

# Addressing Traffic- Related Crashes Among Older Drivers in New Orleans

Team 26





# Outline

**Background: Traffic-Related Injuries in New Orleans & Elderly Risk**

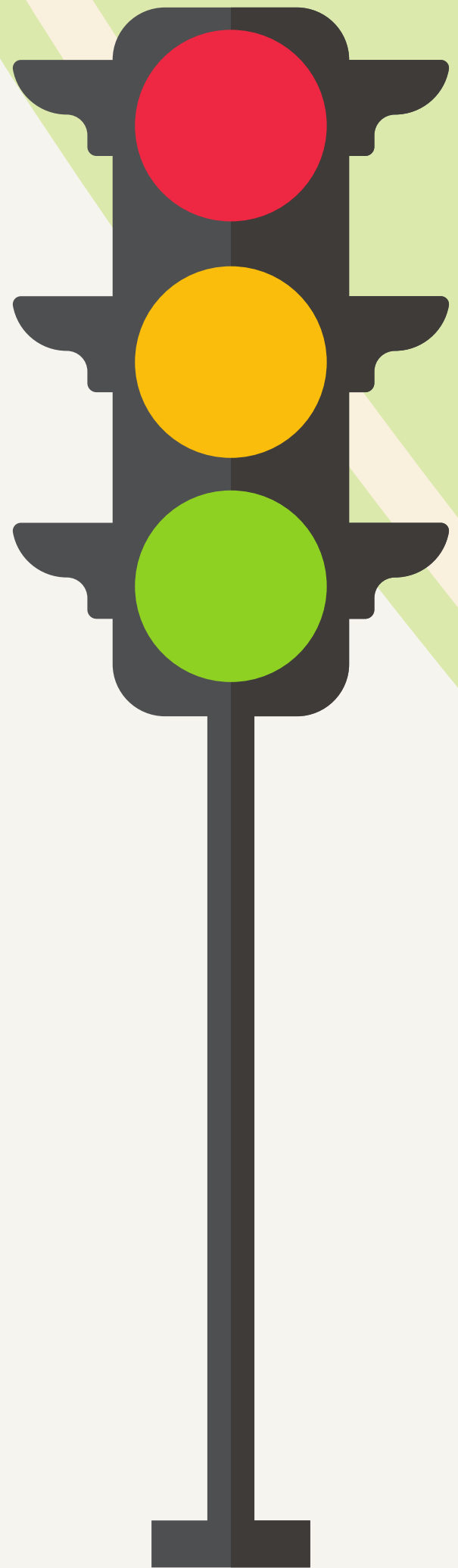
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**Policy Proposal**

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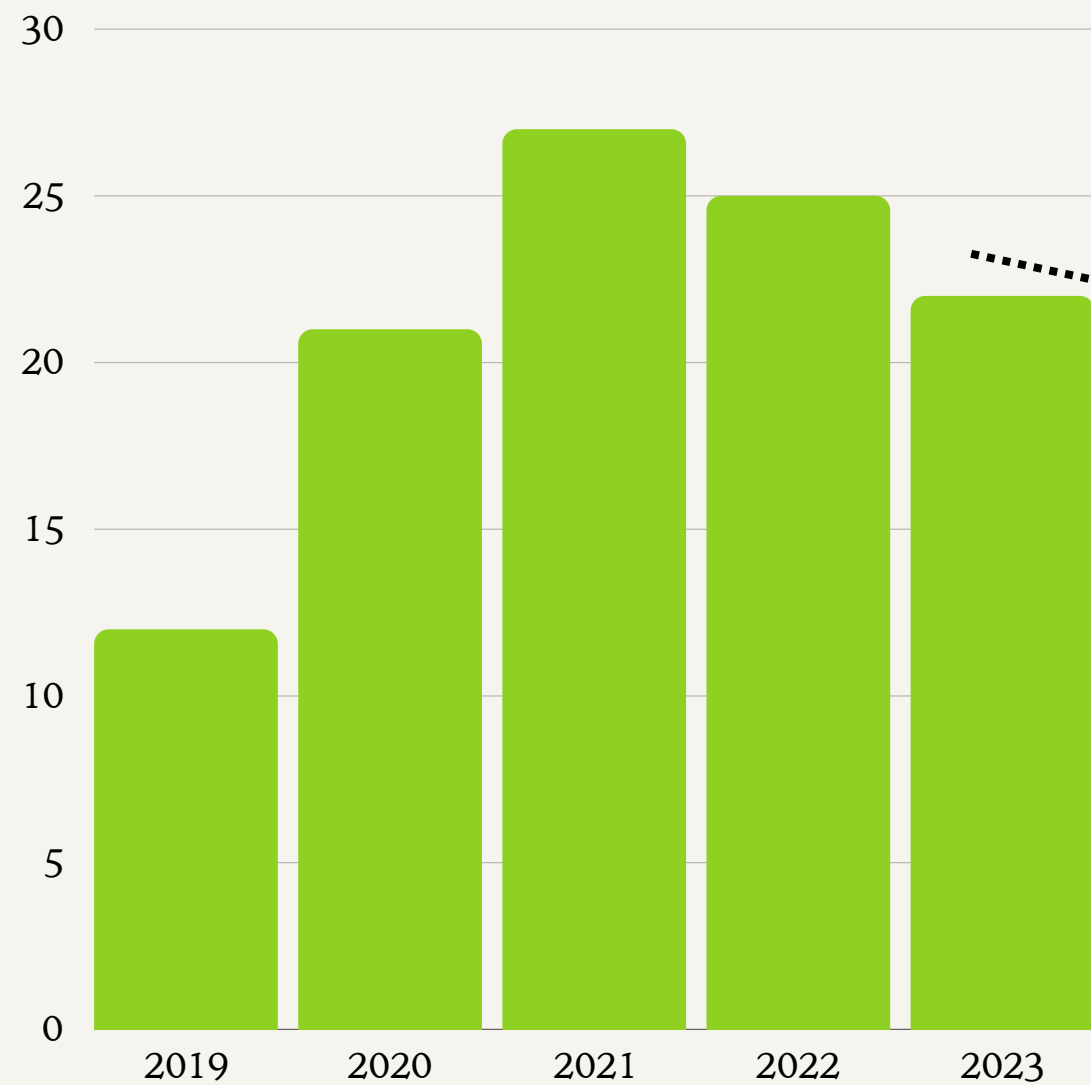
**Analysis: Budget & Expected Outcomes**

