

Traffic Safety: A Public Health Crisis with a Leadership Challenge

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### Abstract

This paper examines lessons from collaborations between Departments of Transportation and Departments of Public Health by looking at four case studies in Chicago, San Francisco, Lane County, Oregon and the State of Tennessee. There are recommendations for Clackamas County to consider implementing to improve the work around Drive to Zero, a traffic safety action plan developed by the County and updated in 2019. These recommendations are broken into strategies that impact structure, leadership and overall implementation of traffic reduction programs.

*Keywords:* Vision Zero, Safety Culture, Collaboration, Social Ecology Theory, Transportation Safety, Traffic Safety, Public Health

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A wicked problem is a social or cultural problem that is difficult or impossible to solve ... These problems are typically offloaded to policy makers or are written off as being too cumbersome to handle en masse. Yet these are the problems—poverty, sustainability, equality, and health and wellness—that plague our cities and our world and that touch each and every one of us. (Kolko, 2012) (1)

At the heart of new public governance is the notion that partnerships, collaboration, and engagement produce qualitatively better outcomes for communities. What one organization cannot accomplish alone, a network may leverage their collective resources and energy for joint action. (Banyan, 2013) (2)

“Cause the road is long, it's a long hard climb”. (Dylan, 1979) (3)

This paper is the narrative of a Capstone Project that seeks to assemble experiences and learnings from my Executive Masters in Public Administration (EMPA). At its core, I ask the following question:

**What can Clackamas County learn from the experiences of formal collaborative models that integrate public health and transportation in order to best help the County in achieving its goals of zero road fatalities by 2035?**

The project seeks to build upon the efforts of cities and counties that are tackling the wicked problem of fatal and serious traffic crashes that leads to 30,000 deaths every year in the United States (4). Some groups are asking the seemingly impossible question: What if we no longer tolerated such serious and fatal crashes on our roads? What if we approached traffic safety

using a comprehensive approach that seeks to change our culture and values around driving?  
Could we do it? What would it take in terms of leadership? Resources?

If we were to think about this challenge as a public health epidemic, would we hold 5K runs to raise money for the challenge? What if the Centers for Disease Control looked at traffic crashes in the same way they look at the recent spread of measles? After all, the scale of the problem is so much bigger and affects many more Americans.

Clackamas County is seeking to do this very thing and has started down the road in a partnership between the County's Department of Transportation and Development and Public Health Division. This Capstone Project will examine four case studies of other public health and transportation partnerships to gain insight into effective collaboration.

Case studies and a literature review will help answer the core question and provide actionable recommendations for Clackamas County, recommendations on leadership, structure and new models for action. The paper will close with reflections gleaned from coursework of the EMPA program.

### **A Public Administration Challenge**

This paper does not seek to lay out a plan to combat traffic crashes or to change people's driving behaviors. Rather, it seeks to look at the challenge from the eyes of public administration to help set a specific program of Clackamas County, the Drive to Zero program, on a pathway to success while working with a partner county division. The partnership with public health requires one to look through two distinct frames or windows: the engineer's window that sees the design of the roadway network or the design of safety features in a vehicle **as well as** the public health official's frame of reference that sees environmental factors such as addiction, stress and social inequities that leads toward behaviors.

Using a public administration's expertise in applying formal organizational development tools such as Gareth Morgan's Images of Organization (5) can give us insight into building an organization that is better suited to meet this wicked challenge.

### **A Leadership Challenge**

As Buckingham and Coffman declare, "the greatest managers (leaders) in the world do not have much in common. They are of different sexes, races and ages. They employ vastly different styles and focus on different goals. But despite their differences, these great managers do one thing: Before they do anything else, they first break all the rules of conventional wisdom" (6). At the heart of this wicked challenge is breaking the rules. Getting to zero fatal crashes cannot be achieved if we think about things the old way, if we go about designing roads the old way, if we continue to assume that behaviors will change by issuing more citations.

The challenge requires us to tap into many strengths of our leaders, of our partners and stakeholders, and our different agencies. Think of all of these individual strengths as woven together to form a strong tapestry, one better suited to take action and sustain energy over the long haul.

People who work in traffic safety are driven by various reasons. For some it might be the loss of a family member from a tragic crash. For others, wicked challenges force us to be creative, to think outside the box, to forge relationships that will surprise us. According to Senge, just as an individual can strive to always be learning more, to explore new ideas, an institution itself can be a learning organization. I hope to see Clackamas County reflect the ideals of a learning organization, "where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (7).

## Background and Context

As the Transportation Safety Outreach Coordinator for the Clackamas County Department of Transportation and Development (DTD) I am charged with the challenge of implementing outreach, marketing and behavioral change strategies to make county roads safer. The Board of County Commissioners adopted a new Transportation Safety Action Plan (TSAP) (8) in March 2019 that seeks to change the way we think about traffic crashes by changing from the belief that crashes are an inevitable part of managing a road system to one that believes that crashes are preventable. The County describes this as “Drive to Zero”, with zero being the number of acceptable deaths on the road system. Other governments refer to this as “Vision Zero” (9).

From 2009 to 2015, 183 people were killed in traffic crashes in Clackamas County. Another 795 people suffered serious, potential life-altering injuries. Overall, there were 29,765 crashes during that period of time (8). The County sees this as a crisis -- a kind of epidemic -- which calls for both a public health approach as well as a road design approach. Traffic crashes are the number one cause of deaths for teenage girls in Oregon and is one of the leading causes of death overall for Oregonians (10). Public health is the “use of theory, experience and evidence derived through the population sciences to improve the health of the population, in a way that best meets the implicit and explicit needs of the community (the public)” (11).

Clackamas County was the first county in the country to develop a Vision Zero policy and has been on the forefront of traffic safety under the direction of Joseph Marek, the County’s Transportation Safety Program Coordinator. Marek is seen as a national leader in traffic safety (12).

Drive to Zero is part of the most recent wave in traffic safety, focused on the Safe Systems Approach. This follows the first four waves as described by Peter Norton (13):

1. 1900's – 1920's: Safety First
2. 1920's – 1960's: Control
3. 1960's – 1980's: Crashworthiness
4. 1980s – 2000's: Responsibility

Safety First was a result of cars being new and were equated with danger. The response blamed cars and drivers for mistakes. Control represented the thought that traffic safety could be achieved through engineering and enforcement. Crashworthiness helped build important changes in driver-restraint systems and cars engineered for safety. The fourth paradigm, Responsibility, overlaid crashworthiness with new laws on seat belt use, educational efforts like “click it or ticket” and road design to slow traffic speeds. The current phase is one that is characterized by the Safe System Approach as described by Ecola et al: “This turned the traditional thinking about safety on its head—instead of seeing humans as the offenders, responsible for most crashes because of their bad habits, planners and engineers began thinking that the system itself needs to be safe” (14).

