems, especially large animals (wildlife) that travel in herds, i.e., deer in northeast Ohio. Basic questions to answer are where the primary habitats are and what the migration patterns are between those habitats. Naturalists understand wildlife travel, and transportation planners understand human travel. Through collaboration these professionals can avoid cross-species path crossings. A strategy to prevent, minimize or mitigate wildlife-vehicle crashes would include:

- Identifying habitat with significant concentrations of wildlife in the region;
- Preserving and conserving existing wildlife habitat within all types of ecosystems, i.e., rural, suburban, park systems, and urban;
- Augmenting existing habitat through creative use of land banking and other techniques designed to keep wildlife areas wild;
- When necessary locating new transportation infrastructure and related development such that it does not fragment or encroach on existing wildlife habitat;
- When habitat fragmentation by vital new infrastructure cannot be avoided, incorporating long tunnels or bridges into the design;

- When reconstructing or rehabilitating transportation infrastructure retrofit to reconnect terrestrial or aquatic habitat using existing underpasses and overpasses, along with detection equipment, fencing, plantings and combinations thereof;
- Monitoring wildlife use of over- and underpasses using infrared technology and vehicle-wildlife crash statistics to measure the effectiveness of these strategies throughout the region.

For more detailed information on techniques to prevent, minimize or mitigate wildlife-vehicle crashes refer to the Best Practices Manual at <http://www.hwa.dot.gov/environment/hconnect/wvc/index.htm>.

To be successful at reducing vehicle-wildlife crashes in the region, NOACA must continue to weave ecosystem consciousness into the transportation planning process as described above in concert with its partners. That is, creating, restoring, and reconnecting habitat and using Intelligent Transportation System technology on high-crash roadways. Next steps for SFY 2010 and beyond include:

- Evaluating crash data for 2008;
- Identifying and prioritizing roadway segments in the region with respect to vehicle-wildlife crashes per mile and crash severity;
- Introducing wildlife detection technology into the ITS strategic plan during the next update;
- Assisting the Ohio Turnpike Commission in the implementation of animal detection devices along high-accident segments as available turnpike revenues permit;
- Monitoring crashes along the newly constructed segment of Crocker Road that encroaches on Bradley Reservation habitat;
- Establishing or reestablishing a wildlife corridor where habitat has been fragmented by infrastructure.

³ TRB Webinar: Animal Vehicle Crashes, May 12, 2009 @ 2:00 pm EDT.

