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DRIVING -

Roadway Improvements and Licensing Policy Changes



Although New York City has one of the highest transit ridership rates in the country, driving still plays a significant role in the transportation patterns of many young and older new Yorkers. However, as drivers age, safety on the road becomes an increasing concern. In 2005, 11 percent of all fatal crashes involved drivers that were age 65 or older¹, and road safety analysts predict that by 2030, when most baby boomers have reached 65, they will be responsible for 25 percent of all fatal crashes.²

Road safety depends on fair and effective licensing procedures and on accounting for the specific needs of aging drivers in roadway design. The following case studies examine these issues associated with older adults and driving, and some municipalities' efforts to address licensing policy and roadway improvements to ensure access and safety.

¹ Ibid. Bottom of Form

² Davis et al., Dangerous Drivers a Growing Problem.

DETROIT, MICHIGAN Showcase Roadway Project



IMAGE 1. The difference can be seen in the fonts and the words East and West. The sign on the right is in Clearview font and the E in East is 25% larger than the rest of the word. Image used with permission from Michigan DOT.

The **Showcase Roadway Project in Detroit, Michigan**, focuses on how low-cost roadway improvements such as changing and enlarging the font on road signs for clearer visibility can make a difference, by reducing accident rates and thereby enhancing the safety of a roadway.

This case study relates to *Age-Friendly NYC Initiative 31* which deals with safety improvements including upgraded and improved signage, out of a concern for pedestrian safety of older adults and the need for more user-friendly streets.

BACKGROUND

Michigan has been known as the automobile capital of the world since the early 1900s. Although efficient public transportation systems exist in a couple of Michigan cities, driving is the predominate mode of

transportation. In 2007, there were 1,075,583 senior license holders in the State of Michigan, which accounts for roughly 15 percent of the state's driving population.³

Detroit is the largest city in the State of Michigan. According to the 2000 U.S. Census, the population of the city is 951,270, although current estimates suggest the population is decreasing.⁴ There are bus lines that provide transportation within the city and between the

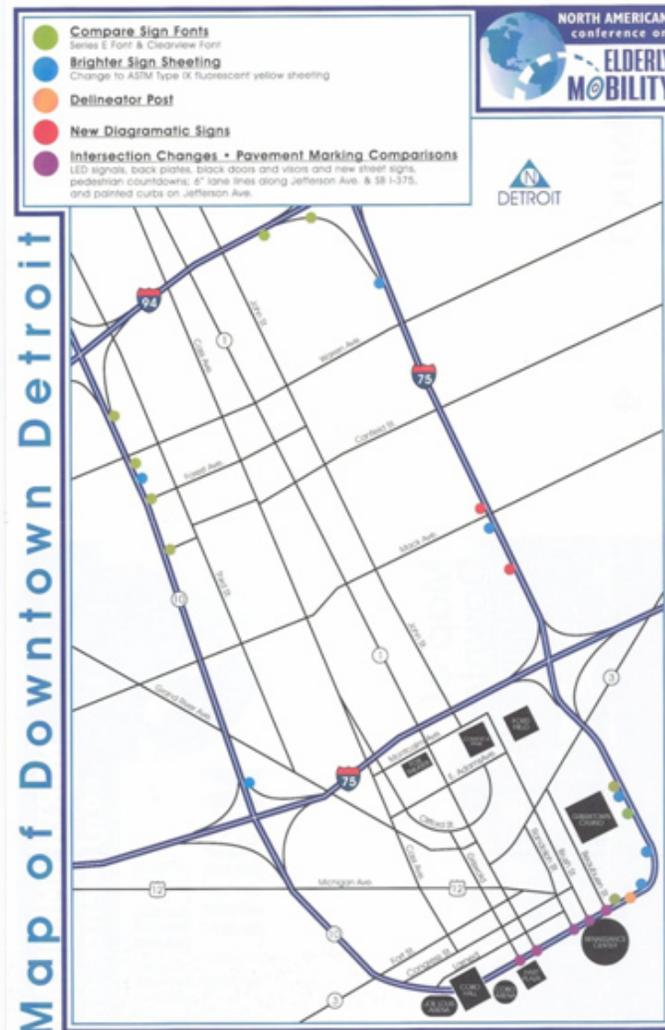


IMAGE 2. Detroit's roadway showcase. Image used with permission from MDOT.