The Safe System Approach calls for a holistic system in order to eliminate fatal and serious injury crashes. The TSAP identifies more than fifty partners including other county agencies, private nonprofit organizations, local enforcement departments and state agencies that will need to be activated to achieve Drive to Zero. One of the most vital of these partnerships is around public health. Traffic injuries and fatalities have traditionally been the sole responsibility of transportation agencies. The County's Department of Health, Housing and Human Services

(H3S) has identified traffic injuries and fatalities as a serious issue to address and incorporated the goal of Drive to Zero into its “Blueprint for a Healthy Clackamas County” (15).

### **A Traffic Safety Parable**

Traffic crashes are not accidents. Seeing crashes as accidents implies that they are a natural occurrence and we couldn't prevent it from happening. Vision Zero, as a framework, asks us to challenge that notion. “Given that vehicle crashes produce more deaths than homicides, and impose significant monetary and emotional harms on the public, police and researchers alike should place greater attention on creating effective methods for analyzing these problems, developing effective solutions, and measuring harm reduction” (16).

The airplane industry is a good example of turning the concept of accident on its end.

After every single crash involving an airplane, there is a crash investigation team set up by the National Transportation Safety Board (NTSB). The safety board conducts accident or incident investigations to determine accurately and expeditiously what caused an accident so that steps can be taken to guard against a similar occurrence. – (Ettedgui et al, 2000) (17)

The causes might be mechanical or it might be human error or behavior. However, no matter the cause, the NTSB, and in many ways the airline industry as a whole, are committed to getting to the root cause to ensure that it does not happen again. Imagine if this was the situation for all forms of traffic crashes. This is the approach of Drive to Zero.

To help illustrate the need to go from an engineering review of crashes to a more holistic approach that incorporates culture, values and behaviors, let's consider the following parable: Fred, a suburban dad, loves his family and is well respected. Fred has a bad day at work. His boss has chastised him for failing to complete a project which he was unable to do because there

were already too many things on his plate. Knowing he was stressed out, he called his doctor to make an appointment to discuss his stress management and was told he would need to wait four weeks for an appointment. Fred didn't want to take his stress and anger home to his family, so, instead, he went to Joe's Bar and Grill. He drank four beers quickly and stumbled out of the bar to drive home. The bartender thought of stopping him but was too indecisive. Along the way home, traffic was bad. One traffic signal was causing a backup of cars for miles. When Fred finally had free traffic, he drove at least ten miles over the speed limit. At a turn in the road that he didn't see, his car hit a tree and he died. There are many vital intervention opportunities in this allegory that could have prevented Fred's death, from the bartender, to the boss, to the traffic signal engineer, to the design of the corner where he lost control. This creates a very "wicked problem" with many challenges.

### **Linking Traffic Safety to Public Health**

The World Health Organization declared the 2010's as the "Decade for Action for Road Safety" (18) recognizing traffic safety has a public health challenge. The County has begun to put together the basics of a collaboration with DTD and H3S. The two departments have signed an Intra-governmental Agreement (IGA) to collaborate on the Drive to Zero program to reduce injuries as a result of traffic crashes (19). The capstone report will serve as a launching pad for building an effective collaboration that may result in clear goal setting, establishing benchmarks, and clarifying roles and responsibilities for individuals, advisory boards, and integrating key elements into each department's strategic plan moving forward.

Since DTD has a steady source of funding that is not reliant upon federal or state funding, as H3S is, the department has been able to invest financial resources into the partnership to directly support staffing at H3S. For example, H3S and DTD hired a planner who will conduct

health impact studies of future transportation infrastructure projects. This position works closely with DTD but is located in the offices of H3S. This position reports to the Population Health Strategies Program Manager at H3S. Additionally, DTD has allocated \$7,500 to pay for H3S to provide data analysis and other epidemiology assistance.

Epidemiology is the method used to find the causes of health outcomes and diseases in populations. In epidemiology, the patient is the community and individuals are viewed collectively. By definition, epidemiology is the study (scientific, systematic, and data-driven) of the distribution (frequency, pattern) and determinants (causes, risk factors) of health-related states and events (not just diseases) in specified populations (neighborhood, school, city, state, country, global). It is also the application of this study to the control of health problems. (Dicker et al, 2006) (20)

A lack of transportation, or challenges in one's transportation network, can impact a family and their health including access to healthy food, health care, schools, recreation and employment. Transportation is considered a "social determinant of health". Other social determinants of health include environmental conditions, education, and community (21).

### **Theory, Methodology and Literature Review**

The capstone report will now examine how to improve collaboration between DTD and H3S by highlighting case studies from other governments who have formal collaborations between public health and transportation, as well as to establish a collaborative framework for additional agencies to join on Drive to Zero.

### **Social Ecology and Collaborative Theories**

Behavior change theories are often derived from a social ecological theory. This stems from the understanding that individuals reside within an environment, both social and physical

(22). “The public health and planning literature suggests that the built environment may play a significant role in health outcomes (23). “Health is not merely a product of individual biological, psychological, and behavioral factors; it is the sum of collective social conditions created when people interact with the environment” (24).

Since the Drive to Zero campaign has large components that are connected to human behavior, understanding human behavior theory is essential. From a National Cancer Institute publication, “Theory at a Glance”, the authors state “Not all health programs and initiatives are equally successful., however: Those most likely to achieve desired outcomes are based on a clear understanding of targeted health behaviors, and the environmental context in which they occur” (25). Rimer and Glanz provide a relevant theory definition as it relates to this project:

A theory presents a systematic way of understanding events or situations. It is a set of concepts, definitions, and propositions that explain or predict these events or situations by illustrating the relationships between variables. Health behavior and health promotion theories draw upon various disciplines, such as psychology, sociology, anthropology, consumer behavior, and marketing. (Rimer et al, 2005) (25)

Understanding health behavior theories will help transportation professionals understand and predict the strategies that will be successful in traffic safety related to human behavioral change. Transportation planners and engineers do not typically look at their work in terms of health behavior theories and a full understanding of the essential frameworks for health behavior theories can be an important element to success in Vision Zero.

