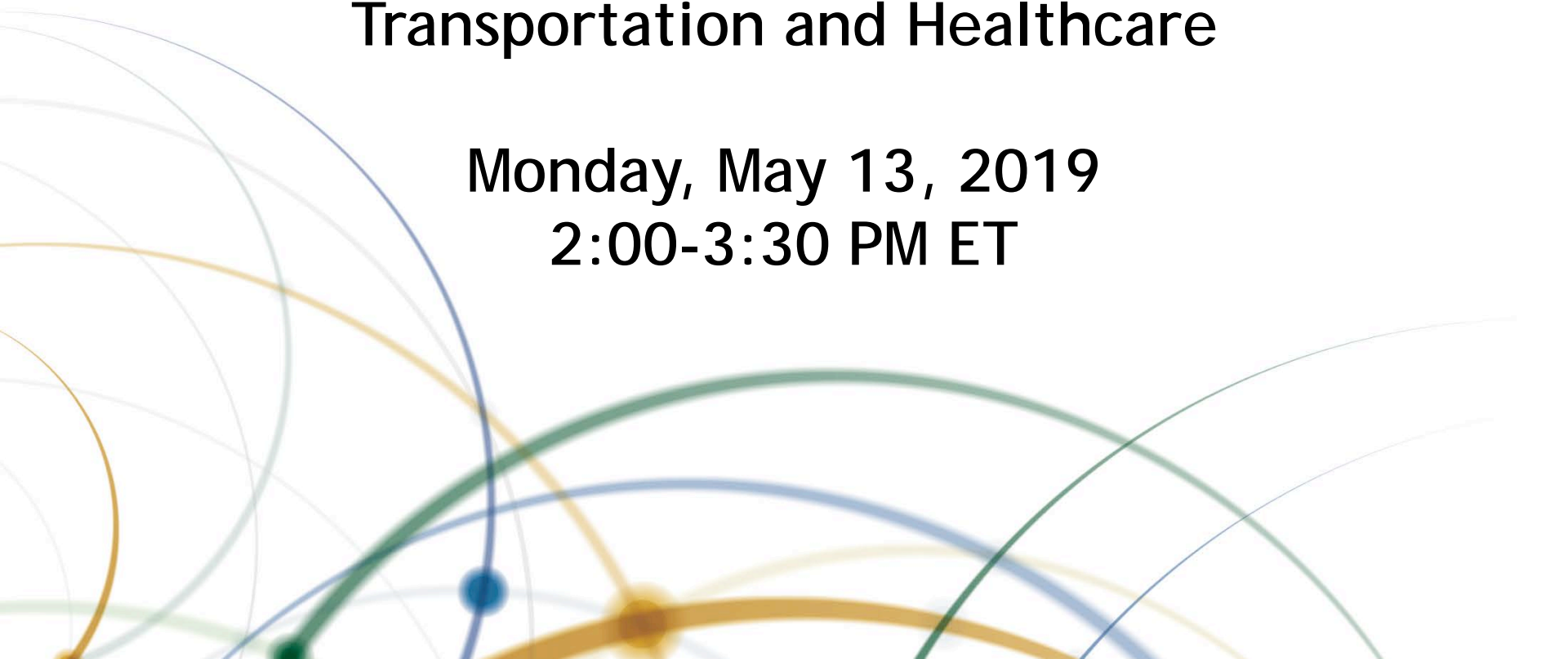


TRANSPORTATION RESEARCH BOARD

# Dialysis Transportation: The Intersection of Transportation and Healthcare

Monday, May 13, 2019  
2:00-3:30 PM ET



# Purpose

Discuss research from the [Transit Cooperative Research Program](#) (TCRP)'s [Research Report 203](#): Dialysis Transportation: Intersection of Transportation and Healthcare.

