

Growth of Older Population

The growth of population age 65 and older has affected every aspect of the society presenting challenges as well as opportunities. In the year 2000, in the United States 13 percent of the population represent people age 65 years and older. It is expected that in several years this older population will duplicate as 'baby boomers' turn 65 and older.

The fastest growing segment of the older population is the population 85 years and older. Projections by the U.S. Census Bureau suggest that the population age 85 and older could grow from about 4 million in 2000 to 19 million by 2050. However, this growth and these proportions vary from state to state.

In Puerto Rico, census data reveals a rapid growth of the older population. Estimates indicate that this older population increases by 20,000 people each year. The past years, a change in the population pyramid has been observed due to the changes in the population growth tendencies. The pyramid has adopted a more rectangular form as a result of the increase in the older population.

Growth in the older population has created a series of conflicts regarding safety among older drivers.

This older population suffers a variety of medical conditions that may affect their driving skills. Their skills can also be affected by what are considered non medical barriers. Some of the barriers are listed below:

- Uncomfortable seats,
- Seatbelts difficult to use,
- Illogical dash displays,
- Heavy car doors and trunks,
- Large size motor vehicles,
- Defective road markings, and
- Illegible roadside fonts on traffic control signs.

The rest of this newsletter presents detailed and conflictive information on older drivers. Information on suggestions and tips will also be presented.

Safety Tips for the Older Driver

The following are some driving tips for older drivers adapted from the Safety Council. It should be noted that these tips can also be applied to younger drivers:

- Check your eyesight and audition regularly.
- Always wear your eyeglasses and hearing aid when driving.
- Do not drive when taking medications that can affect your motor skills or abilities.
- Always wear your seat-belt.
- Be aware of other cars, when driving through curbs or crossing intersections.
- Be alert for parked cars, pedestrians and cyclists on the road.
- Check to the side several times when merging into another lane or turning.
- Stay in your lane unless you are completely sure whether you should pass or change lane.
- Never use the cell phone when driving, even if you have a hands free device.
- Maintain a safe distance from other vehicles.
- Reduce speed when driving in the rain.
- Avoid driving at dusk or dawn.
- Choose familiar routes and avoid dense or high speed traffic.
- Avoid prolonged hours of driving.
- Concentrate on your driving and be prepare for the unexpected.



Adapted from:
<http://www.safety-council.org/info/seniors/driving.htm>

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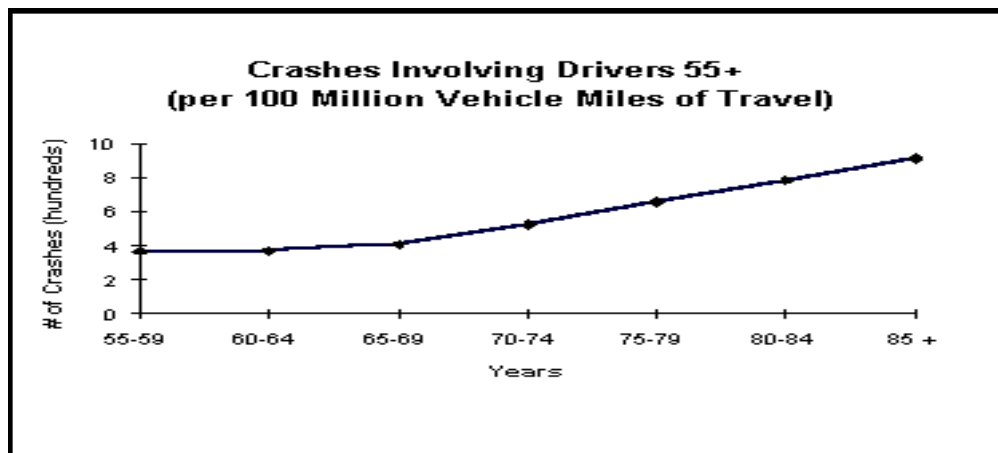
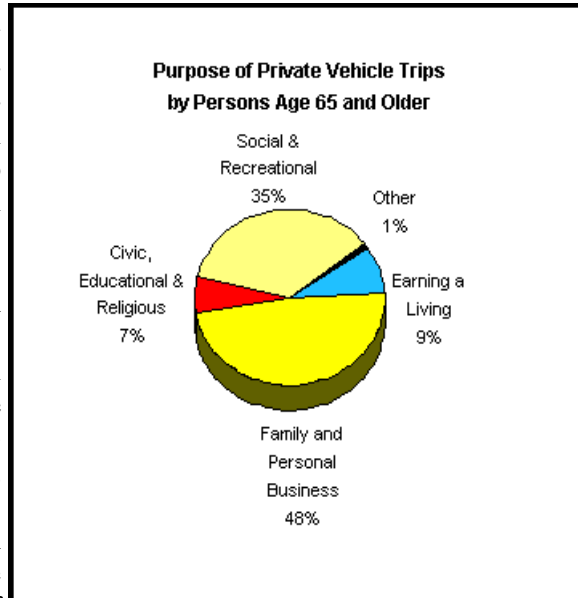
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Older Drivers and Safety