### **Positive Culture Framework Theory**

The County’s Drive to Zero program incorporates the Positive Culture Framework (PCF). “Safety Culture is the attitude, beliefs, perceptions and values people share related to safety” (8).

The PCF, conceptualized by Montana State University, “seeks to cultivate health and safety. We intentionally use the word cultivate, as the PCF builds on shared values, beliefs, and attitudes that already exist in a culture to promote health and safety. PCF builds on the recognition that the solutions are in the community” (26).

### **Traffic Safety & Vision Zero Theory**

Injury prevention, and in particular traffic crash prevention, can be seen within a context of social ecology theory. “There is growing collaboration between the research and road safety communities in applying research into driver behavior to interventions to change driver behavior” (27). Vision Zero is often built upon such theory and my research will explore cases where this occurs formally and informally.

One of the defining characteristics of Vision Zero is the fundamental focus on breaking down silos and uniting local stakeholders behind common goals. Cross-departmental collaboration isn’t simply advisable – its importance cannot be emphasized enough as a critical foundation to a successful Vision Zero commitment. (Vision Zero Network, 2016) (28)

The following illustration seeks to integrate Vision Zero and theories of social ecology:



*Figure 1: Drive to Zero Culture of Safety Environment: A visual depiction of social determinants of health that impact transportation. (8)*

This capstone seeks to build off of the success of communities that have integrated public health, health behavior theories, and social ecology into the work of Vision Zero.

### **Case Study Methodology**

I selected a case study approach to the research of the project in order to capture recommendations that are quickly implementable and focused on appropriate experiences relatable to Drive to Zero. Case study research is a useful research tool when looking at contemporary organizations and when there is no need to manipulate conditions or behaviors. “Other research strategies such as history, experiment and surveys are not capable of inquiring

into the case that interests researchers. (29). Yazan recommends being intentional about case study research design, be intentional about case selection and to ensure data validation by combining other resources such as historical review (30).

### **Case Interviews**

I have selected four organizations for the case study research:

- 1) City of San Francisco
- 2) City of Chicago
- 3) Tennessee Livability Collaborative
- 4) Lane County, Oregon

I have selected these four based on several factors including pre-interviews with noted professors focused on both transportation and public health. The groups offer a diversity of models, geography, governmental design and leadership.

The Robert Wood Johnson Foundation (RWJ) has funded research on active living, a term that incorporates public health, transportation, physical activity and obesity prevention work. One key case example in Chicago has been cited by several articles including “An inter-governmental approach to childhood obesity” (31).

Other articles that have helped to build a list of cases for deeper research included “Community Action to Prevent Childhood Obesity: Lessons from Three US Case Studies” (32) and the book Public Health: Improving Health via Inter-Professional Collaborations (33). The aforementioned article from the Vision Zero Network, “Collaborating across departments to achieve Vision Zero” reviewed three cities (28), and helped me narrow down the list to San Francisco because of its public health integration, in particular epidemiology.

Lane County's TSAP is very similar to Clackamas County's and the county has many similar geographical and demographical similarities (34). The fourth group, the Tennessee Livability Collaborative, offers a broad, state led effort with multi-dimensions grounded in public health.

I interviewed participants representing different elements in the different groups focusing on including one person from public health and one from transportation. Where it was appropriate (Chicago, Lane County, and San Francisco), I also interviewed a nongovernmental representative in order to validate findings. All interviews were recorded.

### **Document research**

In order to verify key elements of the interviews, I reviewed documents and publications from the cases such as published reports, formal adopted policies, and program websites and compared this to interview notes.

### **Potential Conflicts, Limitations and Biases**

While I worked in Chicago for the Active Transportation Alliance, I was very active in the Chicago Consortium to Lower Obesity in Chicago Children (CLOCC), one of the case studies I will be using. I know some of the researchers from this work. However, after talking with two key researchers, Bozlak and Christoffel, the CLOCC model is an extraordinary example that would have much to offer. As part of my work at the Street Trust, I was active in The Intertwine Alliance, a Collective Impact Model. I have found that in both cases, the formal collaborative model has many advantages to building toward a culture of change, but also know of challenges first hand.

As a member of the Vision Zero Network, I was involved in the establishment of the organization. While I will not be using the organization as a case study, I am on friendly terms

with many other members who I may use as case studies. Finally, the results of this survey will directly impact my own work moving forward.

My theory is that collaboration will gain larger buy-in, create a more resource focused strategy that approaches the challenge from multiple sectors, and build a broader collective set of norms around safe driving culture. Similar to the challenge of obesity prevention, there is no one right solution and it seems to make sense to build the biggest tent of strategies possible. Doing so with structure will help breed success. Otherwise we're just throwing darts at moving targets and we are not gaining the benefit of collective wisdom.

### **Case Research**

This section incorporates highlights and notable lessons learned from the four case studies of Chicago, San Francisco, Lane County and the Tennessee Livability Collaborative.

Each interview focused on the following questions:

- How is public health integrated into transportation planning and programming?
- How is transportation integrated into public health planning and programming?
- What lessons from your collaboration can be implemented in Clackamas County?

#### **Chicago**

Chicago has seen collaboration between the Chicago Department of Transportation (CDOT) and the Chicago Department of Public Health (CDPH) for more than 15 years. Much of this work started with work as part of the Coalition to Lower Chicago Obesity in Chicago Children (CLOCC). The collaboration is now focused on Vision Zero. Interviews were conducted with Adam Becker, Executive Director of CLOCC (35); Ann Cibulskis, Coordinating Planner, Strategy and Development Bureau of CDPH (36); Melody Geraci from the nonprofit Active Transportation Alliance (37), and Sean Wiedel, Assistant Commissioner of CDOT (38).

**How is public health integrated into transportation planning and programming?**

CDPH is very active in planning, design and decision making for Vision Zero. Sean Wiedel says, “Without them, we couldn't do it. It underpins a lot of what we do, as well. We use the Health Department's High Economic Hardship Metric when we were looking at high crash community areas. Some of the analysis that we did found that those high crash community areas and High Economic Hardship areas were one and the same. They suffered disproportionately from gun violence and traffic violence. From an equity viewpoint, we need to be investing more in those communities due to historical disinvestment reasons” (38).