## Learning Objectives

At the end of this webinar, you will be able to:

- Describe the challenges of dialysis transportation and options to address those challenges



# **TCRP Research Report 203**

## **Dialysis Transportation: The Intersection of Transportation and Healthcare**

**KFH Group, Inc.**

**Co-Principal Investigators:**

**Elizabeth (Buffy) Ellis**

**Sue Knapp**

**In Association with:**

**Marsha Regenstein, PhD, Department of Health Policy  
at George Washington University**

**Dr. Tariq Shafi, Department of Medicine at Johns Hopkins University**





# Project Panel

## Guided by Research Panel

Annette Williams, San Francisco Municipal Transportation Agency – Panel Chair

Mallory Avis, Michigan Department of Transportation

Mark Bathrick, FTA Office of Program Management

Andre Colaiace, Access Services, Los Angeles

Sara Dunlap, Minnesota DOT

Rajesh Paleti, Old Dominion University, Norfolk, VA

Janelle Rivera, New Jersey Transit Corporation

Ipek Nese Sener, Texas A&M University, Austin TX

Carmela Tate, Delaware Transit Corporation

Julie Wilcke, Ride Connection, Portland OR

Steve Yaffe, Arlington County (VA) Department of Environmental Services

Danielle Nelson, FTA

Chris Zeilinger, CTAA

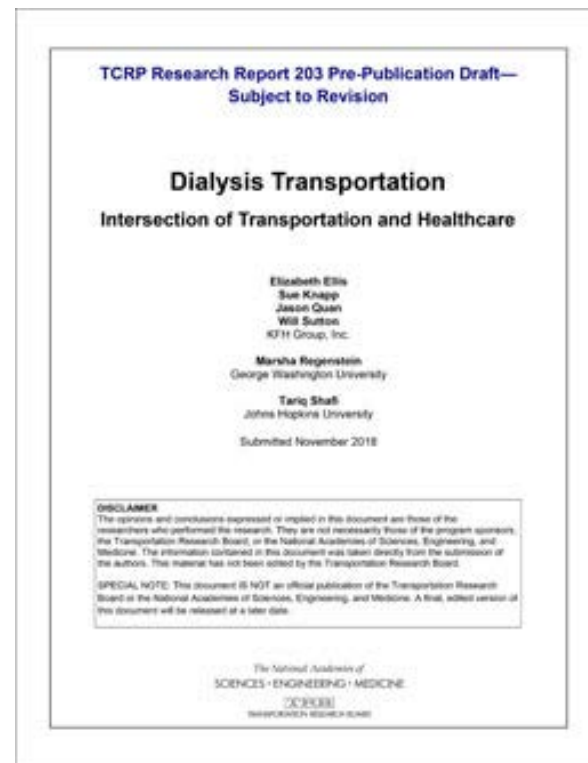
TCRP Staff: Dianne Schwager, Senior Program Officer



# Impetus for Research Project - Why?

Responds to major concerns of public transportation agencies:

- Rising demand and cost to provide dialysis trips and
- Experience showing dialysis trips require service more specialized than public transportation is designed to provide.





# Objectives of Research Project

The RFP's two objectives:

1. Quantify the current and projected demand and costs associated with transportation for kidney dialysis in the United States.
2. Identify current and effective practices and new strategies for funding and providing transportation to dialysis treatments.



# Context for Research Project: Kidney Disease

**Chronic Kidney Disease (CKD) – A crisis for medical care and public policy.**

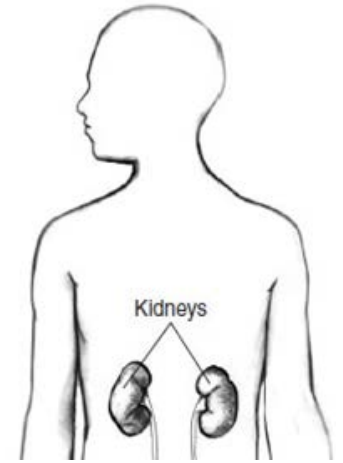
- 30 million people (15% of U.S. adults) have CKD.
- Sometimes called a “silent killer.”

## **Five stages of CKD.**

- Last stage – End Stage Renal Disease (ESRD)
  - Kidneys no longer work well enough for person to survive without treatment.

## **Causes of ESRD:**

- Diabetes is most common.