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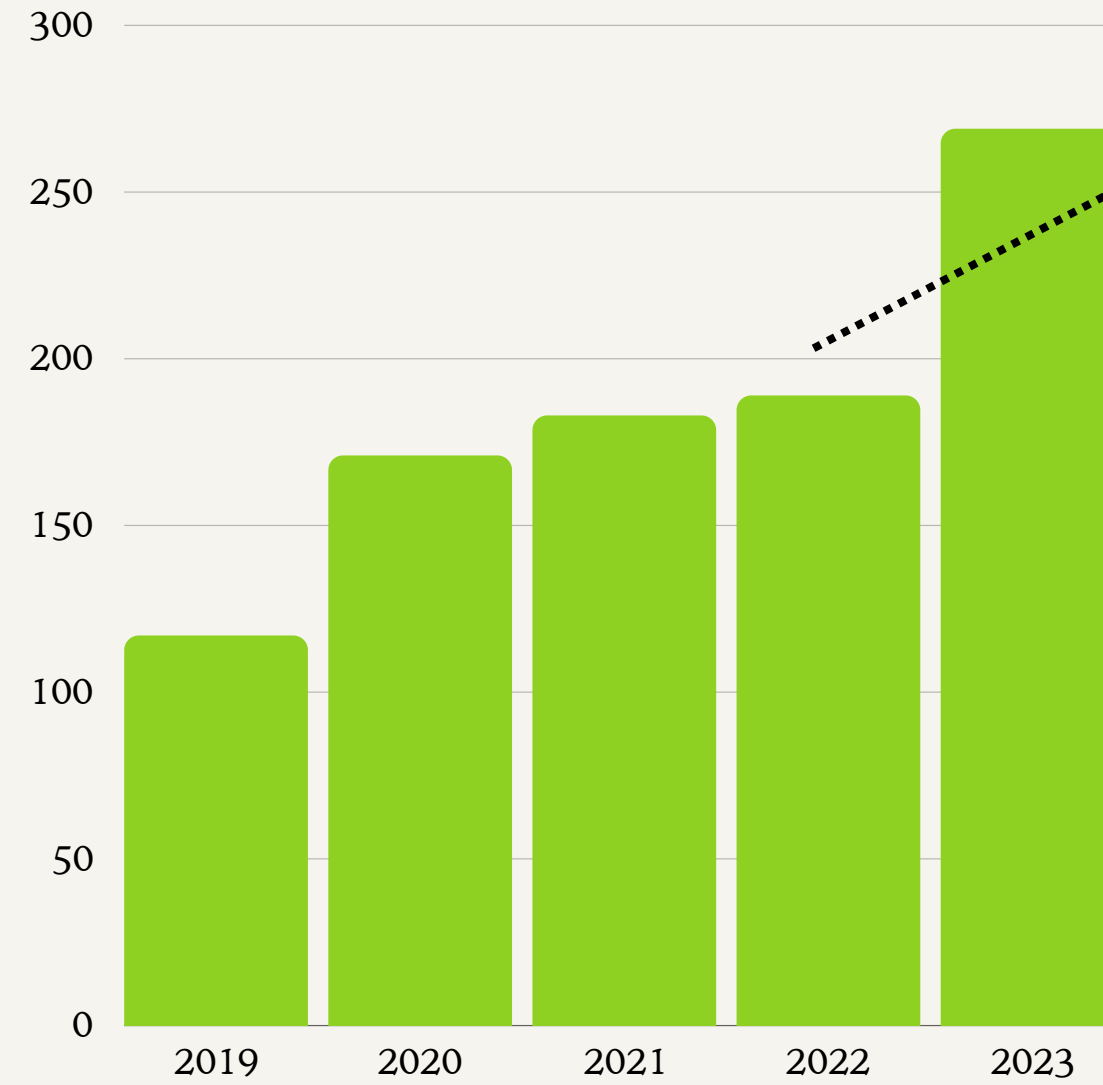
Background

