



All Hazards Recovery Plan

Employer Transportation Demand Management Guide



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I. Preface

The All Hazards Recovery Plan is a guide for prioritizing and restoring critical transportation systems in the weeks or months following a hazard event. A key element of transportation recovery will be *transportation demand management*, or TDM. A robust suite of TDM strategies will make a region and its businesses more resilient following or during a hazard event such as earthquake, flood, disease outbreak, severe weather like a tornado or hurricane, or anything else that disrupts the transportation system.

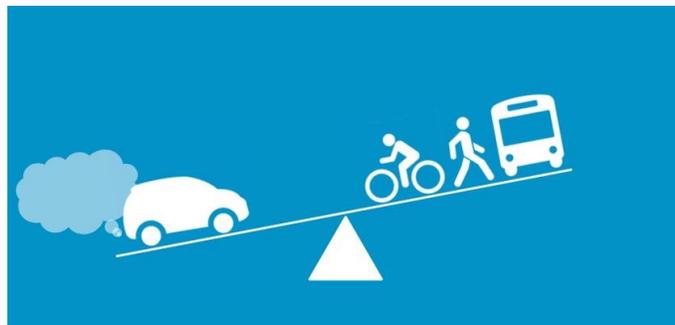
This Employer Transportation Demand Management Guide is one component of the larger All Hazards Recovery Plan, designed to help employers plan for recovery efforts following a hazard event. This TDM plan provides guidance to employers of all sizes, from large corporate offices to small independent businesses, because every employer can benefit from TDM programs. Established businesses already thinking about emergency preparedness or continuity of business plans can use this guide to inform those planning processes, while less established businesses can use it as a starting point for broader emergency planning efforts, with particular focus on employee transportation. Each section of the guide comes with a corresponding set of suggested action items, and at the end of the guide is a checklist summarizing action items from each section.

II. Introduction to Transportation Demand Management

About TDM

Transportation demand management, or TDM, reduces the number of vehicle trips and miles traveled through targeted strategies. TDM focuses primarily on commute trips during peak hours, although in recent years it has expanded to include discretionary off-peak trips as well. Reducing the number of *vehicle miles traveled* (VMT) helps shrink a city's carbon footprint by decreasing vehicle emissions, lessens highway congestion for easier movement of freight, and frees up space on streets and arterials for customers of local businesses.

At its core, TDM is about preventing or consolidating some vehicle trips and shifting other trips to more efficient modes. Most TDM centers on incentivizing travel options like carpooling, using public transit, biking, or walking. Incentives can include subsidies, direct payments, discounts, and demand-based pricing. Flexible policies that make it easier for employees to work from home, or to work hours that better suit their personal schedule, can also encourage them to use alternative modes. Effective TDM marketing explains to employees why they should use these modes, and gives them the information they need to make smart choices.



Agencies and businesses can and should employ a robust TDM program with multiple strategies as part of their resiliency planning, so they are prepared to handle any hazard event and keep employees working in the weeks or months afterward.

Why Do TDM?

State and local governments use TDM to ease congestion, reduce vehicle emissions, encourage transit ridership, and increase urban density. Businesses use TDM to reduce employee parking demand by prioritizing access for customers, to encourage active lifestyles and boost retention with attractive transportation benefits, and in some cases to meet state requirements for reductions in vehicle trips and emissions. Developers use TDM to significantly reduce their need to build expensive structured parking and maximize leasable building area.

How Is Success in TDM Measured?

One of the most common ways to measure TDM success is reduction in vehicle miles traveled, or VMT, calculated as the total annual miles of vehicle travel divided by the total population in a state or

urbanized area. Additional methods include tracking the percentage of employees using different commute modes, the number of employees participating in specific programs, or cost savings through increased productivity.

Businesses can choose how they evaluate the success of their TDM policies, but measurement is key to any sustained success in TDM. Surveying employees to create a baseline should be the first step. Next, create specific, aggressive goals that support the business's mission and core values and promote TDM programs and policies through organizational leadership and culture. Regular follow-up surveys should be conducted to track progress, and programs and policies adjusted to build on success. Establishing baselines and creating specific goals makes successes more meaningful and increases positive results.

Are TDM Measures Worth the Cost?



Some TDM measures can require a sizable investment, but most are relatively inexpensive to implement and maintain. Effective TDM reduces parking demand and cost, increases employee retention and satisfaction, and may increase workforce flexibility and resiliency by minimizing down time in post-hazard scenarios.