There are four internal subcommittees that Vision Zero uses to implement their plan: Design, Data, Education and Enforcement. There are three CDPH staff representatives that serve on committees: a planner, an epidemiologist, and a representative from chronic disease. One of the important roles that CDPH sees themselves playing is to elevate health equity in Vision Zero and in encouraging CDOT to engage local communities in the work. The epidemiologist provides data management, annual crash data tables, crash reporting and direct participation in community events that engage on high crash area planning. Chicago has a monthly fatal crash committee that includes CDPH’s epidemiologist and their planner.

**How is transportation integrated into public health planning and programming?**

“Transportation safety is key to our social determinants of health work and something we have been committed to for a number of years. Something we have been trying to make stronger and more effective”, says Ann Cibulskis (36). Vision Zero is integrated directly into Chicago’s Healthy Chicago 2.0, a plan “focusing on areas where health disparities remain, this plan provides over 200 actionable strategies to reduce inequities and improve the health and vitality of our residents and our city” (39). Reducing the number of serious injuries in traffic crashes in one

of the measures in the plan. Of the six major objectives covered in Chicago's Vision Zero plan (40), four of these are related to public health and there is specific work plan objectives that are managed by CDPH staff directly.

The chronic disease division of CDPH focuses on active living and land use design as part of their work. Cibulskis states that "mode shift (moving people from traveling in single occupied cars to active transportation such as walking, biking and taking transit) is also where the big root cause issues are for public health" (36). Healthy Chicago 2.0 integrates mode shift by stating an objective to "increase the percentage of adults who walk, bike, or take public transportation to work by 10%" (39). All of this work is paid out of the CDPH budget with no resources coming from ODOT unless it is grant funded.

#### **What lessons from your collaboration can be implemented in Clackamas County?**

Adam Becker shares that "if you can help people see where their mission intersects with yours and there is a win-win there, and their constituents' benefit, then in my experience they are more than happy to join in. But if they don't see a benefit, it is much harder to get them to stick around long term" (35). Becker recommends approaching leaders from divisions on a one-to-one basis to explore these intersects and only inviting leaders to the table that are "all in".

The fatal crash investigation committee includes legal counsel so that all conversations are covered under attorney-client privilege. This allows the group to have open, honest dialogue around problem identification and developing solutions without the fear that those conversations will be subpoenaed later.

Originally the Vision Zero efforts were announced by the Mayor's office, but led by CDOT and CDPH. Later on, as the mayor decided to focus on other areas of importance (and ultimately decided not to run for re-election), the political leadership from the mayor's office

waned. When the leadership was there, everyone showed up at the highest levels, but when the leadership stepped back it was much harder to engage representatives from Chicago police and other departments outside of CDPH and CDOT. Each interviewee spoke about how great it was to have the higher level of accountability to drive results and frustrations over loss of that leadership.

### **San Francisco**

Megan Weir, San Francisco's Vision Zero work was the result of leadership from local transportation safety advocates, most notably Walk San Francisco and the San Francisco Bicycle Coalition. San Francisco Mayor Lee issued an executive directive in 2016 (41) setting out a city commitment to Vision Zero. Community partners are highly engaged in an external task force. The San Francisco Department of Public Health (SFDPH) and the San Francisco Municipal Transportation Agency (SFMTA) have collaborated on this project from the beginning of the directive. Both the internal and external task forces that drive Vision Zero in the city are co-chaired by representatives of SFDPH and SFMTA. Interviews were conducted with Leah Shahum (42) of the Vision Zero Network and former Executive Director of the San Francisco Bicycle Coalition, Megan Weir from SFDPH (43), and Arielle Fleisher (44) of SPUR (San Francisco Bay Area Planning and Urban Research Association) and former employee of the SFMTA.

#### **How is public health integrated into transportation planning and programming?**

The Director of Health, Equity and Sustainability in the Environmental Health Branch of SFDPH co-chairs the public facing Vision Zero Task Force that is comprised of city and county agencies that meet quarterly in city hall with the Pedestrian Manager of SFMTA. She also co-chairs the internal Vision Zero Core Team which meets bi-weekly and includes representatives

from public works, public health, transportation and police. They have three subgroups: safe people, safe streets and safe vehicles. They also have a data systems subgroup.

SFDPH has a full-time epidemiologist, fully funded by SFMTA that works on Vision Zero. She is responsible for comprehensive data and analytics and provides an objective voice to respect to monitoring and comprehensive surveillance. “This role has helped in bridging the gap between the health department, hospitals, police and transportation”, says Weir (43). They interface on a daily-basis with both SFMTA and police staff on issues with data.

In addition to the epidemiologist, they also have a full time data analyst that is responsible for “boiling the notion of spatial data” (43) and development of their transportation database called Transbase (45). This data analyst has been instrumental in linking data sets into one repository that can be readily used internally and externally. They are particularly helpful in approaching the various challenges of police department data. The epidemiologist sits on the fatal investigation team. This person is in the role of ensuring accuracy and monitoring rather than on targeted recommendations.

Equity has been core to public health in San Francisco and SFDPH brings that framework to Vision Zero and SFMTA. “Vision Zero requires looking at the problem through a different window frame”, says Weir (43). These frames are akin to Gareth Morgan’s Images of Organization, where each department, and in some cases each division inside a larger department has their own frame of reference, or image (5).

### **How is transportation integrated into public health planning and programming?**

SFDPH has a branch called Community Health Equity and Promotion. They work on behavioral change. Until recently, they managed the Safe Routes to School Program which is since transferred to SFMTA. They also lead a Safe Routes for Seniors program “given the

disproportionate impact of injuries to seniors on the streets” (43). SFDPH has grant funds that they make available to community organizations in order to engage them on projects and raise awareness about community concerns. They provide direct funding to Bay Areas Families for Safe Streets, for example.

Weir leads, in coordination with the Community Health Equity and Promotion Branch, a coordinated crisis response for traffic fatalities, focused on those crashes where a person was pronounced dead on the scene (rather than at the hospital, where there is a crisis response team on site). Two thirds of the fatalities are on the scene, in which case police will contact the crisis response team. They will arrive at the scene and provide up to 24 months of crisis support to families. The team can provide access to state resources for burial and funeral expenses along with crisis and grief counseling.

SFDPH is responsible for monitoring of fatalities and severe injuries. They have a primary focus on pedestrian fatalities. This includes monitoring hospital data of severe and critical injuries. SFDPH has focused on what they deem the high injury network that looks beyond just fatalities. One area that public health has adopted from their transportation partners is building more formal processes and working groups.