# Trends and Insights



16% decrease  
in fatal injuries  
between 2022  
and 2023

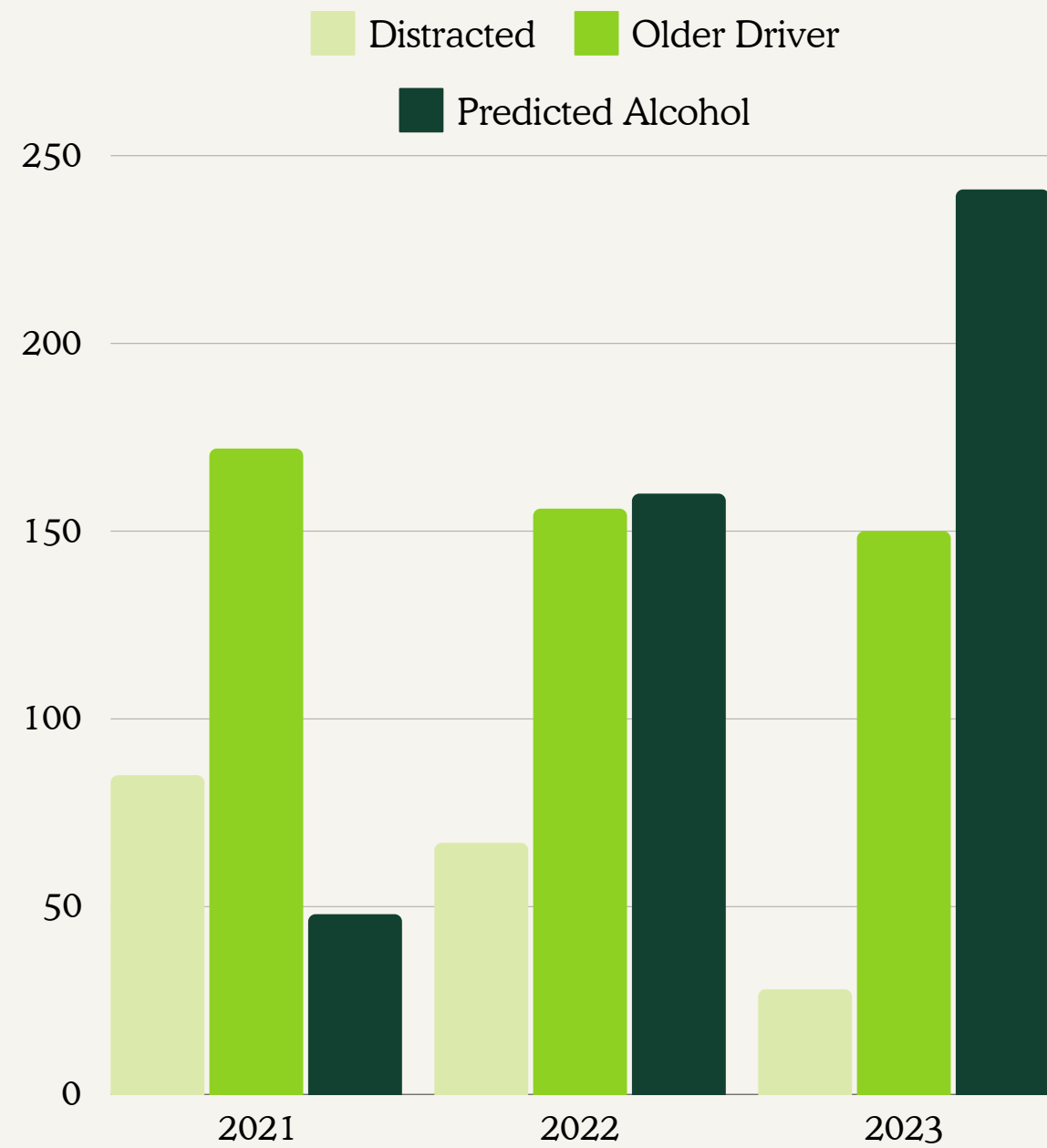
Trends in Fatal Car Injuries (2019-2023)