The private automobile is the primary mode of transportation in the United States and Puerto Rico. Persons over age 65 make more than 90 percent of their trips by private vehicle, either as a driver or as a passenger. In places where the public transportation is inefficient or suburban areas where there is no public transportation at all, driving may be their only source of transportation. Not being able to drive may have consequences not only for the individuals but to their families too. A survey prepared by American Association of Retired Persons (AARP) reflects that most of the elderly drivers use their cars to drive them to do their personal business such as medical appointments, banks, to visit their families and to social and recreational events.

An increasing proportion of the older population has relied on being able to drive themselves through most of their lives. This is reflected in the growing rates of persons 65 and older who are licensed drivers. According to AARP, the percent of elderly drivers, aged 65 years and older, who were licensed drivers in the United States increased from 61 percent in 1983 to 74 percent in 1996 and was expected to increase along the years. They represent approximately 14 percent of all licensed drivers.



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Accidents statistics reflect that the rate of crashes per mile driven is relatively constant for all adults age 25 to 64 and for adults 65 to 69 but the rate begins to increase at age 70 and rapidly increases after that. As the driver ages, specific functions related to driving skills may be impaired, specially the motor abilities and the reaction time, this is why the rate of crashes per mile begin to raise significantly at the age of 70.

Accidents involving older drivers are very different to those crashes associated with other group of drivers like for example, younger drivers. The young age group tends to drive more miles and at higher velocities causing accidents related to speed or to following too close while they are driving on a straight road or highway, while the older drivers mostly failed when they are turning left or yielding right of way. The article below provides more details about the driving risk for older drivers.

Adapted from:
http://research.aarp.org/consume/fs51r_older_drivers.html

Risks for older drivers

Traffic fatalities involving older drivers are higher than middle-age drivers. Drivers between the ages of 75 and older are involved in more motor vehicle crashes per mile driven. In addition, older drivers are weaker and more prone to suffer serious injuries in crashes.

Traffic fatalities result from to the lack of capacity in the following functions:

- **Vision** – The visual acuity and the field of vision decay due to age, visual diseases and physiological changes. Some of the problems experienced by older drivers are the increase in time to adjust to sudden changes in lightness and darkness, and impaired contrast sensitivity.
- **Cognition** – Driving requires a variety of cognitive skills, which include memory, visual processing, attention, and executive abilities that can be affected by certain mental conditions and medications.
- **Motor Function** – Older drivers that have medical conditions related to musculoskeletal diseases could be unable to drive safely and comfortably. Motor functions are necessary to operate vehicle controls and turning to view traffic.

In situations that require the complete use of these functions and a rapid response, as left-hand turns, older drivers are prone to experience crashes.