**What lessons from your collaboration can be implemented in Clackamas County?**

The formal processes we use to work through an issue helps us understand one another. It’s really about figuring out how to create space for the two organizations to work together on Vision Zero. For public health, what are the unique skill sets that can contribute to the work? We are here for many reasons, but unique to us is data expertise. We are also in a good position with respect to community engagement and bringing stakeholders to the table. – (Weir, 2019) (43)

Initially, Mayor Lee's leadership was essential, but since the beginning of Vision Zero, leadership came from the ground-up with respect to community organizations calling on the elected officials to act. This foundation has been built and makes it easy for Vision Zero to tap into community resources, collaborative partners and for Vision Zero to last beyond one mayor. The mayor's office is engaged and attends regular meetings.

Not everything can be accomplished on day one. Weir talks about the need to build a foundation "for the future when leadership is ready or when the window opens, so the staff are ready to respond". She believes that the work needs visionary leaders who are building relationships, infrastructure and foundation. This makes it much easier to scale up when the opportunity arises. "Today, we are talking about transformative policies, automated enforcement, pricing strategies and regulation of transportation companies. All of those things are pretty ambitious. We have to set the table so when the window opens, people are ready!" (43)

Arielle Fleisher shared ideas around behavioral change campaigns and stressed "don't spend big money unless it is really big money and get people who do behavioral work on the design team". Key components of any campaign should have clear outcomes in mind. "If you don't know what behavior you are going to change, you cannot craft an effective message". Fleisher also asks that those working on Vision Zero "understand that when they're passing a Vision Zero policy, this means they're committing to putting safety over mobility. That means they are committed to safety over parking, over thru-put, etc. That's the level of commitment that should accompany a Vision Zero policy, because that's what Vision Zero is (44)".

Fleisher suggests, when starting out in partnership with a public health agency, to "look for the expertise in the department and match it with the passion to do change". She also warns about setting up work where there are very small teams. It is very hard to be a team of one, for

example, the only person with expertise in behavioral science. What helps? A diverse group of public health stakeholders, community health workers, behavioral health specialists as well as epidemiology. (44)

Fleisher believes that active transportation programs have a key role to play as a vision zero tool. When families see streets as family-supported places, they can see how streets can build community and build healthy opportunities.

### **Lane County, Oregon**

In 2015, the Central Lane Metropolitan Planning Organization (CLMPO) and Lane County, Oregon began collaborating on a transportation safety action plan (34). This plan sets out a framework for Vision Zero and also created the Safe Lane Transportation Coalition, which serves as a backbone organization supporting Vision Zero. Interviews were conducted with Emily Bear from Lane County Public Health (46), Becky Taylor from Lane County Public Works (47), and Drew Pfefferle from the Safe Lane Transportation Coalition (the Coalition) (48). The Coalition has monthly meetings where there are regular updates from partner agencies and has a permanent full-time employee (Pfefferle) to serve as coordinator. This collaborative is in the early stages.

#### **How is public health integrated into transportation planning and programming?**

Lane County Public Health (LCPH) sees drunk driving and drugged driving<sup>1</sup> as a large impact on their work, so they have a focus on prevention, particularly with young adults. One of the LCPH employees attends a regular fatal crash reduction meeting. LCPH recently hired two

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<sup>1</sup> “Use of illicit drugs or misuse of prescription drugs can make driving a car unsafe—just like driving after drinking alcohol. Drugged driving puts the driver, passengers, and others who share the road at risk”. (49)

epidemiologists that may soon get involved in Vision Zero, one of which is funded through marijuana dollars.

**How is transportation integrated into public health planning and programming?**

LCPH has committees, such as planning for more walkable and bikeable communities where LCPH staff serve in different capacities. LCPH also has been having conversations with Lane County Public Works and ODOT about a drunk driving/drugged driving campaign that is rooted in behavioral science. They conduct responsible alcohol beverage trainings for businesses. LCPH is targeting specific behaviors around drunk driving in one specific community, Florence.

**What lessons from your collaboration can be implemented in Clackamas County?**

While the collaboration is in its early stages, there were still some notable lessons from the interviews. Taylor discussed how staff changes can disrupt a collaboration. Without having dedicated staff who have responsibilities built into their job descriptions, no one has additional capacity. “Everyone is committed, but unfortunately, this is just extra duty, like everyone at the table. No other work got peeled off, so they don’t have additional capacity” (47). Taylor worries about capacity and burn out, especially in public health who she feels are spread thin.

Translation between departments can be a challenge. For example, the way public health sees Vision zero is often through a behavioral science lens that is different than the lens that public works uses. Bear uses the example of a crashed car display by saying, “a smashed-up car has a short-term effect and there is a place for that. But, if we want long term behavioral change, we need to get into successful communications in a way that people are going to hear the message in the first place and in a way that people will do the behavioral change”. Bear also discussed how public health around prevention “has learned a lot about what not to do in our

days of ‘Just Say No!’. We’ve gotten more professional and invested in evaluation about what works and doesn’t work. Not everyone has been exposed to that, ODOT, for example”. (46).

Lane County’s fatal crash investigation team meets monthly. The group has representation from public health, the Sheriff’s office, engineers, road maintenance and is housed under counsel so that the work is covered under attorney-client privilege. This gives the team “more freedom to brainstorm”, according to Taylor (47). That group reports to county commissioners quarterly which keeps Vision Zero on the radar of their elected leaders.

Pfefferle, who runs the monthly Coalition meetings, believes that the informal nature of the group keeps them more open and flexible. “We can act swiftly”, says Pfefferle (48).

### **Tennessee Livability Collaborative**

This state partnership is not focused on Vision Zero, unlike the other three. I include them because they have both an interesting formal model of collaboration and a values system that fits closely to the values system of Clackamas County. The Tennessee Livability Collaborative is a project housed in the Tennessee Department of Public Health (TDPH). “The Tennessee Livability Collaborative (TLC) is a working group of 17 Tennessee state agencies with a mission of improving the prosperity, quality of life, and health of Tennesseans through state department collaboration in the areas of policy, funding, and programming (50)”.

Interviews were conducted with the lead coordinator for TLC, Leslie Meehan (51) from TDPH and Jessica Wilson (52) from the Tennessee Department of Transportation (TDOT).