³ Governor's Traffic Safety Advisory Commission (GTSAC), *Michigan Senior Mobility Action Plan 2009-2012*.

⁴ United States Census Bureau. "Census 2000."

city and surrounding suburbs. Additionally, an automated rail system, the Detroit People Mover, is located in the central business district where it makes stops at thirteen places of interest in a circle around the downtown area. The road network consists of large boulevards such as Woodward Avenue, Grand Avenue, Gratiot Avenue, Michigan Avenue, and Jefferson Avenue. Most of these arterial roadways extend beyond the Detroit city limit to the surrounding suburbs.

In 2004, Detroit, Michigan hosted the North American Conference on Elderly Mobility. To demonstrate engineering improvements that can assist the elderly, the Michigan Department of Transportation (MDOT) with assistance from the American Automobile Association and the Federal Highway Administration, created a 7.4 mile loop showcase roadway in downtown Detroit (IMAGE 1). The Detroit showcase roadway is the only location where the previous and new signs were installed side-by-side (IMAGE 2).⁵

IMPLEMENTATION

The demonstration roadway that was chosen for the project looped around downtown Detroit along the following corridors: Jefferson Avenue, Northbound M-10, Eastbound I-94, Southbound I-75, and Southbound I-375. The entire loop consisted of 7.4 miles of various engineering treatments developed to benefit older drivers during day and night time driving. Other treatments were implemented consisting of new pedestrian signage and new countdown signals installed to create a safer walking environment for elderly walkers. The treatments used in the showcase were recommendations from the Highway Design Handbook for Older Drivers and Pedestrians and the Guidelines and Recommendations to Accommodate Older Drivers and Pedestrians published by the FHWA in 2001.⁶

There were a number of treatments displayed at various points along the 7.2 mile loop. Some of the treatments include: brighter sheeting on warning signs, the use of Clearview font for guide and street names signs, 25 percent enlarged first letter of cardinal direction, light emitting diode (LED) lenses in the signals, pedestrian countdown signals, and painting of the curb radii (IMAGE 3).

Clearview font was developed through years of research and is the font that was used for the Showcase Roadway Project. The font has

5 Kim Lariviere, Michigan Department of Transportation, Email Correspondence, 30 July 2009.
6 Ibid.

IMAGE 3. Side by side comparison of an old street sign and a new larger and brighter sign. Image used with permission from MDOT.



interim approval by the Federal Highway Administration, and localities can use either the Standard Highway Signs (SHS) alphabet lettering known as Highway Gothic, or Clearview 5W lettering.⁷

FUNDING

The project was funded through donations from the contractors and suppliers, and by the Michigan Department of Transportation (approximately \$286,000 of state funds). Additionally, there were funding incentives for initiatives that benefit the elderly. Some of the increases include: a ten percent increase for the sign budget to replace current signage with type IX sheeting and Clearview font guide signs, a five percent increase for warning signs to go from high intensity to fluorescent sheeting, and about a twenty-seven percent increase for the pavement marking program for longitudinal markings and special markings.⁸

FINDINGS

The Showcase Roadway Project did not set out to collect data, but it did demonstrate the difference between current roadway signage and the pending federal signage requirements. The project was designed to be a tool for planners, engineers, and local municipalities by demonstrating simple low-cost roadway improvements that studies have shown to improve mobility among the elderly. By using a different font, such as Clearview, and by following the Manual on Uniform Traffic Control Devices (MUTCD) recommendations and requirements, the differences between the changes are evident.