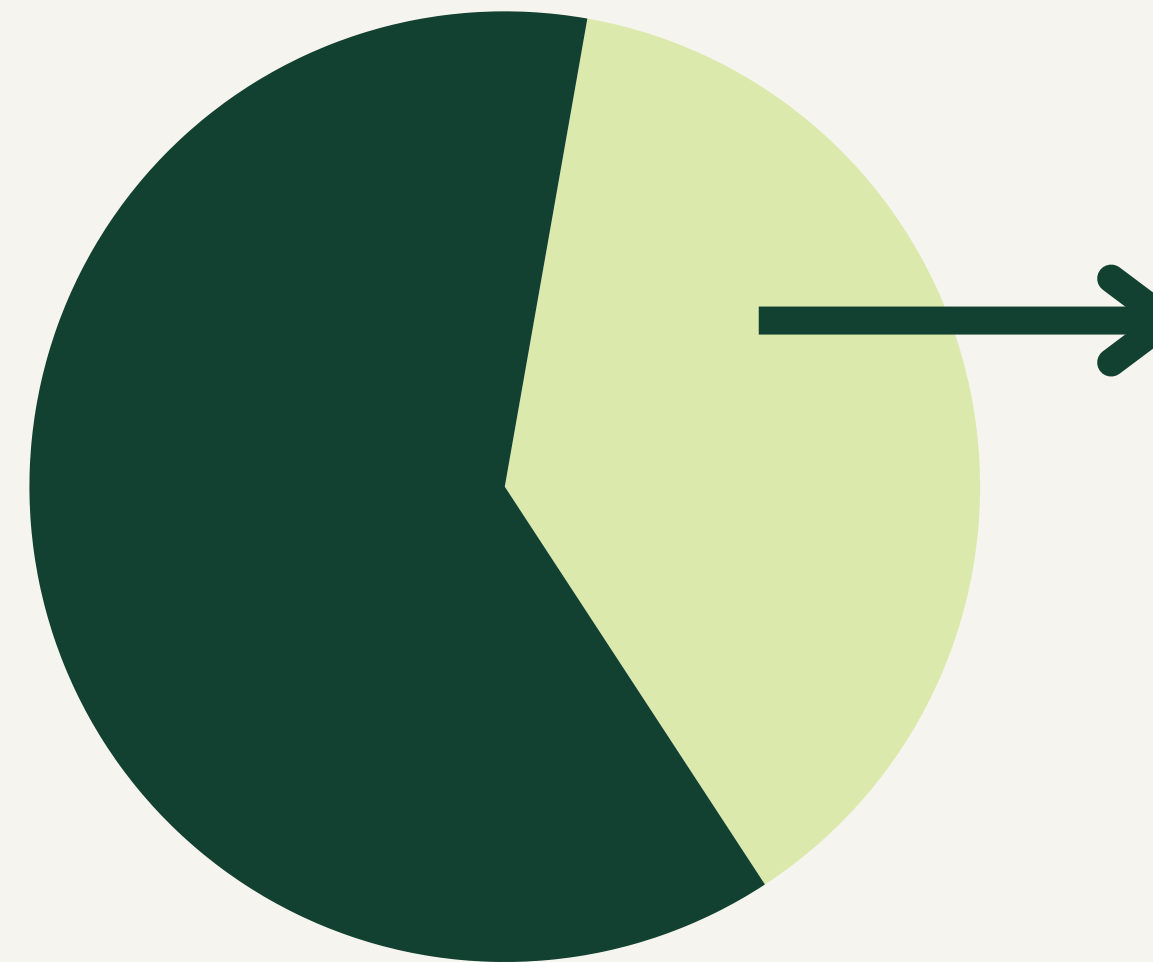
46% increase  
in serious  
injuries  
between 2022  
and 2023

Trends in Suspected Serious Injuries (2019-2023)

# Trends and Insights



Impact of Risky Behaviors on Car Crashes (2021-2023)



Crashes by Time of Day (2023)

38% of total crashes in 2023 were between 12 P.M. and 6 P.M.

# Why are Elderly at Higher Risk? <sup>1</sup>

Risk Factor	Description
Increased physical fragility	Brittle bones, less elastic tissues
Slower reaction times	Delayed responses to road hazards
Visual problems	Reduced vision, difficulty detecting obstacles
Complex driving situations	Challenges with navigating intersections, highways