#### **How is public health integrated into transportation planning and programming?**

“TDOT works closely with TDPH at a statewide level and there is close collaboration between the regional offices across the state, which is where the front lines action takes place”(52). There is a lot of overlap and they tend to be at the same community meetings. Much

of this is focused on place making such as greenway and parks planning. TDOT and TDPH also coordinate on some grant making. TDOT participates in TLC because they want to be at the table where ideas are discussed and to learn about their partners. “There are opportunities we would have missed if we weren’t sitting in the room together”, says Wilson (52).

### **How is transportation integrated into public health planning and programming?**

The state has a “Health for All” policy framework (53) that they have adopted that they have incorporated into the Tennessee State Health Plan (54). The plan identifies poor transportation options as a social determinant of health. Similar to the other cases, this translates more into work around encouraging physical activity, primarily walkable communities, greenways and trails.

### **What lessons from your collaboration can be implemented in Clackamas County?**

In some ways, because TLC focus on collaboration first, there are some exciting lessons to draw from their experiences. Meehan shares an important message: “Start with those whose mission most closely align with the notion of livability. For us, a lot of that was folks who touched the built environment. From there we let existing members invite others”. The TLC gets together every other month for two hours. They rotate hosting, so each agency takes a turn hosting, and this also gives them a chance to feel ownership of the collaborative. There is always food, an important part of culture in Tennessee. Meehan reinforces “people will always come if there is food and then spend time together over a meal”. Each agency gets to define their own work, their own priorities, and their frames (51).

Meehan described the importance of starting with the directors in initial conversations, but to “take the workers”, the ones who will actually do the work. Look for people who are leaders and who are especially good at influencing both up and down. Also key, is to find the

staff that are more likely to survive administrative transitions. Meehan also discusses the importance of identifying those conversations and issues that need to be “taken to an outside room to follow up” (51).

Meehan discussed the structure and formality by sharing:

Meetings should be casual enough to get to know one another but have enough structure to feel like things get done. There should be clearly defined meeting objectives for every meeting. No falling into the trap of meeting just to meet. Defining short- and long-term goals. If the meeting feels professional, very intentional, then it doesn't feel very haphazard. (Meehan, 2019) (51)

### **Comparison of the Cases**

Table 1 on the next page is meant to help with comparing the cases to Clackamas County and to one another.

Table 1: Comparison Matrix of Case Studies

<b>Groups:</b>	<b>Chicago</b>	<b>San Francisco</b>	<b>Lane County</b>	<b>Tennessee</b>	<b>Clackamas County</b>
<b>Integrates public health into traffic safety plan</b>	Yes (40)	Yes (55)	Yes (34)	Minimal (56)	Yes(8)
<b>Integrates Vision Zero into Health Plan</b>	Yes (39)	Yes (57)	No (58)	No (54, 59)	Yes(15)
<b>Formal Internal Task Force</b>	Yes	Yes (60)	Yes(34)	Yes (50)	No
<b>Formal External Task Force</b>	Yes	Yes (61)	Yes(34)	No	Yes (8)
<b>Monthly review of fatal crashes</b>	Yes	Yes (62)	Yes	Yes	No
<b>Shared staff</b>	Epidemiologist Planner Chronic Disease	Epidemiologist Trauma surgeons ER Docs	No.	No.	Epidemiologist Health Planner (19)
<b>Mode Shift part of action plan</b>	Yes (40)	Yes (55)	Yes (34)	No	No
<b>Shared budgeting</b>	No	SFMTA pays for FT epidemiologist	No	No	DTD pays for ½ of planner and part of epidemiologist(19)
<b>Data Sharing</b>	Yes	Yes (45) (63)	No	No	TBD

Formal citing implies that this information is verified by documents, not just interviews.

“When you step into an intersection of fields, disciplines, or cultures, you can combine existing concepts into a large number of extraordinary new ideas” – (Johansson, 2017) (64)

### **Applied EMPA Course Learnings**

This section will apply a variety of frameworks to the core question using key learnings from the EMPA program. Let’s re-examine the question: **What can Clackamas County learn from the experiences of formal collaborative models that integrate public health and transportation in order to best help the County in achieving its goals of zero road fatalities by 2035?**

#### **Leadership and Culture**

All wicked challenges are leadership challenges. As Kouzes and Posner write, “exemplary leadership is local”, it can come from a family member, a pastor, a teacher, or a co-worker in the next desk over. “At this very moment, leadership is in you and in where you are. The question is: What are you going to do to put it into practice?” (65) Kouzes and Posner also lay out a five-step leadership formula: Model the Way, Inspire a Shared Vision, Challenge the Process, Enable Others to Act, and Encourage the Heart. These leadership components are essential tools for Drive to Zero. And while leadership can be practiced from wherever one sits, the impact that top level leadership has on wicked problems asks for strong modeling leadership at high levels.

Along with leadership, it is essential to instill a culture that values stakeholders, teamwork, and integrity. Stephen Covey reinforces this when he says, “You begin with the leaders and the creation of a culture that values personal integrity and empowerment. Without that culture, you may have formal leaders, but you won’t have true leadership” (66). There is much that Drive to Zero can learn from Covey.

### **Action Research and Design**

Clackamas County has an opportunity to embrace the essential data-driven elements of Drive to Zero by taking the challenge of integrating this data into a learning experience so as to model a learning institution. Formal methods of evaluation and taking research and applying that to Drive to Zero's methodology and processes will be key. Doing so is the embodiment of Action Research. "Action research consists of a set of theories of changing that work to solve real problems while also contributing to theory" (67).

Chicago's CLOCC serves as an excellent model for involving research into the process. The work to combat obesity in Chicago included not just the epidemiologists as researchers but the formal evaluators, the policy researchers and the community researchers, each lending valuable contributions to an overall effort toward action research.

### **The Medici Effect**

As part of our class on human resources, I was introduced to the concept of the Medici Effect, from Franz Johansson. The Medici family believed that to encourage entrepreneurialism, the best approach was to bring people, with varying experiences, disciplines and skills, to innovate design, art, music, and new technologies. Essentially, diversity itself becomes a value that drives growth and change, that then emerge as "extraordinary new ideas" (64). Drive to Zero can embrace this concept by looking for strange bedfellows, who when working together might ideate new ways of tackling a very wicked challenge.

We may be well served by looking to both public and private partnerships, for-profit and non-profit partners, rural and suburban experiences, to mix up the ideas, to generate a culture that can best incubate ideas to reach zero. To do this, we also need to be ready be uncomfortable with these new ideas, new people, and new challenges that a diversity of representatives can bring.