7 Fred Ranck, Manual on Uniform Traffic Control Devices Team, Email Correspondence, 29 September 2009.

8 Kim Lariviere, Michigan Department of Transportation, Email Correspondence, 30 July 2009.

Studies have shown that drivers and pedestrians read signs more accurately if the first letter of a word is 25 percent larger than the rest of the word and the underlining is eliminated.⁹ Some studies indicate that changes to the lettering on the guide signs and street name signs can improve nighttime visibility by 26 percent.¹⁰

The North American Conference on Elderly Mobility in 2004 attracted attendees from all over the world, and the showcase roadway was the first of its kind. Yet, in another part of Michigan, there was a city that implemented a citywide initiative of upgrading their road and guide signs pre-dating the North American Conference on Elderly Mobility.

The City of Rochester Hills began a proactive sign maintenance program in 1993 because city engineers determined the current signage was not adequate at night.¹¹ This was around the same time that a team of experts in Pennsylvania began developing Clearview font. The goal of the sign program in Rochester Hills was to reduce crashes, especially for the city's older drivers.¹² The signage was analyzed in 2000 by the Traffic Improvement Association of Oakland County by conducting a crash study along the improved corridor. After the three year study, findings indicated a reduction in nighttime crashes. The engineers attributed this reduction to the improved signage which had greater retroreflectivity and larger font size (IMAGE 4).¹³

IMAGE 4. Reflective properties of new sheeting material as seen at night. Image used with permission from Michigan DOT.



9 Ibid.

10 Ibid.

11 Marc Matich, City of Rochester Hills, Telephone Interview, 29 September 2009.

12 Governor's Traffic Safety Advisory Commission (GTSAC), *Michigan Senior Mobility Action Plan 2009-2012*.

13 Marc Matich, City of Rochester Hills, Telephone Interview, 29 September 2009.

Based on previous research, the Federal Highway Administration recommended that sign legibility requirements should have minimum vision standards. A majority of states allow drivers with corrected 20/40 vision to obtain driver's licenses. As a result of the increasing number of elderly drivers, the FHWA recommends that 20/40 should be the basis of standard letter heights used on signs.¹⁴

The treatments demonstrated on the showcase roadway must be implemented nationwide in approximately ten years. Municipalities have until January 2015 to upgrade the regulatory, warning, and ground mounted signs, and until January 2018 to upgrade the overhead guide signs and street names to comply with the new sheeting standards and letter size requirements.¹⁵

NEW YORK CITY APPLICATIONS AND OPPORTUNITIES

There are some opportunities to improve the signage on New York City streets by replacing signs with those that are printed in Clearview font which enhances readability for everyone, especially for those with minor vision impairments. Improved guide signs would also help at intersections that have irregular geometry or that have a number of streets that meet at one intersection. Guide signs may also be useful in areas that experience high traffic volumes because the directional information painted in the traveling lanes may be blocked. Confusion and dangerous driving conditions arise when drivers are in the wrong lane due to the lack of directional guide signs. Per the Michigan case study and the new FHWA recommendations, signage improvements such as retroreflectivity and larger, brighter lettering should be explored. City DOT has started replacing all existing guide signs, informational signs and street name signs changing the lettering from Highway font to a Clearview font. The sign change is scheduled to be completed citywide by 2018.

Although New York City does not have a showcase roadway project in effect, the signage improvements used in the Showcase Roadway Project in Detroit, Michigan, are currently seen throughout New York City to address the challenge of visibility impairments and improves safety for older New Yorkers.

14 Brown et al., *Traffic Control Devices: The Same Message No Matter Where You Travel*.

15 U.S. Department of Transportation, *Maintaining Traffic Sign Retroreflectivity*.

UNITED KINGDOM

20 MPH Zones



IMAGE 5. 20 mph zone located in Portsmouth, England. Image used with permission from *20's Plenty For Us- The UK Campaign For 20mph As The Default For Speed Limit For Residential Streets*.