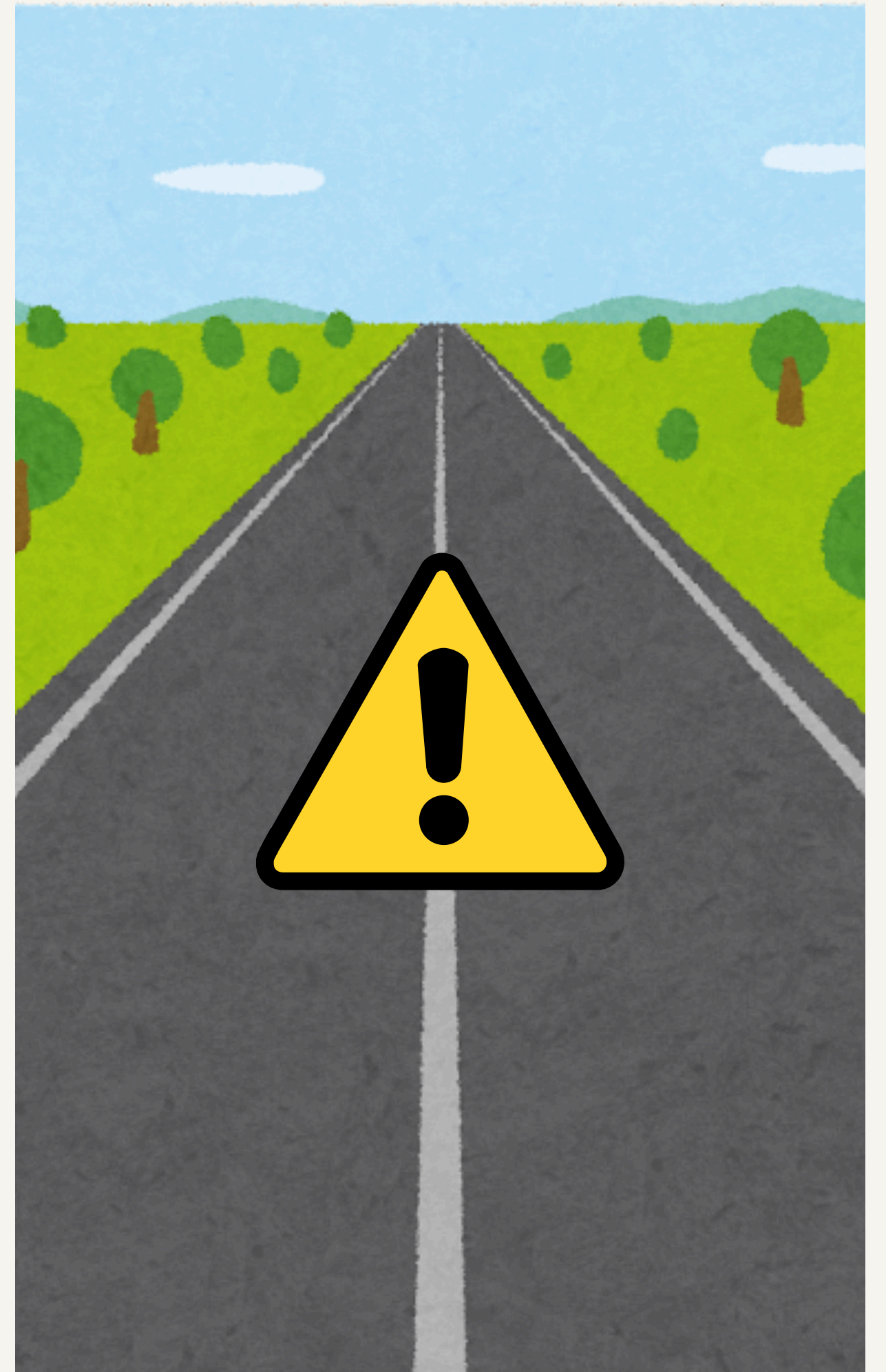
1. Safe Driving for Older Adults. (2022, December 20). National Institute on Aging. <https://www.nia.nih.gov/health/safety/safe-driving-older-adults>

# Problem Statement

New Orleans' elderly population demonstrates a **lower fitness to drive**, contributing to higher rates of traffic-related injuries.

We aim to design a more effective way of **evaluating** those who are deemed unsafe to drive and implementing an **intervention to improve or prevent** age-related impairment of driving skills.

It is important to ensure we **preserve seniors' independence and mobility** rather than restrict it.



# Criteria

## Efficiency

Integrating free assessments into existing DMV structures for cost-effective implementation

## Equity

Ensuring all New Orleans seniors have equal access to assessments without financial barriers

## Feasibility

Achieving high satisfaction through participant feedback and continuous program improvement