### **Drive to Zero and Culture: What we can learn from Morgan's Images**

Drive to Zero calls for two types of cultural change: internal change for the organization implementing Drive to Zero and external change for society that currently accepts road fatalities as a natural consequence of our road system and driving practices. Gareth Morgan offers insight into approaches that will help in identifying internal organizational strategies. Morgan offers: "Shared values, shared beliefs, shared understanding, and shared sense of making are all different ways of describing culture" (5).

The concept of organizational images from Morgan is also helpful when thinking about how different organizations, even inside the larger county organization, such as DPH and DTD, have different cultures, structures, and processes. DPH uses a clear public health lens and might see behavioral change solutions to correct problems. DPH sees the external world from this window frame and acts accordingly. This world of traffic safety looks much different to the engineer, who sees technical solutions to correct problems.

It is essential to understand the willingness and tolerance for change within an organization's culture. Government entities are often slower and less reluctant to change than private institutions. Thought and care to approach change slowly and deliberately so that everyone comes along as a similar pace will be key to success.

### **Managing Change**

Safety culture will require cultural changes internally, to do that requires institutionalizing the cultural change and encouraging entrepreneurialism. I believe that will require this change to be driven by a person who is vested with clear authority to guide this change or by empowering a person in the County to be vested with clear authority to lead, gain followers, and build a vision. "Change sticks when it becomes 'the way we do things around

here,' when it seeps into the bloodstream of the corporate body. Until new behaviors are rooted in social norms and shared values, they are subject to degradation as soon as the pressure for change is removed" (68).

We learned about managing transitions from Bridges how essential it becomes to plan for change inside an organization, to be conscious about building an organization that can adapt and react to these changes in a proactive way to maintain buy-in from staff and partners (69).

### **Coproduction and Collaborative Governance**

The wicked problem presented by Drive to Zero cannot be successfully tackled without embracing partnership and collaboration. This collaboration should include a variety of agency partners, such as those already engaged in Drive to Zero, but also nonprofit organizations working on alcohol and drug prevention, injury prevention, child safety and senior health, to name just a few. Since we are looking at changing driving culture and behavior, everyday residents need also be engaged through opportunities to take action, participate in shaping policy and programs and in developing innovative solutions.

Coproduction techniques such as providing funding to engage partners and entering into formal agreements to seek funding together can offload responsibilities best taken on by a local community organization that has deeper and more trusting relationships with neighborhood residents and community leaders. Drive to Zero is ripe for these techniques. Levine discussed the upside of coproduction and also cautions agencies to be mindful of equity, to avoid the trap that more affluent educated residents would be more likely to show up for activities (70). To that end, it will be important for Drive to Zero to develop explicit steps to engage more marginalized communities in the County.

## **Recommendations**

This section will outline a series of recommendations based on the case research, literature review and the coursework from the EMPA program. These recommendations seek to build off the successes and accomplishments of Drive to Zero. While the ideas target Clackamas County, many of the suggestions can be applied to any county or municipality working on Vision Zero. Recommendations are structured around the following categories: leadership, structure of the collaboration, and specific action steps based on best practice learnings.

### **Leadership, accountability and equity**

These recommendations are focused on ways that the County can better exert or encourage leadership and improve accountability for achieving outcomes for Drive to Zero to ensure success. The Drive to Zero program lives inside DTD in the Engineering division, under the direction of Joseph Marek, the Transportation Safety Program Manager who reports to Mike Bezner, DTD's Assistant Director of Transportation. Additional leadership comes from County Board President Jim Bernard serving on the Drive to Zero Advisory Task Force. Based on the interviews and coursework, I am recommending the County consider the following:

1. Elevate the importance of Drive to Zero within DTD and throughout the County.

There may be several options to explore including:

- a) Develop clear, accountable senior leadership at the County that will own this vital program and drive success above the level of department director. This leadership will be suited to hold departments accountable, motivate action, and to offer praise for accomplishments. This could entail identifying a champion from among one of the County's assistant administrators or the county administrator, themselves. When this was integrated in San Francisco,

Chicago and Tennessee; results were clear and those involved felt more supported. When this was absent, it was more difficult to sustain energy and success.

- b) Consider identifying a senior staff member (or creating a new position) at DTD to champion Drive to Zero in addition to Joseph Marek, outside of engineering to provide more accountability to other divisions within DTD. The current model has Marek influencing peers to take on aspects of Drive to Zero, but with limited ability to hold peers accountable for actions.
  - c) Consider creating a position inside the County Administrator's office that would coordinate Drive to Zero to provide additional authority in calling stakeholders inside the County to the table. This could be a new position or included as a focus for an existing staff member in administration. This person would be responsible for driving internal and external task forces and all subcommittees, reporting on performance measures, seeking grant support for all work, and development of key external relationships.
  - d) The County Board Chair, Jim Bernard, is a member of the Drive to Zero Advisory Task Force. Ask for support or membership in the task force by other commissioners, who might be interested in taking on the champion role.
2. Modeling the practices in both San Francisco and Chicago, consider naming the Assistant Director of Transportation and the Public Health Assistant Director as co-chairs of the Drive to Zero Advisory Task Force. This could help drive results across both departments.

3. Build equity goals into the next update to the TSAP. Through this process I've learned about models that integrate policy around equity into their efforts. We have an opportunity to embrace equity if we are intentional about doing so, and to do it in a way that fits Clackamas values. At a minimum, I can begin to ask the question: Will it help advance equity and address structural racism? When we center our work on people of color, rural communities, and people with disabilities, the benefits will be seen by all. Additionally, we should look at data to evaluate the past and current impact of traffic safety on communities of color. We must safeguard against disproportionate enforcement impact on communities of color.
4. Conduct the Toward Zero Death Stakeholder Involvement assessment and use as a measure of collaboration and engagement (71). This would be a good start for integrating action research in to Drive to Zero and provide clear benchmarking for the collaboration.
5. The City of Denver, in their Vision Zero action plan included a powerful pledge from the mayor and engaged city departments along with the Denver City Council "to lead and implement the Denver Vision Zero Action Plan to achieve the goal of zero traffic deaths and serious injuries by 2030" (72). In the spirit of "Model the Way" (65), key leaders in the County, particularly the Board of Commissioners and Department Directors in key agencies collaborating on Drive to Zero should sign the County's Drive to Zero pledge.
6. Capture Drive to Zero, in a clear and explicit way, in the next update of Performance Clackamas, the county's strategic plan (73).