20 MPH Zones in the United Kingdom focus on calming traffic through speed reduction on roadways to make streets safer.

This case study relates to *Age-Friendly NYC Initiative 30* which aims to create inviting public spaces by reducing congestion and calming speeding traffic.

BACKGROUND

London, England, is known for its innovations in traffic calming measures dating back to the 1920s when roundabouts were first introduced. Traffic calming is a general term used to describe a roadway treatment that has the ability to reduce speeds and improve safety conditions. Some examples of traffic calming mechanisms are chicanes (artificial features that create turns that will cause drivers to

reduce speed), speed tables (flat-topped speed humps), pedestrian crosswalks, and speed humps. Most recently, London has led the way by implementing home zones and 20 mph zones.¹⁶ The time over distance safety cameras attempt to physically limit driving speeds.¹⁷ There have been numerous studies that suggest reducing the speed limit can significantly reduce fatalities and bodily injuries. There is also research that suggests that there is a correlation between slower speeds and decreases in elderly traffic casualties.

Home zones and 20 mph zones both have the same intended result, which is to reduce: vehicle speed, collisions, injuries and fatalities; yet, there is a notable difference between the two practices. Home zones, which were first piloted in Great Britain in 1999, are based on the Dutch concept of the *woonerf*, which is literally translated as “residential yards.”¹⁸ The streets are redesigned in a way that allows for a variety of activities as well as reductions in vehicle speeds, typically well below 20 mph.¹⁹ The home zone treatments are expensive, which accounts for the limited use of this traffic calming measure in London.

On the other hand, 20 mph zones do not require traffic engineering changes to the street, but they do require the installation of new signage at entry and exit points (IMAGE 5). Some road engineering treatments are used to reinforce the 20 mph zone; such as speed humps, gateways, and road narrowing.²⁰ The Department for Transport’s guidelines recommends that 20 mph zones should only be considered when average speeds are already near 24 mph. Additionally, a 20 mph zone must be designed to take all road users into account.²¹

¹⁶ The Department for Transport defines *home zones* as residential streets in which the road space is shared between drivers of motor vehicles and other road users, with the wider needs of residents (including people who walk and cycle, the elderly and children) being accommodated.

¹⁷ Grundy et al., *20 Mph Zones and Road Safety in London: A Report to the London Road Safety Unit*.

¹⁸ Appleyard, Bruce and Lindsay Cox. *At Home in the Zone: Creating Livable Streets in the U.S.*

¹⁹ Grundy et al., *20 Mph Zones and Road Safety in London: A Report to the London Road Safety Unit*.

²⁰ Ibid.

²¹ Ibid.



IMPLEMENTATION

London's first 20 mph zone was installed in 1991. In 1999, a legislative change, gave local authorities the power to implement 20 mph zones without special central government approval. This decision resulted in the emergence of many new 20 mph zones throughout London. As of 2007/2008 there were approximately 399, 20 mph zones in London.²²

Many British organizations support 20 mph zones. The 20 mph limits and zones are supported within the Safer Way road safety strategy proposal for 2010-2020 and are considered to be a useful intervention in the road safety engineering toolkit.²³ The largest opponent to this traffic calming measure are driving advocacy groups, such as, the Association of British Drivers and Safe Speed, who question the validity that higher speeds cause crashes.²⁴ Prior to implementing a 20 mph zone, the locality should have followed the Department for Transport's guidelines. Additionally, local authorities are required by law to consult all relevant stakeholders such as emergency services, local residents, and other local organizations every time a 20 mph zone is proposed.²⁵ Although 20 mph zones have generated much support from home owners, cycle enthusiasts and infrequent drivers, as well as politicians, there are still critics. There is some fear that lower speed limits will make commute times longer or that they will jeopardize safety when it comes to emergency vehicles. Another concern is that some traffic calming measures, such as speed humps and the like, may cause discomfort to vehicle passengers.²⁶

FUNDING

The cost of implementing a 20 mph zone can vary greatly. Some zones are created as self-regulating streets, with speed reducers, such as speed humps and pinch points. There are others that are less costly that only install signage and rely on enforcement from local police and in some cases, speed cameras. There are some funding sources that a locality may qualify for when a new 20 mph zone is implemented.²⁷ Much of the funding is siphoned from Transport for London to a specific municipality through the Local Implementation Plan process.

