**To:** Congressman Ty Trace

**From:** Grace Sam, Policy Analyst

**Date:** October 25, 2024

**Subj**: Choosing policy priorities – pedestrian deaths, personal bankruptcies & unemployment

**Background**

The city and the surrounding regions in the district have been growing owing to increased tourism and the large number of work-from-home workers who are attracted by the high quality of life in the area. However, with the recent closures of several manufacturing facilities, the unemployment rate is higher than the national average. This had informed the election campaign as well as the current plans and the government has been considering developing a program to obtain federal resources to attract new businesses to the region. Two advocacy groups – *Citizens for Safer Streets* and *United Way* - have petitioned that the government instead focus on two other issues – increases in pedestrian deaths and personal bankruptcies – that they respectively believe are more important.

The following sections of the memo will consider each of the claims and analyze the issues to assess the way forward.

**Analyzing Pedestrian Deaths**

Based on their analysis of *National Highway Traffic Safety Administration’s* data, *Citizen for Safer Street* (CSS) claims that navigation apps rerouting commuters through residential areas are responsible for the increase in pedestrian deaths. ‘Pedestrian deaths in the district increased by 10% in 2023, while nationally it decreased by 5% in the same period.’ CSS believes that a new legislation that restricts navigation apps from rerouting routes through residential neighborhoods would fix the issue. Certain residents might explicitly support this program as it would help maintain the peace and quiet of their neighborhoods, but cab drivers and daily commuters can be expected to oppose this policy as it could make them take longer detours. Navigation app companies might oppose this policy too as it would force them to suggest users longer travel routes which would negatively affect their reputation as people depend on them to optimize.

States differ in their calculation of pedestrian fatalities. For example, the threshold of number of days between accident and death considered to be categorized as crash-fatality could differ between states. They could also differ in the scope of personal mode of conveyances considered in the definition of pedestrian, and the necessity of a motor-vehicle being involved to be considered as a crash-fatality3. These differences indicate that a comparison between states, and even national averages if definitions between states differ, must be taken with a pinch of salt. Inter-state comparison controversies aside, the rise in pedestrian deaths in the district is an issue that needs attention.

Other possible causes of increase

Disaggregating pedestrian deaths by demographic profiles of the victims (young/old), the vehicle involved (car/truck), condition at the time of accident (light/dark), location, cause (speeding/alcohol impairment/absent sidewalk/other), road type, can help understand the factors affecting pedestrian safety to identify effective solutions.

While navigation apps rerouting users through residential neighborhoods could be a factor responsible for the increase in pedestrian deaths, the increase is also plausible for the following two reasons.

The increase in pedestrian deaths could be directly related to the increase in population. To illustrate, suppose that for the given infrastructure design, the probability of a pedestrian being fatally injured is 0.1%. Then, *total number of pedestrian deaths = 0.1% \* Total pedestrians*. The increase in residents of the district (resulting from remote workers choosing the district) implies an increase in the number of pedestrians, hence the increase in pedestrian fatalities.

Another factor that could be affecting the rise in pedestrian fatality could be the increased tourism in the district. Visitors driving around could be unaware of traffic norms in the district. For example, the right of way that pedestrians have in NYC does not hold in the adjacent state of Connecticut. It is also possible that infrastructure gaps (like missing stop signs and traffic signals) make safe navigation harder for new users of the street and puts tourists at higher risk of crashes compared to daily users of the streets. In the equation considered above, this would increase the probability of a pedestrian being fatally injured for the given infrastructure design from 0.1% to say 0.3%. Continuing the example, for the same number of pedestrians as before, *total number of pedestrian deaths = 0.3% \* Total pedestrians* would now be higher.

The two factors – both increase in the number of pedestrians and increase in risk resulting from increased tourism – could be responsible for the increase in pedestrian deaths in the district.

To effectively address the issue of the increase in pedestrian deaths the source of the problem should be considered. Figure 1 outlines a causal model of factors that affect pedestrian safety. The primary causes could be pedestrian behavior, driver’s behavior, infrastructure gaps, topography or natural conditions of the place that increase accident risk, traffic flow patterns, and gaps in vehicle design that increase the risk or severity of injury.