## Structure

These recommendations are focused on structural changes for the task forces and work flow that go beyond staffing recommendations around leadership mentioned above.

7. Now that the TSAP is approved, taking the plan into actionable steps with a clear line of responsibilities will lend itself to the model used in both San Francisco and Chicago, an internal technical committee. To that end, Clackamas County might create a new Internal Drive to Zero Technical Committee that is composed of only Clackamas County staff to drive the action steps of the TSAP and other Drive to Zero activities. This would be co-chaired by someone from Public Health and DTD. Both San Francisco and Chicago believed that having internal only meetings was instrumental in moving items along and having the ability to have candid conversations about obstacles and challenges built a higher level of trust between agencies and divisions.
8. Implementing number seven may allow the Drive to Zero Advisory Task Force to hold meetings less frequently, perhaps quarterly, with annual reports to the Board of County Commissioners on performance measures and crash data.
9. Continue to formalize a Fatal Crash Review Panel with the following representation: a senior engineer, a senior level representative from the Clackamas County Sheriff's Office, the county epidemiologist, a senior level representative from Behavioral Health Division and county counsel. Costs for county counsel should be shared expenses so as not to discourage this participation (traditionally counsel bills departments for work performed). County counsel involvement may allow for discussions to fall under attorney-client privilege.

10. As the work of Drive to Zero expands, it may be important to establish active subcommittees for both the Drive to Zero Advisory Task Force and Technical Committee that allow for deeper dives into the work. Chicago's model is: Design, Data, Education and Enforcement. San Francisco breaks this down between safe roads, safe drivers and safe vehicles. There may be benefit from having one of the subcommittees focused on county policies and external legislation. For the education subcommittee, ensure that behavioral experts are engaged.
11. Rotate the hosting of the Technical Committee, modeled after the Tennessee Livability Collaborative to help encourage sharing of work, language and to build trust. One thing that came up in all four of the case studies was the challenge of communication from one area of expertise to the other. Engineers speak a different language and use different terminology than public health professionals. For example, if the project is tackling driving under the influence, a behavioral science based public health professional might see the challenge from the perspective of social determinants and providing treatment. The engineer, on the other hand, might be looking at increased enforcement as a tool or adding guard rails to minimize crash impact. Tennessee's model of meeting hosts sharing their priorities and their work goes a long way to break through these challenges around language and terminology and building trust.
12. Increase involvement on both the Technical Committee and Task Force by expanding membership. Look for representatives from Land Use and Planning, Fleet Management, and Public Governance and Affairs. However, in line with the advice

from Becker (CLOCC), do not simply expand without ensuring that the division is “all in” and that interests align (35).

13. For all staff taking on Drive to Zero duties, explore how to incorporate these responsibilities into formal job duties that may eliminate or minimize other responsibilities so as to reduce burn out, create consistency and to build buy in.

### **Additional Action Steps**

These are ideas that emerged from the interviews or readings that may have value to Drive to Zero and the partnership with Public Health.

14. Incorporate injury prevention targets along with fatal crash targets into both future updates to the TSAP and the Blueprint for a Healthy Clackamas County. Serious injuries can be an early indicator for problems that may eventually become fatalities.
15. Continue to build support for automated enforcement of traffic violations in counties, in particular speed cameras. This is a tool that Portland has in combatting red light running and speeding but is not allowed by state law at this time. In the meanwhile, we should evaluate these tools for future use.
16. Research with partners such as the Vision Zero Network and the National Association of Counties the creation of a national network of rural governments working toward zero deaths to increase best practice sharing and to encourage mutual accountability. City policy makers are driving Toward Zero Deaths policies and having a collective and amplified voice to impact national and state policy may be helpful.
17. Integrate transportation data into the data set for the Blueprint for a Healthy Clackamas County so that it is available publicly modeled after Transbase (45) in San

- Francisco. This could be integrated into the community health dashboard of [www.blueprintclackmaas.com](http://www.blueprintclackmaas.com) (74).
18. Explore the creating of a Safe Routes for Seniors program within planning that would encourage mobility options for older adults and address key safety issues for seniors related to transportation.
  19. Look further into San Francisco's coordinated response for families of victims of traffic fatalities.
  20. Explore formal partnerships with Lane County to amplify marketing and communications on Drive to Zero.
  21. Consider creating a mini-grant program to encourage external stakeholders to take on parts of the Drive to Zero action plan. These mini-grants can be essential in engaging new partners (see Medici Effect above) that might not normally come to the table. CLOCC and San Francisco are models for this type of program.
  22. Build action research into the process and model for Drive to Zero by integrating evaluation into action steps and looking for university partners.
  23. Approach the Clackamas County Leadership Academy participants about taking these recommendations into action or expanding collaboration for other agencies such as the Clackamas County Sherriff's Office.

### **Budget Considerations**

Many of these recommendations may have small to significant budget implications. There may be new sources of funding such as foundation and government grants that can help pay for specific recommendations. However, care should be taken to relying on outside sources

for core components of Drive to Zero, so as to avoid loss of continuity in action due to a loss of outside funding.

### **Conclusions**

Drive to Zero is an exciting opportunity to capture the hearts and minds of Clackamas County residents to help reach an inspirational goal of zero traffic fatalities and serious injuries by 2035. While inspiring, it is such a big challenge that it requires a leadership commitment that highlights the importance of the effort and allows for strong collaboration, creative and innovative solutions, and has a tolerance for failure.

Clackamas County has a wonderful, diverse group of resourceful individuals, agencies, businesses and pioneers. We can learn from one another and blend these experiences and ideas into a rich tapestry to build Drive to Zero. We can also learn from the other communities tackling similar challenges. Some of the recommendations in this report are simple, quick steps that we should take immediately (in a few cases already starting) such as implementing the Fatal Crash Review Panel. All of them build on the great work that has laid the foundation for success. Other solutions may take more time and they will stand as a road map for other collaborate ventures of the County, including building on the partnership of DPH and DTD to explore expanding collaboration with other agencies such as the Clackamas County Sherriff's Office.

I hope that this report has useful lessons for public administrations outside of Clackamas County, as well. While some of the recommendations are specific to Clackamas County, many can be applied to any group looking to develop a deeper collaboration between public health and transportation. Finally, this work will be hard and present challenges that will require ongoing attention. Let's remember the experiences of the Tennessee Livability Collaborative in building trust and setting a table with good food!

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