<http://www.ama-assn.org/ama/pub/category/9115.html>

Book Published by the Center's Co-Director

Ten years ago an article related to the public transportation problems of the San Juan Metropolitan Area and the new rail system proposed was written for the first time in "EL PUENTE": *A Transportation System in Rails for the Metropolitan Area of San Juan*. This article made reference to studies that had been performed indicating that a rail transportation system ("Tren Urbano"), serving like a spinal cord to an advanced multimodal system of public transportation, would be an effective form of satisfying the rise projected in the demand of trips for the region and to improve the regional mobility.

Currently the "Tren Urbano" system is just about to inaugurate, which is contemplated to be an integral part in what is known as the Integrated Transportation Alternative (ITA) which is composed by the "Tren Urbano", buses and minibuses or public cars. In these ten years, studies have been carried out, publications have been written and multidisciplinary research projects have been performed with graduate and undergraduate students, and professors of the University of Puerto Rico, Río Piedras Campus and Mayagüez Campus, together with Massachusetts Institute of Technology (MIT) in themes related to the planning, design, construction and operation of the "Tren Urbano" as a part of the project "UPR/MIT/Tren Urbano Professional Development Program". A product that uses part of these projects with an extensive knowledge and a quantitative study of other countries is the publication: *Public Transportation in the New Millennium: The Case of Puerto Rico and the Tren Urbano* by Dr. Felipe Luyanda Villafañe, professor of the University of Puerto Rico Mayagüez Campus and Co-Director of our Transportation Technology Transfer Center.

In this publication, a background of the problems of urban transportation in the U.S. metropolitan cities is presented and also is analyzed in an objective way the rail systems in operation and the characteristics of the cities where they operates. Besides, a background of the different studies carried out is presented in Puerto Rico since the decade of the 70's until culminating with the first phase of the "Tren Urbano" to be inaugurated. The publication mentions the different public transportation modes in operation in Puerto Rico and their respective advantages and disadvantages.

The objective and integrated analysis of this information culminates with a series of questioning and recommendations associated to the process of implementing the "Tren Urbano" and existing and questioning aspects that can affect the future behavior of the transportation system in the San Juan Metropolitan Area (SJMA) of Puerto Rico once the "Tren Urbano" is inaugurated. The figure on the next page indicates the sequence used by the author to obtain twelve most relevant aspects that can impact adversely the ridership and success of a new system of public transportation for the SJMA.