Popular and effective TDM strategies used by employers in Portland and many other cities include:

- Free or subsidized transit passes for employees
- Telecommuting
- Flexible scheduling to allow off-peak commutes
- Carpool matching and discounted parking for carpools
- Higher rates at employee parking facilities
- Free or subsidized bike share memberships
- Bonuses for walking or biking to work
- Other incentives for commuters who bike or walk
- Route-planning assistance for people who take transit or ride bikes
- Marketing transportation options and services to employees
- Emergency Ride Home programs
- Discounted or corporate memberships for car share services

Why Is TDM Important for Emergency Recovery?

In a significant hazard event, the local transportation system may be greatly impacted and access limited for many users. For example, after a powerful earthquake, major highways could be reserved for critical freight and support vehicles, meaning employees will need to figure out how to keep working without using those roads for their commutes. Businesses with active TDM policies will be in the best position to

maintain productivity levels, because their employees already have alternatives and know how to use different transportation modes. Businesses without these policies in place will experience greater disruption and lose time and money simply getting employees back to work.

Though this guide is focused on the use of TDM during post-hazard event recovery, as expressed above, these TDM programs can provide benefits to the organization through normal operations and prepare employees for nearly any disruption, from short-term, planned or long-term.

About Go Lloyd

A nonprofit transportation management association, Go Lloyd was founded in 1994 and provides free TDM services to Portland's Lloyd neighborhood. Go Lloyd works with hundreds of employers and thousands of employees and residents to promote biking, walking, transit, and carpooling. Go Lloyd also administers Universal Pass, an employer-based annual transit pass program in collaboration with the local transit authority (TriMet), for more than 5,000 Lloyd employees from businesses of all sizes.



How This Guide Works

The Post-Hazard Employer TDM Guide is designed to help employers use the principles of transportation demand management to prepare for a post-hazard event scenario. The following sections explain how common TDM strategies can help employers plan for hazards and keep employees working and business running even with reduced transportation capacity. Each strategy is followed by a short outline of actionable steps employers can take, both now and after a hazard event, to use TDM to their advantage.

TDM Hazard Recovery Worksheet – TDM Plan Framework

- Survey employees' commute behavior to establish baseline transportation mode choice (percentage of use by mode).
- Establish mode share goals for the business, prioritizing non-single occupant vehicle trips.
- Promote travel options (e.g., transit, carpool, bike, walk, telework) in organizational materials, and at meetings; use executive/supervisor as advocates.
- Incentivize employees (with free/discounted transit fares, monetary, or recognition) to achieve mode share goals.
- Periodically (every two years) survey employees to assess progress in reaching goals.
- Employ TDM polices as an integral part of a post-hazard continuity of business plan.

All actionable steps outlined in each section of the guide are provided as a checklist at the end of the guide. **See Section VI: TDM Hazard Recovery Worksheet Checklist for Employers.**

Tools for TDM Success

Employee Data Collection

Collecting the right data is critical to understanding how well TDM policies are working. Successful TDM employers collect two primary types of data: the percentage of employees who use a particular mode of transportation to get to work, called the mode split or mode share, and their travel distances and origins.

The best way to gather mode-split and travel-distance data from employees is to administer a yearly survey that asks how they get to and from work each day, as well as other questions about their commute habits. Employers can create and administer the survey themselves, or hire a third party to do it. Data from these surveys can be used to inform changes to TDM policies and to measure—and celebrate—successes.

Communicating with Employees

Employee TDM programs are most successful when they are integrated into the onboarding process and culture of the organization. Welcome brochures and other onboarding communications that provide information on transportation benefits, protocols and materials for telecommuting, local transit and bike routes, bike parking, and carpooling are effective and commonly used tools. Many companies have a dedicated intranet web page outlining transportation options and policies. TDM messages should be regularly incorporated into employee messaging through posters in employee areas, company-wide emails, and/or staff meetings.



Here are some considerations when developing a communications plan:

- What formats are best?
 - A. Email
 - Is email an effective communication channel? Do staff regularly open email?
 - B. Staff meetings
 - C. Posters
 - Some workplaces are not computer focused, so perhaps a note with a paycheck or posters in breakrooms may be more appropriate.
 - D. Display screens

- Information screens in lobbies and conference rooms can help bring messages and reminders in a fun and inviting way.
- Are there protocols for who posts and when?

E. Brochures

- Are there brochures or information sheets that have relevant information about transportation and a contact for more info? Where do staff find these brochures?
- Is the information relevant?
- Is the information timely?
- Is the right messenger sharing the news?