**Why do we need kidneys?** The kidneys process 120-150 quarts of blood each day, sifting out about one to two quarts of waste products and extra water. Kidneys are critical because they keep the composition of the blood stable, which lets the body function.

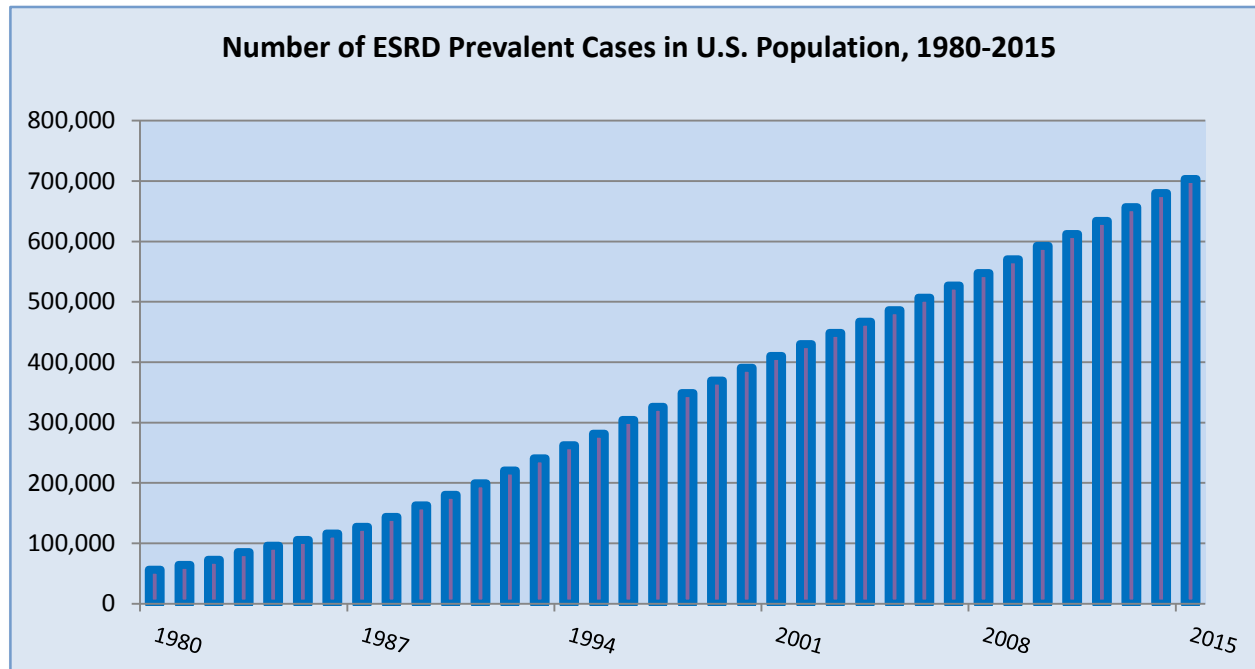




# Context for Research Project: Kidney Disease (con't)

## How many people have ESRD?

- More than 700,000.
- From 2000 to 2015, 80% increase in patients with ESRD.







# Treatment Options

## What are the treatment options for ESRD?

- Kidney transplant, dialysis, palliative care.
- 70% patients with ESRD are treated with dialysis.

## Dialysis

- Performs kidneys' function, filtering blood and removing waste, salt and extra water and helping to control blood pressure.

## Two Types of Dialysis

- Hemodialysis (HD)
  - Most common type of dialysis
  - Done in a dialysis facility (most commonly) or at home
- Peritoneal dialysis (PD)
  - Dominant type of home dialysis



# Treatment Options (con't)

## Trends in Dialysis Treatment

- Almost one-half million patients on dialysis
- 90% treated in a facility
- 10% dialyze at home
  - Estimated that 15-25% of patients could dialyze at home



Hemodialysis Machine in a  
Dialysis Facility

# How Do Patients Get to Dialysis Facilities?



Research project surveyed dialysis facilities across the country.