²² Ibid.

²³ Paul Cox, Department for Transport, Email Correspondence, 4 September 2009.

²⁴ Grundy et al., *20 Mph Zones and Road Safety in London: A Report to the London Road Safety Unit*.

²⁵ Ibid.

²⁶ Ibid.

²⁷ Ibid.

Funding for 20 mph zones comes from Transport for London and is allocated through the London Road Safety Unit (LRSU). Other funding sources may include revenue from parking fines, and other local money.²⁸

FINDINGS

Many studies concur that by reducing speed limits, driver, vehicle passengers, and pedestrian fatalities can be decreased. The speed differentials and the likelihood of fatalities support the 20 mph zone initiative. It has been found that excessive speed is a direct factor in roughly one-fifth of all traffic accidents and one-third of all road fatalities.²⁹ Furthermore the speed at which one is hit, especially pedestrians, is indicative of their rate of survival. It is estimated that if a pedestrian is hit at 40 mph, there is a 90 percent chance of death, if a pedestrian is hit at 30 mph, there is a 20 percent chance of death, and if a pedestrian is hit at 20 mph, there is a 3 percent chance of death.³⁰

In 2008, Transport for London (TfL) commissioned the London School of Hygiene and Tropical Medicine (LSHTM) to study the effects of 20 mph zones on casualty reductions. TfL used the data to determine the effectiveness of 20 mph zones.³¹ Table 9 illustrates the results of the study.³² Although this study did not directly address the impact of reduced speeds on the elderly, the data below suggests that there were substantial reductions overall in fatalities and serious injuries.

²⁸ Paul Cox, Department for Transport, Email Correspondence, 4 September 2009.

²⁹ Transport for London, *London's Road Safety Plan*.

³⁰ London Assembly. *Braking Point: 20 Mph Speed Limits in London*.

³¹ Grundy et al., *20 Mph Zones and Road Safety in London: A Report to the London Road Safety Unit*.

³² Ibid.

TABLE 9: Casualty Reductions in 20 MPH Zones

Road User	Reduction in Casualties	Reduction in Killed and Serious Injured Casualties
All Road Users	42%	46%
Children	49%	50%
Pedestrians	32%	35%
Bicyclists	17%	38%
Powered Two-Wheelers	33%	39%
Car Occupants	53%	62%

Some newer initiatives rely on 20 mph speed limit signage and increased enforcement by means of safety cameras. The speed cameras, which measure distance over time, are growing in favor with 20 mph supporters. With or without the presence of cameras, many community members are pressing their elected officials to install 20 mph zones in their neighborhood (IMAGE 6). Since the police cannot enforce the limit at all times at the approximately four hundred 20 mph zones, cameras are the best option. Cameras are gaining favor over traditional traffic calming measures as well, because they do not



IMAGE 6. Residents of the ward of Combe Down, United Kingdom demonstrate their desire for 20 mph zones in areas where there is dense housing and near schools and hospitals. Image used with permission from The Bath Liberal Democrats and Councillors Cherry Beath and Roger Symonds.

produce noise or vibrations that are unfavorable with the residents.³³ At present the London Road Safety Unit at Transport for London and the London Safety Camera Partnership are working together on a 20 mph pilot scheme of four closely monitored sites in London boroughs. The sites will be monitored for a three year period. The pilot will test the effectiveness of using average speed cameras to enforce the 20 mph zones. Following the three year period, the individual boroughs will decide whether they wish to continue the program themselves.³⁴ In addition to London there are 20 mph initiatives throughout the United Kingdom. Portsmouth, England, is credited as being Britain's first 20 mph city. By March 2008, the City of Portsmouth had set all residential and arterial routes to 20 mph.³⁵ There were 159 sites monitored for speed and casualty rates. The Portsmouth City Council, in conjunction with Department for Transport, held a conference in September 2009 to discuss the findings of the 20 mph zone.