TDM Hazard Recovery Worksheet – Employee Communications

- Determine acceptable communication methods with employees – preferred, secondary, emergency (email, text, phone, intranet, etc.).
- Convey clearly how these methods of communications should be used (set expectations).
- Establish communication protocols for inclement weather, emergency response, and post hazard recovery situations.
- Empower employees to take responsibility for their transportation/communication duties.
- Ensure all employees understand their responsibilities during a recovery scenario, set clear expectations about coming into the office or working in alternative locations.
- Identify a staff person responsible for sharing information and news.
- Plan how to communicate information in the months and weeks following a major hazard event. Here are some examples of information to communicate with employees in these scenarios:
 - **The building:** is the building open and accessible? Is there electricity? Are the servers up and running? Is the parking garage accessible?
 - **The business:** is the business open today? Should employees try to come to the office or can they work from home?
 - **Traffic and weather reports:** up-to-date information about traffic and weather. Are the roads accessible by car? Is there more snow/rain/hail/smoke in the forecast?
 - **Public transportation:** which transit lines are currently running? Are buses and trains on snow routes or reduced schedules? Are park-and-ride lots open? Should employees budget extra travel time due to slow transit?

III. TRANSPORTATION DEMAND MANAGEMENT STRATEGIES

Parking Management

Good *parking management* reduces drive-alone commute trips and VMT, encourages employees to use alternative modes, and frees up parking for customers. Charging employees for parking and managing the parking supply are particularly successful strategies for reducing employee vehicle trips. In most cases, use of a personal vehicle is not an essential component of an employee's duties or a requirement of employment.

It's important to monetize the value of parking for employees (in other words, make them pay for it). Parking should be separated from office or building lease agreements, and from employee agreements and benefits. Employees can seek parking arrangements with individual parking operators, challenging the customary thinking of driving to work as the default transportation choice. It's okay to pay employees more to assist in the cost of parking, but it's important for them to see the value of parking. It will give those choosing not to drive an incentive to pocket a small bonus for choosing an alternative transportation mode, and may encourage others to change their commute behavior.



1. Seattle Children's Hospital operates a very successful parking cashout program for its employees

TDM Hazard Recovery Worksheet – Parking Management

- Find out where employees are parking. (Building garage, nearby surface lot, street?)
- Find out what percentage of employees drive to work and park nearby.
- Consider charging for or increasing the parking price.
- Consider eliminating the monthly rate and go to a daily rate.
- Consider giving employees a small bonus each day that they don't drive to work or at least don't park at work. This is often called a *parking cashout*.
- Talk to the finance director about including parking demand management in resiliency strategies for the business.
- Add carpool pricing to encourage people to carpool. Place carpool spaces in visible and convenient locations.

Transit Use & Employee Transit Benefits

Economists often use traffic congestion as a metric of how well a region's economy is working. Even with traffic congestion, a growing economy depends on public transit to help keep it moving. Transit is the most important tool for helping companies in metro areas get their employees to work, as well as helping move customers to dining and shopping. For every person who can take the bus, light rail, streetcar, subway or train to work, there is one fewer parking space needed on-site. Lessening dependence on parking lowers commercial lease rates and frees up parking for customers. The benefits of being in a place with transit are not only appreciated by businesses; employees benefit from saving money by driving less, getting a bit of exercise walking to stops or stations, and enjoying less stressful commutes.



In addition to the concrete cost savings from needing less parking, companies can boost their sustainability profile. Transportation is responsible for 27% of the greenhouse gas emissions¹ in the United States and driving alone to work and sitting in traffic is one of the culprits. By reducing drive-alone commuting rates, companies can save money and demonstrate their commitment to fighting climate change.

Partially or fully subsidized transit passes are a highly effective way to increase transit ridership among employees. The cost of subsidizing transit for employees may seem high, but offering it as a benefit can reduce the drive-alone rate, facilitate compliance with emissions-reduction laws, and improve employee retention. Some subsidy programs provide a stipend to be spent on transit costs, usually in the form of a debit card, while most offer subsidized fare cards or tickets directly to employees.



Employers who can't afford to subsidize transit passes can allow employees to pay for their own passes through pre-tax payroll deduction, which can save them up to 30% on passes². Employers can also enroll in TriMet's Universal Pass program and buy highly discounted annual passes for their employees. The program requires that passes be purchased for all eligible employees, not just those who want them, but employers can pass some or all the cost on to employees. However, many employers in the program offer it as a free benefit to employees.

¹ "Sources of Greenhouse Gas Emissions." 2017. Environmental Protection Agency.

<https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>

² TriMet: Potential Tax Savings for Employers and Employees. <https://trimet.org/employers/taxbreaks.htm>

Transit benefit information should be given to employees early and often. The most successful transit pass programs offer information to employees on the first day of work as part of orientation activities. This information should include how to take advantage of transit benefits or how to pay for transit, where to get trip planning assistance, and whether any nearby transit lines have snow routes.