- 262 nephrology social workers responded
- “How do your patients get there?”
  - Almost half (46%) drive themselves or get rides from family/friends
  - Remaining use mix of other providers especially public transit agencies’ specialized services including ADA paratransit as well as Medicaid NEMT



- Survey results generally correspond with other research on dialysis transportation
- Collective research indicates approximately one-half of patients rely on public sector transportation modes

# Transportation Implications

- One patient receiving in-facility dialysis:
  - 3 times per week treatment = 6 one-way trips/week = 312 trips/year
- 445,000 patients receiving in-facility dialysis:
  - Estimated 139 million one-way trips/annually (upper bound estimate)
- Half of patients rely on public sector transportation = Almost 70 million one-way trips/annually





# What Are the Issues?

## Transit agencies report problems:

- Rising demand and cost for dialysis trips; impacts ability to serve other trips.
- Scheduling is a problem, especially for return trips.
- Dialysis facilities do not coordinate with transit agencies for patient scheduling.
- Dialysis patients often need care more specialized than what a public transit driver can or is required to provide.

*“Special care is needed with patients on the return trip due to frail status and bleeding. The...needs of these passengers go beyond what a public transit driver can provide.”*





# What Are the Issues? (con't)

## Social workers report problems:

- Patients have long waits for trip home after treatment.
- Medicaid transportation is unreliable.
- Public transit agencies' services are inadequate: ADA paratransit cannot prioritize dialysis trips; days and hours are limited; service area is limited.
- Transportation problems result in shortened treatment, with negative health impacts for patients.
- Patients have difficulty paying for transportation if not subsidized by insurance, which usually is Medicare.

*"In our state, Medicaid transportation was transferred to a for-profit provider \_\_\_\_\_, and since then transportation problems increased. Our ADA paratransit used to prioritize our dialysis patients [but no longer] and now everybody gets the same bad service."*



# What Are the Issues? (con't)

## Patients report problems:

- “Vehicles are late picking us up.”
- “We have long waits for the ride home.”
- “Trips home are long.”
- “Sometimes my ride never shows up or is cancelled, so I miss treatment.”
- “Unreliability is very stressful.”

*“Drivers are reckless and rude to seniors. They arrive late and leave [us] behind if [we] aren't ready. Treatments are cut short because of drivers.”*

*“Very concerned that I will not be able to drive myself in the future and will need transportation. I'm aware of all the problems with transportation companies and drivers. It is an added stress to the patient in dialysis.”*

*“Social workers are... unaware of programs that help with transportation or don't care or force [use] of ambulance service to get to and from treatments. This seems fraudulent...to me.”*





# From the Medical Literature

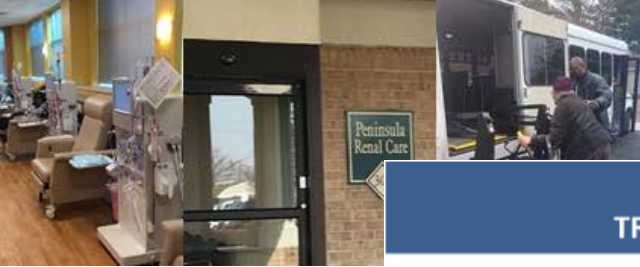
- Patients who rely on public transportation miss more dialysis treatments compared to patients with their own private transportation (drive themselves or rides from family/friends).
- Transportation is a factor in missed and shortened dialysis treatment.
  - Associated with increasing hospitalization that contributes to rising cost for healthcare
- Patients who miss treatment are at increased risk for hospitalization or even death.
- Long travel times for dialysis are associated with greater risk of death.



# The Data Tool

One of the objectives of the Research Project: *Estimate current and projected demand and costs for dialysis transportation.*

- Microsoft Excel – Two Screens
- Inputs
  - USRDS data on ESRD by County, HSA (824 and ESRD Network (18)
  - Project's survey of public transportation agencies—default value of cost/trip
  - Research on percent of patients using public sector modes
- Outputs – Current and Projected
  - Patients traveling to dialysis centers
  - Trips needed from public sector
  - Cost for public sector trips (unconstrained)
  - Potential decreases in demand/cost if increase in home dialysis - “what if” scenarios



# The Data Tool – Input Screen

## TCRP REPORT 203 TRANSPORTATION TO DIALYSIS FACILITIES

### COMMUNITY DATA TOOL TO ESTIMATE DIALYSIS TRIPS AND COSTS USER INPUT

Please provide input in the highlighted boxes for each of the information requests or accept the default values as shown.