Navigation apps that reroute users through residential neighborhoods increase the incidence of accidents in these areas by increasing the traffic flow in these areas. Restricting apps from rerouting through residential pockets could reduce the frequency of the incidents involving rerouted drivers, but the underlying risk resulting from gaps in infrastructure design (like missing stop signs) or driver/pedestrian behavior (speeding or jaywalking due to missing traffic signals) would continue to risk the other users of the streets, which with the rise in population and tourism implies that pedestrian fatalities would continue to increase unless the primary causes are fixed.

Alternative ways of addressing the problem

The goal for the purpose of this analysis is to reduce the number of pedestrians per 100,000 people who are fatally injured from crashes on public roadways4.

1. Awareness programs on speed limits & responsible commuter behavior

This alternative aims to reduce pedestrian deaths by restricting speed limits to 15-20 mph in residential zones, and increasing awareness of speed limits and the risks of speeding and drinking & driving.

It is reasonable to assume that most pedestrians and drivers are committed to having safe commute. It is possible that despite being ‘theoretically’ able to drive safely, they might not be ‘actively conscious’ of the consequences of speeding and drinking & driving. Awareness programs about the dangers of speeding and drinking & driving should help drivers make better conscious decisions while driving.

A diagram of a flowchart

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Figure 1 – Causal Model for Pedestrian Deaths5. In green, are factors that the memo suggests affecting through ‘Educating’ (Alternative 1), and in blue, are factors that the memo suggests affecting through ‘Enabling’ (Alternative 2)

Similarly, awareness programs informing pedestrians of safe commute practices – staying visible, using designated crosswalks and sidewalks, avoid distractions, staying sober and alert5 - can help pedestrians become better commuters.

Navigation Apps can be required to incorporate features that notify users of stop signs and speed limits and warn when exceeding limits, especially in residential neighborhoods.

Reiterating the heuristic we have been using –

*Total number of pedestrian deaths = Probability of fatally injuring a pedestrian* *‘risk’ \* Total pedestrians*

*Risk = f(Number of drivers rerouted, Number of regular-route drivers****, habitually reckless drivers, unalert drivers, distracted/ reckless pedestrians, norms standardized/awareness****, infrastructure gaps, visibility, type of vehicle, traffic flow, etc.)*

Both the ‘awareness’ alternative and the alternative suggested by CSS to reduce the number of drivers aim to reduce the ‘risk’ of being fatally injured, albeit through different mechanisms. The CSS alternative only targets the *Number of rerouted drivers*. With the increase in population, the number of drivers and pedestrians is expected to be higher. Thus, a program that aims to reduce the risk holistically will be more effective.

Driving through the city can be expected to support local business as commuters make stops to shop. The CSS alternative could hurt businesses as it drives away customers, without the claimed reduction in pedestrian fatality.

Given that children are at the most risk and that 82% of pedestrian fatalities (national-level numbers) are on local roads and non-freeway arterial roads, pedestrians and most residents of the district, especially parents can be expected to strongly support the program3. Cab companies can be expected to be in favor of the program too. There could be pushbacks from alcohol industry stakeholders as the awareness program on responsible alcohol consumption might negatively affect their sales5.

An unintended impact of the program could be increased traffic as stricter speed limit enforcements would increase commute time and could even change traffic flow as commuters try to minimize their travel through residential neighborhoods to save time. This could increase traffic on freeways and arterial roads.

1. Enabling safer commute

Infrastructure gaps can hinder those willing to be safe commuters. For example, missing stop signs and traffic signals would put even the safest of drivers at risk. Missing walk signals, sidewalks, crosswalks, pedestrian bridges forces pedestrians to resort to unsafe practices. Poor lighting endangers both drivers and pedestrians.

This policy alternative aims to aggressively fix the infrastructure gaps that put commuters at risk – building sidewalks, crosswalks, pedestrian bridges, traffic signals, speedbumps, and ensuring proper lighting on the streets, especially at intersections.

Reiterating the heuristic we have been using –

*Total number of pedestrian deaths = Probability of fatally injuring a pedestrian* *‘risk’ \* Total pedestrians*

*Risk = f(Number of drivers rerouted, Number of regular-route drivers****,*** *habitually reckless**drivers, unalert drivers, distracted/ reckless pedestrians,* ***infrastructure gaps****, visibility, type of vehicle, traffic)*

Both the ‘enabling’ alternative and the alternative suggested by CSS to reduce the number of rerouted drivers aim to reduce the ‘risk’ of being fatally injured, albeit through different mechanisms. The CSS alternative only targets the *Number of rerouted drivers*. With the increase in population, the number of drivers and pedestrians is expected to be higher. Thus, a program that aims to reduce the risk holistically will be more effective.