Even businesses that don't offer transit benefits can still offer trip planning assistance to new employees or employees who are new to riding transit. During hazard recovery, transit could become the only viable transportation option for many commuters because of reduced road capacity or fuel shortages. Some transit lines may also be limited during recovery due to damage from the hazard event, so employees should have alternative transit lines they know they can use to get around when necessary. Every employee who knows all the possible transit routes they can take to work is an employee who has a better chance of making it to work each day, which will minimize losses in a recovery period.

TDM Hazard Recovery Worksheet – Transit & Employee Transit Benefits

- Review local employer-based transit programs. Determine which program best suits the business.
- Stock and distribute transit maps and information to employees.
- Calibrate shift starting times to coincide with the arrival of commuter transit service.
- Engage the transit agency to offer route planning assistance to employees.
- Incentivize transit use by offering free or discounted annual/month transit passes.
- Offer pretax deduction for transit use through employer cafeteria plan.
- Conduct annual transportation surveys to track ridership.

Telework

Telework is when employees spend some or all of their time working from outside the office, often from their homes. It is often considered the most effective TDM policy because it prevents commute trips from being taken in the first place. After a major hazard event, some of the region's roads, bridges, and transit infrastructure could be out of commission for some time, making commuting more difficult. Businesses with employees who can work from home and avoid an arduous commute will be in a better position to prosper in an early post-hazard recovery phase.

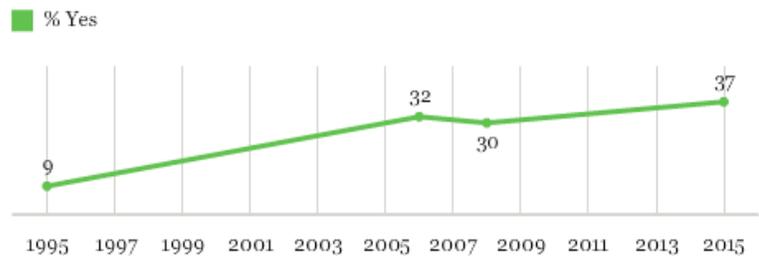
It is difficult to compare productivity of employees who telework with those who don't because factors like type of job, shift hours, location, and worker motivation make each telework scenario different. However, in the U.S. more employers add telework to their workplace policies each year, and many employers claim that telework employees are more productive. A

2015 Gallup poll found that 37% of U.S. workers regularly telework at least one day a week, up from only 5% in 1995³. The same poll found that 78% of U.S. workers believe teleworkers are just as productive as or more productive than traditional office workers. A recent study showed that employees at a call center who teleworked for one year showed a 13.5% increase in productivity and saved the employer nearly \$2,000 per year on office costs for each teleworker⁴. In addition, teleworking policies have been shown to increase morale and reduce employee turnover, and can translate into cost savings on office space and equipment.

Teleworking often works best for jobs that are routine or for employees who are highly motivated, because it does require discipline to stick to a schedule. It also requires extra attention to local labor laws, OSHA office safety requirements, and information technology. When setting up a telework policy,

Have you ever telecommuted, that is, worked from your home using a computer to communicate for your job?

Based on employed adults



GALLUP

TDM Hazard Recovery Worksheet - Telework

- Identify which files employees will need to have remote access to. Digital or physical files?
- Choose how employees will access files at home (specialty software and system security authorizations). Can employees download or email files to their telecommuting computers, or do they need remote access to a business server?
- Address additional security concerns for remote file access for telecommuting employees such as Virtual Private Networks. Does the business legally require extra security for files because of sensitive or proprietary information?
- Identify the type of login/authentication employees will need to access remote servers (e.g. single password, two-factor authentication, etc.).

³ "In U.S., Telecommuting for Work Climbs to 37%." *Gallup News*. 2015. <https://hbr.org/2014/01/to-raise-productivity-let-more-employees-work-from-home>

⁴ "To Raise Productivity, Let More Employees Work from Home." *Harvard Business Review*. 2014. <https://hbr.org/2014/01/to-raise-productivity-let-more-employees-work-from-home>

a business must think about how to ensure each employee is safe in their home office and that they have access to all the technology needed to do their jobs.

Information Security Concerns

Information security is an important consideration with any teleworking policy, since employees may be accessing emails and files remotely or taking sensitive documents home with them. An essential first step is to sit down with IT and risk assessment administrators to discuss potential security issues.

Carpool/Vanpool & Shared Transportation



2. Get There is Oregon and Southwest Washington's ride share matching service.

Carpooling or vanpooling is when two or more people ride together to work in a shared vehicle. Most carpool trips are made in privately-owned vehicles, and most vanpool trips are made in vans owned by employers or public agencies. Carpool or vanpool programs help employees coordinate driving to work with other employees who live near them, reducing total vehicle trips and saving gas and money. Public carpool programs allow people to coordinate rides with employees of other

businesses, while employer-based programs only coordinate rides among employees of the same business. Carpool match services can be provided through websites, office intranets, third-party companies, or informally through employee bulletin boards. For businesses coordinating carpool rides in-house, this is a great way to use information from employee surveys about where employees commute from. Carpooling incentives for employees can include dedicated carpool parking spaces in employee garages and reduced daily parking prices for carpool vehicles. Some cities also designate street parking spaces for carpool vehicles.