**NOTE:** Please enable editing and content for full functionality. First-time users of the Community Data Tool should read the User's Guide for complete information on the tool including user-defined input, default values, and tool output.

#### ABOUT YOUR COMMUNITY

1. Provide your State:
2. Provide your County:
3. Do you serve the entire County?   
If not, what percentage of the county's population do you serve?
4. Would you consider your community to be:   
*Large Urban Area (Over 1M population)*  
*Large City (200,000 - 1M population)*  
*Small City (50,000 - 200,000 population)*  
*Rural Area (less than 50,000 population)*

#### ABOUT THE MONEY

5. Provide an estimate of the cost for a one-way public sector trip in your community. If not available, the tool will use the default value shown.  
 *(estimate)*  
 *(default)*
6. Provide the projected year:

#### IN HOME DIALYSIS - "WHAT IF" SCENARIO

7. Provide a potential % rate increase in home dialysis that may be achievable in the community.



# The Data Tool – Output Screen

## TCRP REPORT 203 TRANSPORTATION TO DIALYSIS FACILITIES

### COMMUNITY DATA TOOL TO ESTIMATE DIALYSIS TRIPS AND COSTS OUTPUT REPORT

STATE: MARYLAND PROJECTED YEAR: 2030  
 COUNTY: Prince Georges County  
 COMMUNITY TYPE: Large Urban Area

#### ESRD PATIENTS ON DIALYSIS IN YOUR COMMUNITY

1. Estimated total number of ESRD patients on dialysis in 2015.	<u>2,762</u>
2. Estimated total number of ESRD patients on dialysis in projected year.	<u>4,310</u>

#### TRANSPORTATION NEEDS OF ESRD PATIENTS IN YOUR COMMUNITY

3. Estimated ESRD patients traveling to dialysis centers in 2015.	<u>2,574</u>
4. Estimated ESRD patients traveling to dialysis centers in projected year.	<u>4,016</u>
5. Estimated one-way ESRD dialysis trips needed (annually) on public sector in 2015. (Unconstrained)	<u>401,544</u>
6. Estimated one-way ESRD dialysis trips needed (annually) on public sector in projected year. (Unconstrained)	<u>626,523</u>



# The Data Tool – Output Screen

## PUBLIC SECTOR COSTS (2016 Dollars)

7. Estimated cost of public sector trips needed in 2015. (Unconstrained).	\$18,069,480
8. Estimated cost of public sector trips needed in projected year. (Unconstrained)	\$28,193,546

## IMPACT OF INCREASED HOME DIALYSIS RATE IN PROJECTED YEAR - "WHAT IF" SCENARIO

9. Percentage of patients using home dialysis in HSA in 2015.	6.50%
10. Percentage of patients on home dialysis if rate increased by <u>25%</u> .	8.12%
11. Estimated decrease in one-way public sector trips (annually) with the increased rate of home dialysis.	10,921
12. Estimated reduction in public sector costs for transportation (annually).	\$491,441



# How Big is the Problem on National Level?

## **Trips to Dialysis Centers (end of 2015)**

- 445,000 patients travel to centers for dialysis
- 139 million one way trips annually
- 70 million one-way trips annually by public sector

## **Cost of Public Sector Trips**

- Cost per patient annually - \$8,900 in 2016 dollars
- \$2 billion annually to meet all public sector demand