As in the case of the awareness program, residents, especially pedestrians, disability advocates, and parents, can be expected to strongly support the program as it would increase the safety. Sidewalk construction is of paramount importance to pedestrian safety (Nationally, 66% of pedestrian fatalities happened because sidewalks were missing3), but it can be an expensive program and can face opposition from money-conscious taxpayers5. Sidewalk construction would also reduce parking spaces and increase commute time as roads become narrower. Residents who don’t want excessive construction in their neighborhood can be expected to oppose changes and construction5.

An unintended impact of the program could be changed traffic flows which could create new infrastructure demands. For example, sidewalk construction could increase commute time and could change traffic flow such that broader roads become first-choice.

Impact estimates

Table 1 gives a framework to calculate the impact of each of the programs on pedestrian deaths. In blue, are model parameter values which are assumed. The impact estimates would change with change in parameter values.

|  |  |
| --- | --- |
|  | **2025** |
| **%Pedestrians** [1] | 90% |
| **%regular drivers** [2] | 97% |
| **%rerouted drivers** [3] = 100% – [2] | 3% |
| **#Total population** [4] | 765,000 |
| **#Total pedestrians** [5] = [4] \* [1] | 688,500 |

Table 1a – Pedestrian fatality model parameters. In blue, are model parameter values which are assumed.

[1] is an overestimated assumption we wanted to make as most residents can be expected to be walking at least for some time in the day and are exposed to the risk of being in an accident. [2] is a parameter assumption since most of the vehicle-miles-travelled can be expected to be part of regular route.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2025** | **No Policy** | **CSS** | **Awareness** | **Enabling** |
| **Policy effectiveness** |  |  | 90% | 90% |
| **Pedestrian fatality rate per 100,000 population (risk)** = risk with no policy \* how many pedestrian deaths were because this policy was missing \* policy effectiveness | 2.61 | 2.61 | 2.4 | 1.1 |
| **#Total pedestrian fatalities** | 18 | 17 | 16 | 7 |

Table 1b – Program Impact Estimates. In blue, are model parameter values which are assumed.

As Table 1b illustrates, estimates of pedestrian fatality from the model show that the ‘Enabling’ alternative is most effective. In Table 1-b, if Policy Effectiveness were instead 50%, the estimates for total pedestrian fatality would change to 18, 17, 17, 12 respectively, i.e. the awareness program wouldn’t be any more effective than the alternative suggested by CSS. The attached Excel gives an opportunity to estimate the impact under different parameter values. It also outlines a model to calculate the dynamic impact of the model under the three different program scenarios. Table 1c estimates impact for 2026. Since CSS does not reduce the risk to pedestrian fatality, the number of fatalities is much higher even compared to the ‘Awareness’ alternative.

**The Unemployment Rate – A comment**

As per the U-3 definition that the Bureau of Labor Statistics uses to measure unemployment; it identifies people who are not employed, have actively looked for work in the past four weeks, and are available to work as unemployed.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **2026** | **No Policy** | **CSS** | **Awareness** | **Enabling** |
| **Policy effectiveness** |  |  | 90% | 90% |
| **Pedestrian fatality rate per 100,000 population (risk)** = risk with no policy \* how many pedestrian deaths were because this policy was missing \* policy effectiveness | 3.13 | 3.13 | 2.59 | 1.17 |
| **#Total pedestrian fatalities** | 28 | 27 | 23 | 10 |

Table 1c – Program Impact Estimates for the 2026. In blue, are model parameter values which are assumed.

And, *Unemployment rate = Total number of unemployed residents/Total residents \* 100*

With the increase in population fueled by the movement of remote workers, the unemployment rate can increase in two ways. First, if no additional employment seekers are associated with remote workers – themselves or their families, then unemployment would increase if the erstwhile residents either lose jobs or were previously not working but are seeking jobs now. Second, if the movement of remote workers with their families brings with it new job seekers, then the unemployment rate would increase with the influx of additional job seekers.

The closures of manufacturing facilities have resulted in the unemployment rate of the district being higher than the national average. While the unemployment rate being greater than the national average does not directly imply that there are more unemployed people in the district now than before, an increase in unemployment rate, especially with the increase in population would be an indicator of more unemployed people in the district.