Other Shared Transportation

Other forms of shared transportation that allow employees to get to work without driving their own cars are great for everyday commutes, occasional trips when emergencies or inclement weather make using other modes difficult, or even meetings during the workday. *Transportation network companies (TNCs)* like Lyft and Uber let employees hail rides from individual drivers much like a taxi service. *Car share* is a model of car rental where people rent cars for short periods of time, often by the hour.

Car share services available in Portland include:

Zipcar: Car share billed by the half hour with dedicated parking spots all around the city. Gas is included with membership. Driver must pick up and drop off car from the same place. A variety of vehicles are available from small sedans to trucks and vans.

Turo: Turo is the country's first peer-to-peer car sharing service that allows owners to rent out their personal vehicles when they're not using them to other members who want to rent them for a set time.

Getaround: Another peer-to-peer car-sharing service, Getaround is a free-to-join, Facebook-linked network currently in six U.S. cities that promises instant approval for membership applicants over 19 with a good driving record.

TDM Hazard Recovery Worksheet – Carpool & Shared Transportation

- Use discount-priced carpool parking as an incentive.
- Make sure transportation information has up-to-date information about carpool, ride sharing, and car sharing policies and programs.
- Create an internal carpool matching system. If desired, the GetThereOregon.org tool (similar programs available in other states) has a closed network function to limit the search to internal employees only.
- Partner with a car share company to do a promotional event or coupon code for employees.
- Supplement fleet vehicles with car share services to save money on maintenance and insurance.
- Dedicate priority parking spaces on-site for roundtrip car share vehicles to promote and encourage their use.

Bike/Walk Programs

Studies show that people who already bike and walk to work tend to have more job satisfaction and subjective well-being⁵, but employees who currently drive may need an incentive to change their commute habits. Incentives for biking and walking can include amenities like secure, convenient indoor bike parking and shower and locker facilities. Providing quality bike parking should be the first step in encouraging employees

Bike Fleets

If viable for the organization, a fleet of bicycles (including electric assist and cargo bikes) can provide needed transport during recovery periods where road access may be limited.

⁵ Smith, Oliver. *Peak of the Day or Daily Grind: Commuting and Subjective Well-Being*. 2013. Portland State University.

to bike to work. The investment in space and materials is minimal compared to buying property and constructing car parking: the cost to construct a single parking space in an underground garage can be \$40,000 or more⁶, whereas bike lockers and cages can be installed in existing spaces for only a few hundred dollars per bike stall. Even the highest quality underground bike storage with shower facilities is much less expensive to build than vehicle parking. The health and happiness benefits that come with employees biking to work far outweigh the relatively small cost to build secure bike parking.

Incentives can also take the form of a daily or monthly stipend paid to employees who commit to biking or walking every day, or a minimum number of days per month. This can be as simple as an amount added to the employee's paycheck, paid corporate memberships to bike share companies like Portland's BIKETOWN, or can be added to a flexible benefit card with which they can buy accessories like safety lights, walking shoes, rain gear, or bike fenders.



3. BIKETOWN is Portland's bike share company.

TDM Hazard Recovery Worksheet – Bike/Walk Incentives

- Provide covered, secure bike parking.
- If bike share is a viable option for your employees and the organization, consider providing memberships or discounts.
- Ask employees what they need to be able to bike to work, such as showers and lockers, maintenance stand and tools, or a place to hang clothes.
- Provide bike and walk maps with new employee onboarding materials.
- Consider adding bikes to fleet vehicles, including electric assist and cargo bikes depending on the type and size of business.
- Conduct organized lunchtime walks to promote walking and target employees living nearby to periodically walk to work.

⁶ Shoup, Donald. "The High Cost of Minimum Parking Requirements." *Transportation and Sustainability Issues*. Vol 5. 2013.

Other TDM Tools

Flexible Scheduling

Flexible scheduling includes any policy allowing employees to work schedules outside the norm for their field. Flexible scheduling can mean that employees start their workdays earlier or later than other employees. Flexible scheduling commonly allows employees to start earlier because they have children who need to be picked up from school or because traffic is lighter earlier in the morning. Another common policy is a compressed workweek, where employees work their regular number of hours over fewer workdays. For example, an employee with a “4/10” (sometimes called “4/40”) schedule works four ten-hour workdays each week, and an employee with a “9/80” schedule works 80 hours over nine workdays every two weeks.