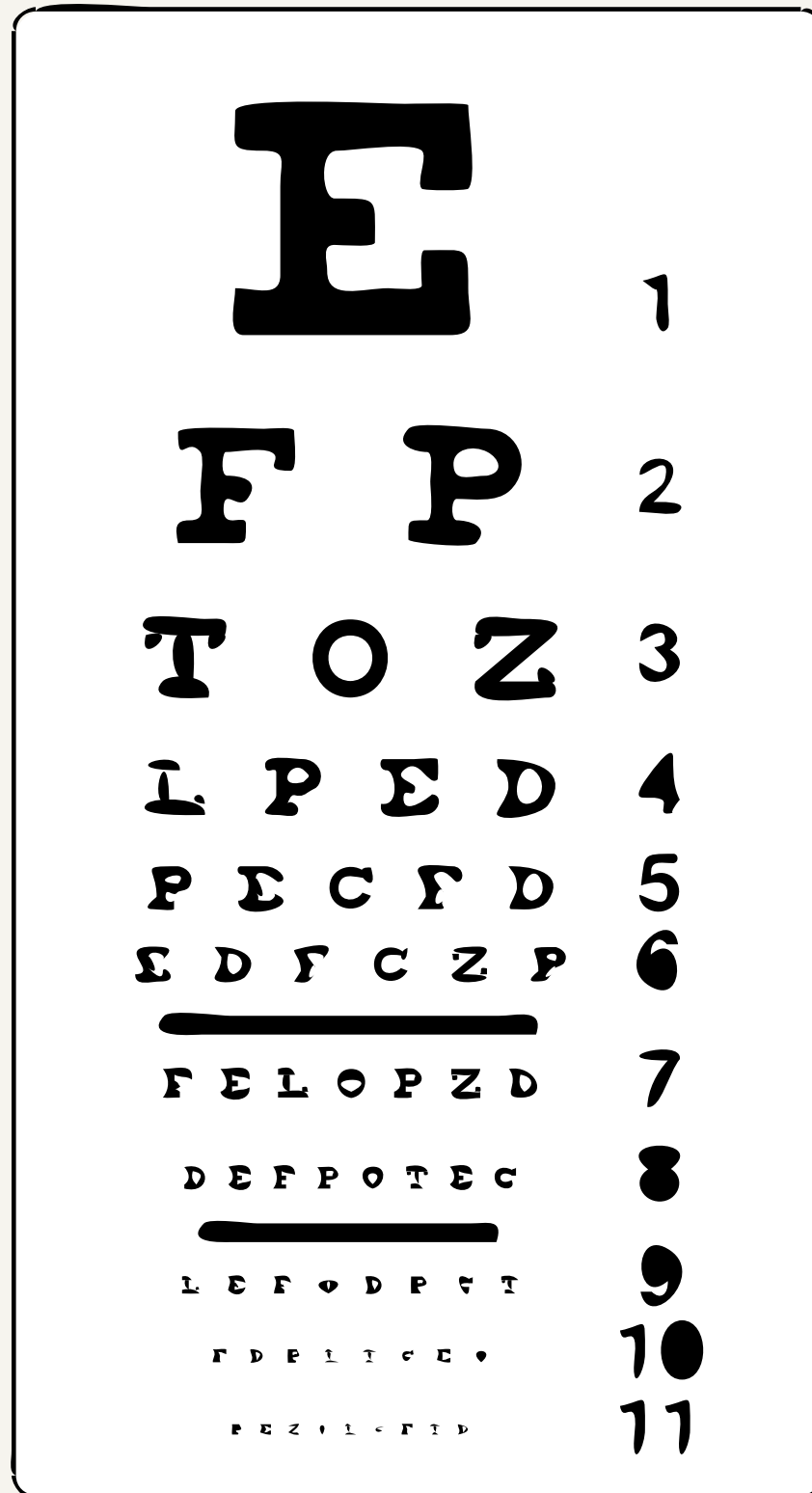
# Current Louisiana Driving Laws for Older Drivers<sup>1</sup>

<b>Time Limits</b>	Drivers ages 70+ must renew their license <b>in person every 6 years</b>
<b>Vision Test</b>	Mandatory for every renewal
	Can be conducted for <b>free</b> at the OMV or by an ophthalmologist/optemtrists within 30 days of the renewal request
<b>Additional Tests</b>	Written tests and road tests are required if there are indications of driver impairment
<b>Unsafe Driver Investigation</b>	Can be conducted upon request from a concerned citizen

1. Keene, V. (2020, October 26). Louisiana Driving Laws for Seniors and Older Drivers. Nolo. [Ingoude Company: Recruitment and Selection Policy Presentation](#)

# Problems with Current Protocol

Visual tests alone do not account for the skills needed to drive safely.



- Multiple components of visual function used in driving:
  - Acuity, field, depth perception, and contrast sensitivity
- Other factors to consider:
  - Hearing impairments
  - Cognitive impairments
  - Body coordination
  - Reaction time/reflex speed
  - Effects of medications: drowsiness, blood pressure, etc.

1. Elderly drivers should take more than vision test, expert says. (2012, November 17). WUFT | News and Public Media for North Central Florida. <https://www.wuft.org/state-news/2012-11-16/elderly-drivers>

2. Desapriya, E., Harjee, R., Brubacher, J., Chan, H., Hewpathirane, D., Subzwari, S., & Pike I. (2014). Vision screening of older drivers for preventing road traffic injuries and fatalities. Cochrane Database of Systematic Reviews, 2. <https://doi.org/10.1002/14651858.CD006252.pub4>

# Additional Considerations



6 years may be **too in-frequent** for re-evaluations of fitness-to-drive

Revoking licenses can contribute to **negative emotional consequences** such as a loss of independence and depression

1. Elderly drivers should take more than vision test, expert says. (2012, November 17). WUFT | News and Public Media for North Central Florida. <https://www.wuft.org/state-news/2012-11-16/elderly-drivers>

2. Desapriya, E., Harjee, R., Brubacher, J., Chan, H., Hewpathirane, D., Subzwari, S., & Pike I. (2014). Vision screening of older drivers for preventing road traffic injuries and fatalities. Cochrane Database of Systematic Reviews, 2. <https://doi.org/10.1002/14651858.CD006252.pub4>



# Policy Proposal

# Our Proposal

To create and administer Fitness-to-Drive Assessments for the elderly

## 01. Assessment

- Measures visual, cognitive, and physical ability to drive
- Minimal equipment allows for ease of delivery
- Ongoing research & improvement