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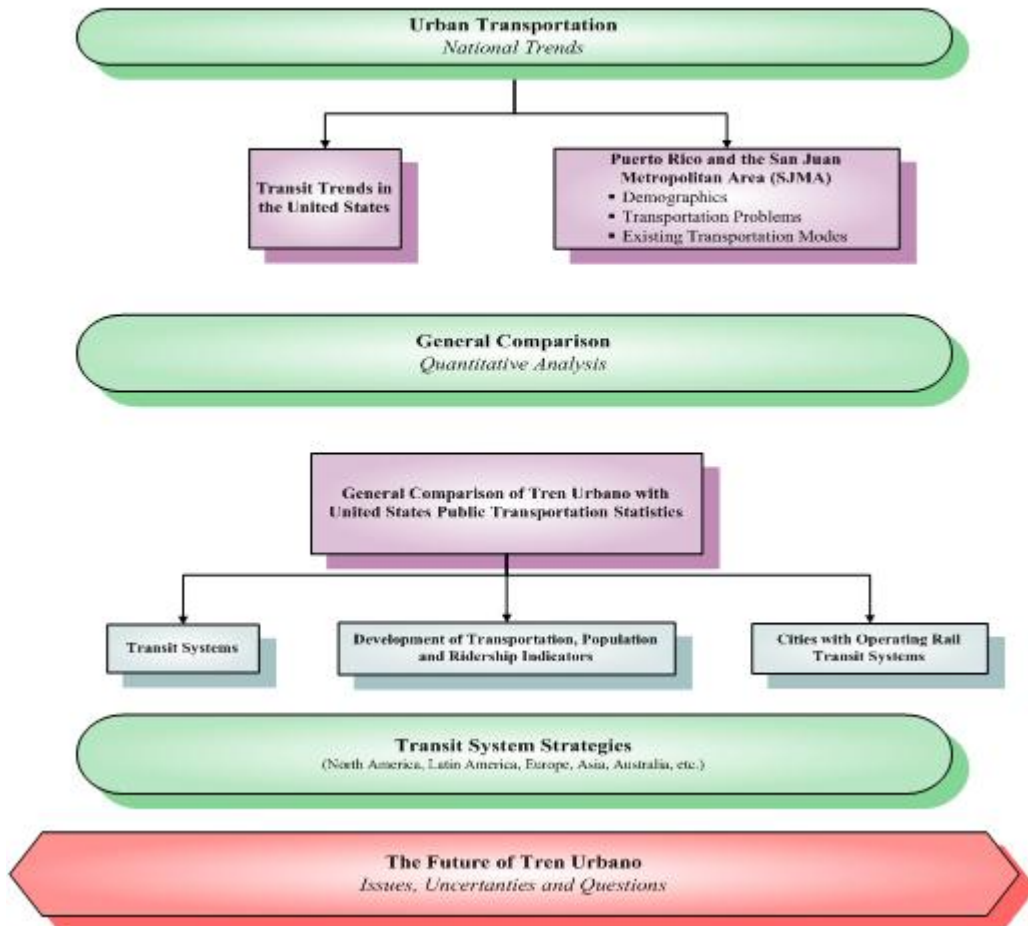
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A summary of this aspects is presented subsequently:

- ◆ Integration of transportation modes,
- ◆ High traffic congestion in SJMA,
- ◆ Urban sprawl,
- ◆ Establishment of parking policies,
- ◆ Criminal rate,
- ◆ Route structure,
- ◆ Ridership forecasts,
- ◆ Capital cost and schedule,
- ◆ First phase operation,
- ◆ Trip chaining phenomenon,
- ◆ Future phases for the construction of the rail system, and
- ◆ Dispersed responsibilities in the agencies of the government

This publication is available through the “Tren Urbano” Library at the Transportation Technology Transfer Center, in the General Library of the University of Puerto Rico Mayagüez Campus or directly through the author at fluyanda@uprm.edu.

*Framework for the Analysis of Public Transportation Systems:
The Case of Tren Urbano in the San Juan Metropolitan Area (SJMA)*



FUTURE EVENTS



August 19-21, 2004

*ATSSA Midyear Meeting
Chicago, IL*

Registration Information: www.atssa.com

September 12-15, 2004

*North American Conference on Elderly
Mobility*

Best Practices from Around the World

*Marriot Renaissance Center
Detroit, Michigan*

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Put the Brakes on Fatalities Day October 10, 2004

Put the brakes on Fatalities Day was initiated by the National Society of Professional Engineers and joined by many partners who are working to lower this statistic. The efforts to reduce fatalities address the need for improvements to the roadways, the vehicles and basic driver behavior. You too can become involved to promote the reduction of fatalities by utilizing information on these website <http://www.brakesonfatalities.org>. Please mark October 10, 2004 on your calendar "Put the Brakes on Fatalities Day". Tell your co-workers, family members and friends to do the same.

We hope you will join us in making a special commitment to reduce fatalities and become involved by changing your driving habits and encouraging others to do the same. We must change our driving habits as evidenced by statistics that say in 2002, a total of 42,815 Americans lost their lives in traffic fatalities. That's an average of one every 13 minutes; a total of 116 per day.

The Center's staff welcomes your questions and suggestions. To contact the Center, please send all correspondence to the following address:

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