Unless the work an employee does absolutely requires them to be at work at a specific time, being flexible about small variations in start times can make a big difference for employees who rely on public transportation. For example, if an employee misses a bus and the next one doesn’t come for 20 minutes, allowing them to be 20 minutes late is much better than requiring a hard start time, which could mean the employee has to take a taxi or drive their personal vehicle to be on time.

Flexible scheduling can be permanent or situational. Permanent flexible scheduling means employees can build their regular work schedules around atypical hours, while situational flexible scheduling means that in the event of transit disruptions, inclement weather, or personal emergencies, employees can start earlier or later than usual according to the needs of the day.

Guaranteed Ride Home

Guaranteed ride home programs offer employees peace of mind when they choose an alternative commute mode but worry about getting home quickly in an emergency.

Guaranteed ride home programs offer a free taxi or TNC ride home to eligible employees who have walked, biked, carpooled, or taken transit to work that day. Participating employers receive vouchers based on the number of employees; vouchers are presented to the operator (taxi or TNC) as payment for the trip. In rare instances rides can be paid for by the employee and then reimbursed later, but this should be arranged through human resources or an authorized transportation coordinator. In the Portland area, TriMet provides Emergency Ride Home vouchers to any employer on the Universal Pass program or which provides at least \$10 per month in transit subsidies for employees⁷.



⁷ TriMet Free Services and Support. <https://trimet.org/employers/services.htm>

Information, Maps, and Marketing

Whatever TDM programs a business uses, it is critical to support them with marketing materials. Some employers develop simple one-sheets with information about transportation options, or make posters and flyers to post in break rooms or hallways. Others use materials produced by a local TMA or city or regional government, or work with these entities to co-produce materials.

It is important to include TDM information during the employee orientation process and to offer periodic reminders. People are more open to changing travel habits when already undergoing a major lifechange, like moving or starting a new job. This is the best time to make sure employees know about the bus that goes by their house, or hand them the bike map that will help them plan a safe and easy route to work.

Transportation Options






When it comes to getting to and around Lloyd, you've got options! We'll help you discover them.

WALK – We're proud of our neighborhood's walkability, and the many artistic and historical points of interest you can check out along the way. Stop by our office for some free self-guided walking maps or join one of our walking events.

CARSHARE – Several Zipcar spaces are reserved throughout the neighborhood. Getaround vehicles are often available as well.

BIKE – Several designated bike routes, including a protected bike lane, serve Lloyd. Over 1,700 bike parking spaces provide a safe place to lock up your bike when you arrive at your destination. Join the Lloyd Cycle Station for secure deluxe bike parking, including a shower and locker room.

We also have multiple BIKETOWN stations in the neighborhood, and offer a helmet loaner program for your convenience.

TRANSIT – Nine TriMet bus lines and four MAX lines serve the neighborhood. The C-TRAN # 157 express also provides direct access for Washington commuters. The Portland Streetcar A & B Loops connect Lloyd with Downtown, the Pearl, and the Central Eastside.





LEGEND

- LOCAL STREETS
- BIKE ROUTES
- BIKE LANE
- BIKEWAY
- CARSHARE
- TRANSIT
- BIKETOWN

While in some cases just putting the word out may be enough, many employees will require active assistance to get started. Providing guidance on how to use a transit trip-planning service or carpool-matching platform can go a long way towards helping people feel confident using a new travel option. New bike commuters especially need help finding good, safe routes. Some employers pair new riders with a seasoned rider to get advice from or offer them a personalized route plan. Many employers find that making local bike maps available is good enough. In Portland, contact the City's Bureau of Transportation for information about printed bike maps for employees.

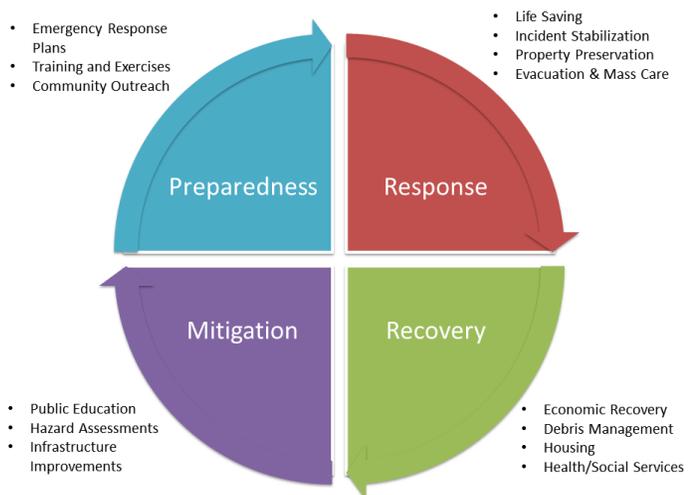
TDM Hazard Recovery Worksheet – Other TDM Strategies