The casualty rate reductions are found in the chart below.³⁶ The two groups that had the largest reductions were children and elderly, arguably the most vulnerable (TABLE 10).

TABLE 10: Casualty Reductions in Portsmouth 20 MPH Zones

Type	Children	Elderly
Pedestrian	-4%	-25%
Passenger	-22%	-25%
Driver/Rider	-9%	-36%
All Casualties	-8%	-31%

NEW YORK CITY APPLICATIONS AND OPPORTUNITIES

New York City is currently in the process of reducing speed limits to calm traffic and create safer public spaces for all New Yorkers. *With Safe Streets for Seniors*, NYCDOT-sponsored pilot program locations in place, reduced speeds at school zones, and the potential to possibly expand to camera enforcement, New York is not only making strides to improve streets for seniors but for all New Yorkers.

Safe Streets for Seniors is an intersection improvement program

³³ London Assembly, *Braking Point: 20 Mph Speed Limits in London*.

³⁴ London Safety Camera Partnership, Email Correspondence, 16 September 2009.

³⁵ King, *Portsmouth: Changing the Way We Share Our Streets*.

³⁶ Ibid.



initiated in 2008, geared toward improving the safety of road conditions, by adding some road treatments such as: crosswalk restripings, leading pedestrian intervals, and speed bumps. To date, selected locations have received these treatments. Additionally, New York City does use traffic cameras to photograph drivers that go through red lights. There are currently 150 red light cameras throughout the city, as well as a number of dummy cameras.³⁷ The New York State Legislature must approve additional speed cameras before New York City can begin using them.³⁸

According to vehicle and traffic law, the current legal speed in New York City is 30 mph unless posted otherwise. The vehicle and traffic law also recommends that school zones are 10 mph less than the normal speed limit, which makes select areas near schools 20 mph. This speed limit is only in effect at specific times during the day. According to the data from London, reducing speeds in residential neighborhoods can result in significant reductions in vehicular accident casualties among the elderly.

TOKYO, JAPAN

Elderly Licensing and Labeling Safety Policies



Elderly Licensing and Labeling Safety Policies in Tokyo, Japan, focus on incentivizing unsafe drivers over the age of 65 to voluntarily surrender their licenses as well as to identify drivers over the age of 75 by labeling their vehicle.

BACKGROUND

As of April 2008, Japan’s population reached 127.7 million, of which 27.9 million were 65 and over.³⁹ Tokyo’s 65 and over population is 2,490,769 (TABLE 11).⁴⁰ Japan has the greatest number of people entering the elderly cohort and at the same time Japan’s birth rate remains low. It is estimated that by 2030, the 65 and over cohort will constitute 31.8 percent of the population.⁴¹ As of December 31, 2008 there were 818,899 licensed 65 and older Tokyo residents (TABLE 12).⁴²

TABLE 11: Tokyo Population Age 45 and Over

Age	Tokyo Total
45-54	1,502,624
55-64	1,658,627
65-74	1,386,088
75-84	828,291
85+	276,390

³⁷ Transportation Alternatives, *Candidate Survey 2009: Mike Bloomberg*.

³⁸ Transportation Alternatives, *Terminal Velocity: New York City’s Speeding Epidemic*.

³⁹ International Longevity Center Global Alliance (ILC), *Global Aging Report, Threats to Longevity A Call to Action*.

⁴⁰ Yasushi Nishida, National Research Institute of Police Science, Email Correspondence, 14 September 2009.

⁴¹ The International Longevity Center Global Alliance. *Global Aging Report, Threats to Longevity A Call to Action*. 2009.