**Analyzing Personal Bankruptcies**

Based on their analysis of *U.S. Bankruptcy Court* data, *United Way* claims that the high home mortgage payments, a result of high interest rates and expensive housing options, is responsible for the increase in personal bankruptcies in the district. ‘Personal bankruptcies in the district increased by 20% over the past year, while nationally it increased by 16% in the same period.’ *United Way* is requesting enactment of legislation that reinstitutes a federal ban on home mortgage foreclosures.

Figure 2 outlines a causal model showing factors that affect debt burden and payment ability. While it is plausible that the high mortgage payments are the primary cause of debt burden in the district, the higher bankruptcy rate compared to national average can benefit from considering other factors that could be at play.

Other possible causes of increase

First, the increase in bankruptcies could be associated with the closure of manufacturing facilities in the district if it results in an increase in unemployment.

Bankruptcies have historically been cyclical (with the economy), and personal bankruptcies have been sensitive to fluctuations in the unemployment rate - when unemployment increased, so did the number of bankruptcies6.

A diagram of a company

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Figure 2 – Causal Model for Personal Bankruptcies5. In green, are factors that the memo suggests affecting through ‘Educating’ (Alternative 1), and in blue, are factors that the memo suggests affecting through ‘Enabling’ (Alternative 2)

To the extent that the manufacturing industry workers are not absorbed elsewhere, the loss of income combined with high debt and expenses can push residents to claim bankruptcies. Additionally, given the industry, majority of these workers can be expected to have been blue-collar workers, which implies that savings and second income options for them are scarce. The relation between manufacturing facility closures and the increase in bankruptcies would be almost instantaneous in this case. Loss of income can also force people to borrow more, and possibly at higher rates adding to their debt burden and increasing the likelihood of needing to claim bankruptcy.

Second, work-from-home workers are often those in tech and corporate sectors with high incomes. The surge in housing demand from their migration and their ability to pay more can lead to an increase in housing prices which would negatively affect the low-income residents of the state. The increased demand on the healthcare system, and their better insurance coverage can increase healthcare prices for others. The change in demand can also shift resources away from the necessary affordable care options, increasing the out-of-pocket expenses which risks pushing people to bankruptcy.5

Individuals can file for personal bankruptcy under Chapter 7 – which involves forgiving all unsecured loans after secured loans have been recovered from the mortgage, and Chapter 13 – which involves a payment restructuring to ease the burden and prevent total loss of assets. *United Way*’s solution of banning mortgage foreclosures would help individuals who have already claimed bankruptcy from losing their homes. But it would not help in reducing the rate of bankruptcies as it does not address any of the root factors. In fact, it is possible that it leads to an increase in the rate of bankruptcies as if the case is accepted, secured loans are liquidated by way of acquisition of security by the creditor, while unsecured loans, like credit card debt, are completely forgiven. This might inadvertently encourage overspending habits, not to mention the fact the banning foreclosures would make borrowing even more difficult and expensive as creditors will look for alternative ways to secure their books.

Residents who have claimed bankruptcy or are considering their options would strongly support this policy as it would reduce the overall cost of claiming bankruptcy. Banks and lending organizations, and other borrowers would oppose the policy as it increases the expected losses for the former and makes borrowing more expensive for the latter.

Alternative ways of addressing the problem

The goal for the purpose of this analysis is to reduce the number of residents per 100,000 people who claim bankruptcy.

1. Educating

Amongst those with unsustainably high discretionary spending, there can be individuals who are willing and will be able to avoid bankruptcy if spending habits are adjusted in time. For this group, education and awareness programs about the importance and ways of managing finances can help reduce the number of bankruptcies. In collaboration with banks and lending organizations, those at risk of bankruptcy would be proactively identified by using predictive models and notified that they are at risk and will have the option to work with a financial coach to improve budgeting.

Banks and credit agencies could be supporters of the program as it preempts their losses and helps keep their default rates low. Proactive identification can feel like a privacy invasion in people’s lives and finances and the program could face opposition from privacy advocates. Retailers would be negatively affected by reduced spending and would oppose programs directed at increasing spending consciousness.

An unintended impact of this program could be that the identification of individuals by financial organization can turn into a targeting tool for certain racial and minority groups, and systems will need to be instituted and closely monitored to check for bias.