- Review the attendance policies in the employee handbook and discuss with managers which positions are time-sensitive and which ones can be flexible. Work to create new clear, transparent policies on flexible scheduling for all employees.
- Look to other groups that have developed policies for a guaranteed ride home program, perhaps the local transit agency, and use that to draft one for the business.
- Allocate funds in the budget to support the guaranteed ride home program and other TDM programs.
- Identify a transportation coordinator(s) in the organization or company to serve as the point(s) of contacts to distribute information.
- Get bike and transit maps and brochures from the local government or transit agency to have on hand and to include in new employee packets.

IV. APPLICATION OF TDM IN POST-HAZARD RECOVERY

Continuity of Business Plans

A *continuity of business plan*, sometimes called a continuity of operations plan, helps keep a business running after unexpected or emergency events. Continuity of business plans are useful in preparing for large hazards such as earthquakes, floods or a terrorist attack, but also smaller events such as power outages, snowstorms, bridge closure, or any other event that might disrupt normal operations. Continuity of business plans keep a business nimble in a recovery scenario by identifying vulnerabilities, minimizing work interruptions, planning



for alternatives, and preparing employees to be flexible and productive. Businesses should evaluate their continuity of business plan regularly and ensure that all personnel understand the plan well before it's needed. There are many online resources to guide a business in developing their continuity of business plan. The federal government's emergency planning website, Ready.gov⁸, has a list of things to consider for a continuity of business plan, and *Forbes* recently published a quick guide for how to start building a plan⁹.

The elements of a continuity of business plan pairs well with an emergency preparedness plan and both should be part of a business's larger operations plan. An emergency preparedness plan provides guidance and a basic level of emergency supplies for employees experiencing an emergency/hazard event while at work. The continuity of business plan focuses on the recovery effort of getting employees back to work after the response phase of a hazard event.

Determining Essential Business Functions

The first step to determining how a business will maintain operations in a hazard recovery scenario is to understand the essential functions of the business. In other words, which parts of the business absolutely need to be up and running for the business to operate? Which functions of the business are necessary for serving customers or clients? The best way to understand and classify essential functions is to meet with executives, managers, facilities, IT, and HR staff to identify which operations of the business are essential and which are not.

Identifying Essential Personnel

After identifying essential business functions, the next step is to identify *essential personnel*, the people who are absolutely necessary to maintaining the business. Large or complex businesses may split staff into several categories to classify how essential they are, but most businesses can put people into two categories: *essential* and *non-essential*. For example, building security, IT, project managers, and executive staff are often considered essential while HR, facilities, maintenance, and administrative staff are often considered non-essential.

Communicating with Employees

Every employee must understand whether they are essential or non-essential, and essential employees must understand their duties under the continuity of business plan. Section I has guidelines for communications with employees in different scenarios. It is always best to give employees information as early as possible, so the continuity of business plan is an important addition to employee orientation materials and regular trainings.

⁸ Business Continuity Plan. <https://www.ready.gov/business/implementation/continuity>

⁹ "How to Create an Effective and Organized Business Continuity Plan." *Forbes*.

Creating a Continuity of Business Plan

Continuity of business plans should be developed with staff representing every department of a business, so nothing is missed. Running a business on a normal day involves many variables including human resources, transportation, maintenance, electricity, IT and cybersecurity, freight, customer service, supplies, and goods. A continuity of business plan should detail how all of those parts work and how to keep them operating in several hypothetical scenarios, including bad weather, disease outbreak, and other hazard events.

Regular Plan Updates

A good continuity of business plan is updated regularly to refresh policies as the business grows and changes. This is a good opportunity to communicate the plan to employees again. Larger businesses tend to update their COB plans more often, but every business should evaluate their plan at least every few years. It is also critical to physically test the plan with employees to ensure they work properly. It is a good idea to test remote access permissions, accessibility to cloud-based servers from out-of-network computers, and protocols for video and audio conferencing, among other things.

TDM Hazard Recovery Worksheet – Continuity of Business Plans

- Use resources such as Ready.gov or *Forbes* for more in-depth advice on continuity of business plans.
- Identify essential business functions.
- Identify essential personnel.
- Create a continuity of business plan and communicate it to employees.
- Test and update the continuity of business plan regularly.