⁴² Yasushi Nishida, National Research Institute of Police Science, Email Correspondence, 14 September 2009.

The Tokyo Metropolitan Police Department’s Traffic Safety Section is the department responsible for issuing licenses, providing classes to enhance driving skills, and other driving safety regulations. The Metropolitan Police Department (MPD) posts a variety of data on their website, such as driving statistics as well as elderly driving information. The Tokyo government recently modified an existing safety program with the goal of encouraging more drivers over age 65 to voluntarily forfeit their license. In 1988, the voluntary license return program began, but drivers kept their licenses for identification purposes because an alternative identification card or driving experience certificate was not created at that time.⁴³

The safety programs are in response to the number of accidents involving the elderly as well as the growing number of elderly drivers on the roadways. According to reports, there are approximately 300,000 elderly drivers with dementia. Although drivers over 75 must get a doctors examination, it is suspected that many people’s symptoms are overlooked.⁴⁴ The government fears that older adult drivers pose risks on busy Japanese roads.⁴⁵ It is for that reason, that this program is viewed by many lawmakers as a preventive safety measure.

TABLE 12: Number of Drivers Licenses in Force in Tokyo as of 12/31/08

Age	Tokyo Total
45-54	1,250,099
55-64	1,137,480
65-74	656,138
75+	162,761

TABLE 13 shows the number of elderly accidents for the first half of 2009.⁴⁶ Accidents involving older adults account for 13 percent of all accidents in the City of Tokyo.⁴⁷

43 Ibid.

44 McNeill, *Tokyo Offers Free Pizza to Lure Pensioners from Their Cars.*

45 Ibid.

46 Yasushi Nishida, National Research Institute of Police Science, Email Correspondence, 14 September 2009.

47 Metropolitan Police Department, *Traffic Safety.* Translated by Yasushi Nishida.

TABLE 13: Elderly Accidents (65+) in Tokyo - First Half of 2008

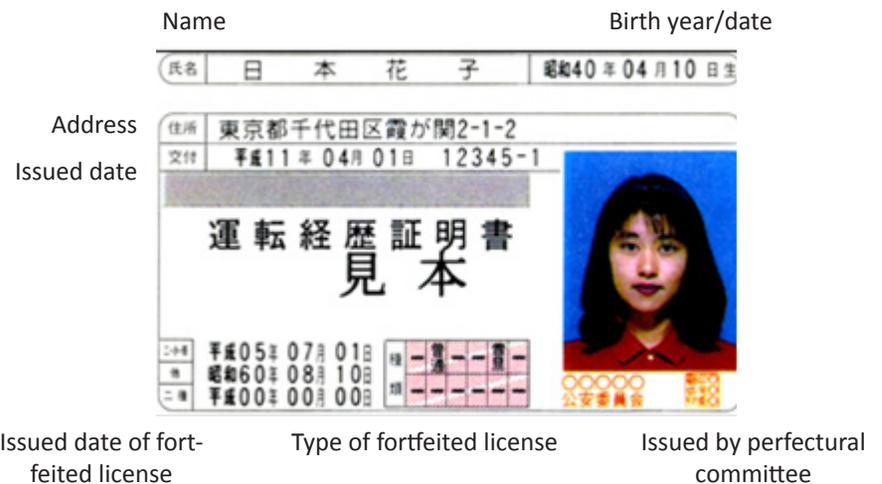
Accidents	Total
Incidents	6,794
Fatalities	39
Serious Injuries	73
Minor Injuries	3,611

IMPLEMENTATION

The Tokyo government announced a new incentive program to encourage drivers 65 and over to voluntarily surrender their driving privileges. This is a policy that aims to lure drivers off the road in many cases while the older adult is still physically and mentally fit to drive. The program partners with local businesses to provide discounts to those that give up their licenses.⁴⁸