## 02. Policy Mandate

- Supplements required vision tests
- Mandatory for all drivers age 70+
- Conducted for free at the OMV

## 03. Re-education

- **Free** weekly 2-hour classes to improve driving skills
- Opportunities to retake assessment
- Empowerment
- Can also serve as a preventative measure

# 01. Assessment Design

The assessment will incorporate elements from all three domains and be **primarily online**:

## Sensory Domain

### Confrontation Visual Field<sup>1</sup>

- Examiner holds up a number of fingers in various parts of the subject's field of vision

### Whisper Test<sup>1</sup>

- Detects hearing impairments

### Pelli Robson chart<sup>2</sup>

- Measures contrast sensitivity through letter identification

## Cognitive Domain

### Montreal Cognitive Assessment<sup>3</sup>

- Tests short-term memory, visuospatial abilities, executive functions, attention, orientation
- Sensitivity of 90%

### Freund Clock Drawing Test<sup>1</sup>

- Detects cognitive impairment and dementia

## Motor Domain

### Range of Motion Test<sup>1</sup>

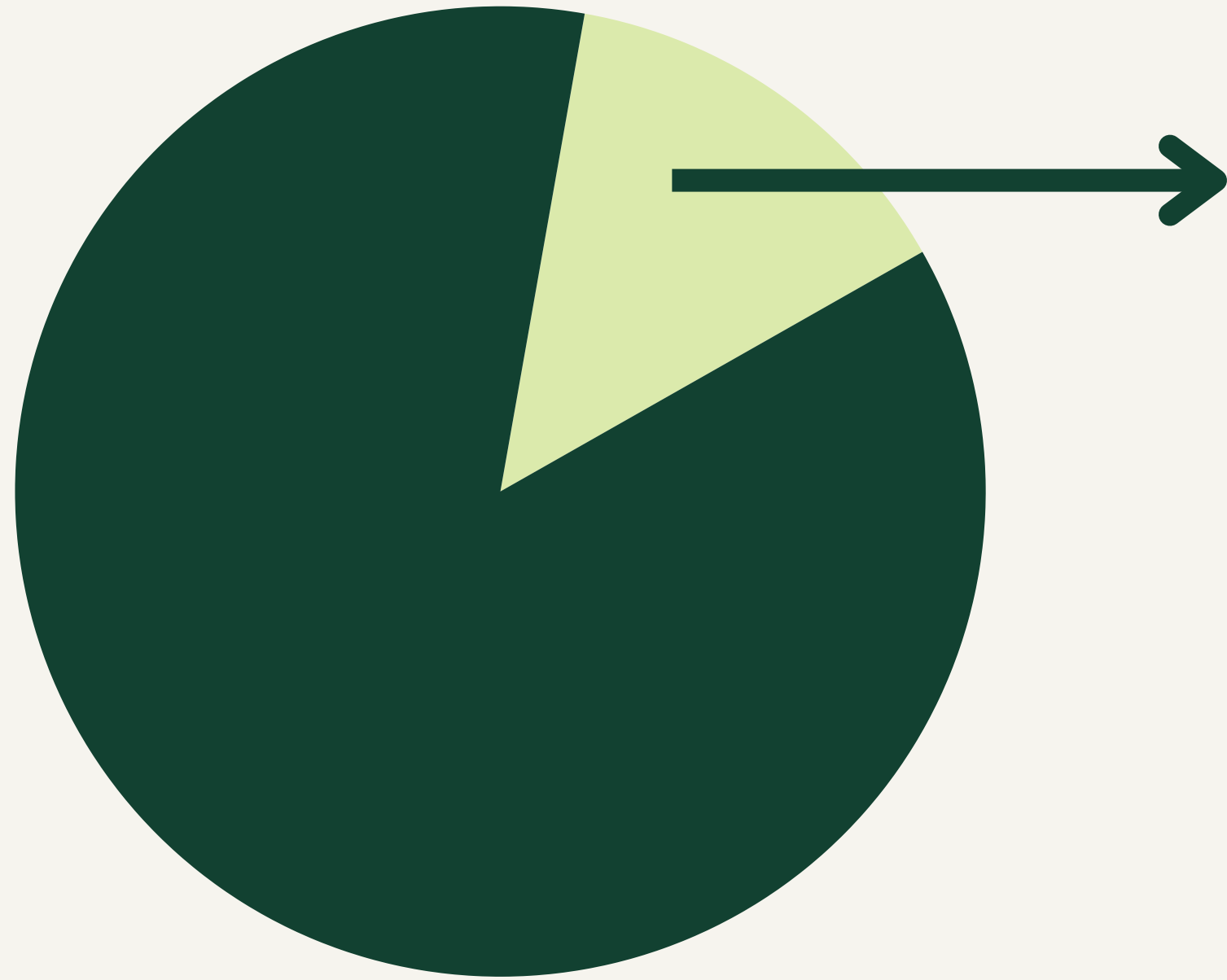
- Examines driving-related joints: neck, shoulders, elbows, fingers, and ankles