# Are There Solutions?

## Practices and strategies of transit agencies:

- Policies



- Education



- Operational Strategies



- Coordination with Dialysis Facilities



- Funding







# Are There Solutions? (con't)

## Policies



- Use fare policy to encourage trips to closest dialysis center





# Are There Solutions? (con't)

## Education



- ADA Paratransit 101



*Photo courtesy of Omnitrans*



# Are There Solutions? (con't)

## Operational Strategies



- Taxi-Based Dialysis Transportation Program

CITY OF PHOENIX





# Are There Solutions? (con't)

## Coordination with dialysis facilities



- Coordinate and improve scheduling
  - Ride Connection, Portland OR





# Are There Solutions? (con't)

## Funding



- Partnerships with Hospitals
  - CountyRide,  
Baltimore County MD

### Partnership Hospitals

- Baltimore County medical facilities:
  - Franklin Square Hospital Center
  - Greater Baltimore Medical Center
  - The James Lawrence Kernan Hospital
  - Northwest Hospital
  - University of Maryland Saint Joseph Medical Center
- Baltimore City medical facilities:
  - Good Samaritan Hospital
  - Johns Hopkins Bayview Medical Center
  - Johns Hopkins Hospital
  - Kennedy Krieger Spine Center
  - Mercy Medical Center
  - St. Agnes Health Care
  - Sinai Hospital of Baltimore
  - The Union Memorial Hospital
  - University of Maryland Medical System
  - League for People with Disabilities



# Are There Solutions? (con't)

## Healthcare initiatives:

- CMS pilots initiated through the ACA
  - Accountable Care Organizations, e.g., Comprehensive ESRD Care Model
- Increasing adoption of home dialysis
- Prevent and treat diabetes—a leading cause of ESRD
- Look to healthcare programs that do provide transportation
  - Federally Qualified Health Centers
  - Program of All-Inclusive Care for the Elderly (PACE)



# Are There Solutions? (con't)

## Healthcare initiatives (con't):

- Share the costs of NEMT with transit agencies.
  - In some communities, Medicaid NEMT providers shift Medicaid-eligible trips to transit agencies' paratransit services.
  - Medicaid allowed to pay a negotiated rate for NEMT trips on public transit.
- Dialysis providers can now fund and provide patient transportation.
  - This will save federal healthcare dollars for ESRD patients, as *"dialysis patients are a population that has been identified as contributing to the increasing costs of nonemergency ambulance transportation and would benefit from local transportation furnished by providers."*



# Today's Participants

- Fred Fravel, *KFH Group, Inc.*, [ffravel@kfhgroup.com](mailto:ffravel@kfhgroup.com)
- Buffy Ellis, *KFH Group, Inc.*, [bellis@kfhgroup.com](mailto:bellis@kfhgroup.com)
- Sue Knapp, *KFH Group, Inc.*, [sknapp@kfhgroup.com](mailto:sknapp@kfhgroup.com)
- Marsha Regenstein, *George Washington University School of Public Health*, [marshar@gwu.edu](mailto:marshar@gwu.edu)



---

THE GEORGE  
WASHINGTON  
UNIVERSITY

---

WASHINGTON, DC

---

# Panelists Presentations

<http://onlinepubs.trb.org/onlinepubs/webinars/190513.pdf>

*After the webinar, you will receive a follow-up email  
containing a link to the recording*

# Get Involved with TRB

- Getting involved is free!
- Join a Standing Committee (<http://bit.ly/2jYRrF6>)
- Become a Friend of a Committee  
<http://bit.ly/TRBcommittees>
  - Networking opportunities
  - May provide a path to become a Standing Committee member
- Get involved with TCRP:  
<http://www.trb.org/tcrp/tcrp.aspx>
- For more information: [www.mytrb.org](http://www.mytrb.org)
  - Create your account
  - Update your profile

# *TRB turns 100 on November 11, 2020*

**100**  **YEARS**  
**2020**

**TRB**

## ***Help TRB:***

- Promote the value of transportation research;
- Recognize, honor, and celebrate the TRB community; and
- Highlight 100 years of accomplishments.

Learn more at

[\*\*www.TRB.org/Centennial\*\*](http://www.TRB.org/Centennial)

***MOVING IDEAS: ADVANCING SOCIETY—100 YEARS OF TRANSPORTATION RESEARCH***