When drivers over 65 years of age surrender their license they will in turn receive a certificate of their entire driving career (IMAGE 7).⁴⁹ The driving certificate can be used at approximately forty attractions throughout Tokyo to receive a discount at shops, museums, hotels, and restaurants.⁵⁰ In addition to the incentive program to voluntarily

IMAGE 7. Sample Certificate-Voluntary License Forfeiture Program



Issued date of forfeited license

Type of forfeited license

Issued by prefectural committee

48 McNeill, *Tokyo Offers Free Pizza to Lure Pensioners from Their Cars.*

49 Metropolitan Police Department, *Traffic Safety.* Translated by Yasushi Nishida.

50 Ibid.



return one's license, a labeling system was established in Tokyo to identify drivers over age 75. The driver must purchase the labels and place them on both the front and rear surface of the body of the car.⁵¹

The labeling program extends beyond the elderly; novice drivers, hearing impaired, and handicap drivers all must have their vehicles labeled properly.⁵² If anybody in one of the aforementioned categories does not have the labels on their vehicle they can receive a fine of 4,000 yen or approximately 43.00 USD.⁵³

FINDINGS

Although the Tokyo government has been encouraging voluntary license forfeiture since 1988, there has not been much research on whether the program has spurred many to cease driving. The original voluntary license surrender program was most likely ineffective, since people kept their driver's license for identification. In 2002, the government began issuing driving certificates which could be used for identification purposes.⁵⁴ It was not until the latest voluntary license surrender program, commencing in 2008, that discounts and other perks were included in the program. The current program exists in Tokyo as well as in some other localities throughout Japan. Safety programs, when implemented, are regulated by the prefectural or local government.⁵⁵

The current driver's license forfeiture program is still relatively new, therefore its popularity with drivers 65 and over is not known yet. Many studies show that older drivers tend to forfeit their license because of an accident or prior to losing it due to repeat traffic violations. According to studies, elderly drivers, more specifically drivers over 75, have a higher percentage of accidents and violations than younger drivers.⁵⁶ It is not yet known whether this cohort will respond to discounts from local attractions in exchange for the right to drive. The program's guidelines explore a way of incentivizing voluntary license surrendering, without mandating license forfeiture.

⁵¹ Metropolitan Police Department, *Traffic Safety*.

⁵² Ibid.

⁵³ XE, *Universal Currency Converter*.

⁵⁴ Yasushi Nishida, National Research Institute of Police Science, Email Correspondence, 14 September 2009.

⁵⁵ Ibid.

⁵⁶ Ibid.

NEW YORK CITY APPLICATIONS AND OPPORTUNITIES

At the present time, it is not known whether this voluntary program exists in any other countries, besides Japan. Perhaps, cultural differences between Japan and other countries limit the acceptability of this program as a measure to reduce the number of elderly drivers who may be unfit for driving. However, there are other regulatory measures currently in effect that could lead to the same results. For example in the United States, there are some states where there are requirements specifically for older drivers. Some states mandate accelerated renewals or require that renewals be done in-person. Illinois and New Hampshire are the only states that require applicants who are 75 or older to take road tests as a requirement of driver's license renewal. Many U.S. states have clauses or laws that specifically forbid licensing administrators from treating people differently solely on the basis of advanced age.⁵⁷ Current New York State law requires driver's license renewals every eight years. People can renew online or at one of the DMV locations. They will have to fill out a number of forms, some relating to medical history. Some conditions may disqualify the applicant from completing the renewal online, such as heart ailments, loss of limbs, and hearing loss. Additionally, one must submit a vision test score completed by an optometrist.⁵⁸ The screening methods used in New York State are certainly disqualifying some drivers that may otherwise continue to drive; however, these measures are not as vigorous as those in other states.

⁵⁷ Insurance Institute for Highway Safety, *Licensing Renewal Provisions for Older Drivers*. Top of Form

⁵⁸ New York State Department of Motor Vehicles, *Photo Licenses and ID Cards*.