1. Enabling

For those willing and unable, as we expect the be majority of those who have to resort to claiming bankruptcy to be, extending the grace period following unemployment, and preempting bankruptcy filing by helping in negotiating with creditors to restructure payment plan to adjust payment schedules as would happen under Chapter 13 would enable people to successfully pay off their debt without facing the negative long-term consequence of bankruptcy filing. This would also involve generously restructuring the mortgage payment plan. This program would keep debtors from the long-lasting incriminating consequences of filing for bankruptcy, and in contrast to *United Way*’s plan wouldn’t negatively affect creditors’ books in the long run.

Borrowers, especially those at risk, would support the program. Restructuring would affect the balance sheet for lending agencies, so the kind of generous restructuring that gives individual sufficient time to find another employment or small payments per month would delay inflows for the creditors. They could be the strongest opposers to this program and could even respond by making their lending criteria stricter.

Since medical expenses pose the biggest risk to the precarious maintenance of income and expenses, another aspect of ‘Enabling’ would be to ensure that everyone has access to affordable health insurance.

Impact estimates

Table 2 gives a framework to calculate the impact of each of the programs on personal bankruptcy filing. In blue, are model parameter values which are assumed. The impact estimates would change with change in parameter values.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Impact estimates** | **No Policy** | **United Way** | **Awareness** | **Enabling** |
| **Policy effectiveness** |  |  | 90% | 90% |
| **Bankruptcy filing rate per 100,000 population** = bankruptcy with no policy \* % bankruptcy because this policy was missing \* policy effectiveness | 941 | 941 | 565 | 282 |
| **#Total bankruptcies filed** | 7,200 | 7,200 | 4,323 | 2,159 |

Table 2 – Program Impact Estimates. In blue, are model parameter values which are assumed.

As Table 2 illustrates, estimates of number of bankruptcies from the model show that the ‘Enabling’ alternative is most effective. In Table 2, if Policy Effectiveness were instead 50%, the estimates for number of bankruptcies would change to 7200, 7200, 5602, 4399 respectively. The attached Excel gives an opportunity to estimate the impact under different parameter values. It also outlines a model to calculate the dynamic impact of the model under the three different program scenarios.

**Recommendation**

Pedestrian deaths and bankruptcy filing have severe consequences for residents of the district. The fact that the two advocacy groups brought these issues up indicates that it is relevant to the voters as well. The solutions proposed by the two groups don’t address the problem stated, and the memo outlines alternative programs that can effectively address the issues that the Congressman can suggest in response to their request.

It is possible that *United Way*’s proposed solution on reinstituting federal ban on home mortgage foreclosures is in response to high numbers of home mortgage foreclosures and not in response to the increase in bankruptcies that they stated. If that is the case, the problem and goal would be different and alternate policy programs will have to be considered.

In terms of numbers, bankruptcies affect more people than pedestrian death. The program to attract new businesses to the region to improve employment statistics directly affects debt burden, and Congressman can push for federal support whilst getting support from *United Way* and its member base.

*References*

*1. 90-730 Assignment 3, 2024: Any specific details unless referenced are from the assignment content itself*

*2. Traffic Safety Facts, 2022 Data, National Highway Traffic Safety Administration, U.S. Department of Transportation*

*3. Pedestrian Traffic Fatalities by State, 2023 PRELIMINARY DATA (JANUARY - DECEMBER), Governors Highway Safety Association*

*4. Crashes involving non-motor vehicles like bicycles are included here. There are broader definitions that also include crashes on non-public roads, and people on e-scooters, skateboards, and other modes of personal conveyances. National level numbers for latter indicate that pedestrian crashes are a bigger problem2. Additionally, the source and fixes for the extended definition would differ starkly - for example, bike lanes would be deliberated instead of sidewalks. This combined with the fact that CSS’ ask also stems from the ‘narrow definition’ of pedestrians suggests that the problem as defined is the one of interest.*

*5. Chat-GPT was used to consider factors*

*6. “Personal Bankruptcies in Retrospect - Federal Reserve Bank of Chicago.” Accessed October 27, 2024.* [*https://www.chicagofed.org/publications/chicago-fed-letter/1991/december-52*](https://www.chicagofed.org/publications/chicago-fed-letter/1991/december-52)*.*

*7. Marcuss, Mamie. “A Look at Household Bankruptcies,” n.d.*

*8. Medical Bankruptcy: Still Common Despite the Affordable Care Act*