1. Bahrapouri, S., Khankeh, H. R., Hosseini, S. A., Mehmandar, M., & Ebadi, A. (2021). Introducing practical tools for fit to drive assessment of the elderly: A step toward improving the health of the elderly. *Journal of Education and Health Promotion*, 10(1), 463. [https://doi.org/10.4103/jehp.jehp\\_1644\\_20](https://doi.org/10.4103/jehp.jehp_1644_20)

2. Contrast Sensitivity Testing. (n.d.). All About Vision. Retrieved October 20, 2024, from <https://www.allaboutvision.com/eye-exam/contrast-sensitivity.htm>

3. MoCA Test. (n.d.). Retrieved October 20, 2024, from <https://mocacognition.com/the-moca-test/>

## 02. Policy Mandate



A Japanese mandate<sup>1</sup> in 2017 that required cognitive screening for license renewal in adults aged 75 or older was found to decrease the number of crashes among older drivers by 14%.

1. Thompson, M. (2023, January 31). Study: Cognitive testing for elderly drivers reduces crashes. Repairer Driven News. <https://www.repairerdrivennews.com/2023/01/31/study-cognitive-testing-for-elderly-drivers-reduces-crashes/>

# 03. Re-education Program

## CURRICULUM

Rules of the Road

Defensive Driving

How to Manage  
Age-Related  
Challenges

Cognitive Exercises

Range of Motion &  
Reflex Exercises

Adapting to New  
Technology

How to Use Public  
Transport & Ride-  
Sharing Apps



# Logistics



## Fitness-to-Drive Assessments:

- Available at both OMVs in New Orleans for free (100 Veterans Blvd & 7500 Bullard Ave #104)
- Will set up a booth for these assessments w/ one examiner at each location



- If driver fails assessment --> License will not be renewed.
- Based on specific skills they failed, examiner will provide recommendations to health professionals and/or re-education program.
- Health Professional Recommendations: vision therapy, physical therapy, audiologists, etc.



- Re-education Program: Offered twice a week at Treme Recreation Community Center (900 N. Villere St.)
- Led by instructors to address & improve a range of driving-related skills
- Positive reinforcement & focus on empowering drivers to re-test
- Free; classes can accommodate 30 adults (online sign-up)
- Evening time (5-7 pm) to ensure maximum availability



- Opportunities to retake assessment
- Applicants will follow traditional OMV license renewal procedure.

# Timeline



**Nov 2024 - Jan 2025**

Design of Fitness-to-Drive Assessment Curriculum  
development for Re-education Program

**Jan - March 2025**

Awareness campaign  
Examiners hired & trained  
Re-education Program Instructor hired  
Infrastructure set-up (room, testing location, etc.)

**April 2025**

Fitness-to-Drive Assessments officially required  
Administration of assessments begins  
Re-education classes start

**June 2025-**

Traffic-Related injury data for the elderly is assessed  
Community feedback surveys to evaluate progress  
Feedback Loops in place

# Feedback Loops

## Assessment Performance Loop

Analyze test results and driving outcomes to refine the fitness-to-drive assessment tools



**July 2025**

Improve & update assessment tools upon evaluation

## Re-education Effectiveness Loop

Compare assessment scores for participants before/after beginning re-education program & participant feedback surveys



**July 2025**

Improve the re-education program's curriculum and methods  
Scale up or down class frequency & capacity based on attendance

## Policy Impact Loop

Monitor/evaluate traffic-related injury rates, stakeholder feedback, and public opinion



**July 2025**

Adjust funding  
Refine public awareness campaign to ensure effective message delivery  
Adjust policy guidelines accordingly

Analysis



# Budget

Examiners (2)	\$120,000	Trained and salaried staff to conduct fitness-to-drive assessments
Assessment Software & Equipment	\$150,000	Design & maintenance of software; cost of equipment
Re-education Research & Development	\$150,000	Research on improving driver intervention programs.
Re-education Program Staff (2) & Equipment	\$30,000	Staff and equipment for re-education program
Awareness Campaign	\$50,000	Campaigning to garner public support & awareness of safe driving & injury prevention for the elderly
<b>Total Annual Cost</b>	<b>\$500,000</b>	

# Proposed Outcomes

Improved Safety	20% reduction in accidents involving drivers aged 70+
Enhanced Mobility	30% increase in senior drivers maintaining safe driving status
Increased Program Participation	80% of eligible seniors complete assessments and re-education
Higher Satisfaction	90% satisfaction rate among participants and stakeholders
Cost Efficiency	15% decrease in healthcare costs related to senior driver accidents
Public Awareness	50% increase in community awareness about senior driving safety

# Tradeoffs

## Loss of Independence & Mobility

### Rebuttal:

- Increase road safety, fewer accidents
- Re-education program allows for opportunity to regain independence

## High Program Cost

### Rebuttal:

- Long-term healthcare and cost savings

## Mandatory Testing is too Restrictive

May be seen as discriminatory, causing resistance

### Rebuttal:

- Assessments identify at-risk drivers
- Protection of ALL travelers on the road
- Assessments are free & can be taken multiple times