Communicating with Employees in Recovery Scenarios

After a major hazard event or during a weather emergency, employees will need to be kept up to date on a number of issues. Questions to be answered may include:

- Is the building open and accessible? Is there power? Are the servers up and running? Is the parking garage accessible?
- Is the business open? Should employees try to come to the office or can they work from home?
- What are the traffic and weather conditions? Are the roads accessible by car? Is there more snow/rain/hail/smoke in the forecast?
- Is public transit operating? Which lines are running? Are buses and trains on snow routes or reduced schedules? Are park-and-ride lots open? Should employees budget extra travel time?

news. It may not be necessary to use all of these sources every day, but knowing they are available will help a business select which ones work best. Always check to see if the source has multiple media formats (website, email, text alerts, Facebook, Twitter, mobile app, etc.) and use the format most effective for your employees.

Testing Strategies with Inclement Weather

The TDM strategies outlined in this guide will be most helpful to a business if they are put in place before a hazard event and fine-tuned over time. Many businesses use weather events to test and adjust TDM programs and accustom employees to new ways of getting to and from work.

After a major snowstorm in Portland in early 2017, more than a foot of snow was on the ground for several days. Many employees around the city didn't feel comfortable driving their cars to work because of road conditions, but most bus lines were running with chains on their tires. Businesses that gave employees a transit subsidy and encouraged them to know at least two modes they could use to get to work had more staff working during the snowy week. These businesses provided transit information to all employees and regularly communicated with them about travel modes. Their work culture supported all modes and made sure people knew how to find information on their own. Businesses can use weather events like snowstorms, heat waves, and minor floods to encourage employees to try alternative commute modes, test communications protocols (audio/video conferencing), and see how the business functions in a limited-capacity scenario. Using these weather events or other planned events (such as parades, bridge closures, etc.) as practice, businesses can learn from their experiences to be much more prepared for any hazard scenario.

Special Considerations for Freight

Freight is a broad term for anything that gets shipped to or from a business. This includes office supplies, manufacturing equipment, medical supplies, mail, food, and any other raw materials or finished goods. Freight can be anything shipped by car, truck, train, boat, plane or bike. Every business is dependent on at least some freight, but businesses such as restaurants, manufacturers, and medical offices may be particularly affected after a disaster if road conditions make freight movement difficult.



Therefore, freight will be a critical consideration during a post-hazard recovery. As part of broader discussions about emergency planning and continuity of business plans, employers should think about how to build resiliency into their freight needs. In a recovery scenario, freight that is flexible and multimodal will accelerate the process of getting a business back up and running. This

resiliency can simply employ off-peak delivery times, or could include the use of local bike freight companies (e.g., B-Line in Portland, Oregon).

The questions in this outline are for businesses to think about how they use freight and how they would address freight issues in the weeks and months after a hazard event.

TDM Hazard Recovery Worksheet – Considerations for Freight

- Keep track of how often the business receives and sends shipments and how and when it is received. This includes office supplies, manufacturing equipment, medical supplies, mail, food, and any goods that need to be moved between locations.
- Document the names and contact information for the companies who deliver and/or pick up freight from the business.
- Analyze how far your regular freight deliveries and shipments travel.
- Consider how long the business could operate without the ability to receive or send shipments because of post-hazard road conditions for one month. Three months?
- Determine the vulnerability of the freight delivery location and whether it could be affected long-term by a major hazard event.
- Identify any regular freight shipments that could be transitioned to off-peak delivery times to avoid congestion.
- Identify any local bike courier companies that could be used to replace some smaller local freight shipments that usually go by truck. This could be especially useful for restaurant wholesale, laundry, baked goods, or other small finished goods.

V. GLOSSARY

Car share

A model of car rental where people rent cars, vans, or trucks for short periods of time, often by the hour. Some car share services have floating vehicles which users can drive and park where they want, while others have fixed parking locations where vehicles need to be returned to at the end of a trip. Car share services operate in many U.S. cities.

Continuity of Business Plan

Sometimes called a continuity of operations plan, this helps keep a business running after unexpected or emergency events. Continuity of business plans are useful in preparing for any hazard that might disrupt normal operations. Continuity of business plans help businesses identify potential vulnerabilities and work interruptions and prepare workers to be productive after any hazard event.

Essential Personnel

The employees who absolutely need to be present (or working remotely) to maintain a business in the short term.

Flexible Scheduling

Any policy that allows employees to work schedules outside the norm for their field. This includes flexible shift start/end times, compressed workweeks, and forgiving attendance policies. Flexible scheduling can be permanent policies or used in special circumstances when needed.

Freight

A broad term for anything that gets shipped to or from a business by land, air, or water. This includes office supplies, manufacturing equipment, medical supplies, mail, food, and other goods.

Guaranteed Ride Home

Employer-based programs that offer a free taxi or TNC ride home to eligible employees who have walked, biked, carpooled, or taken transit to work that day. Guaranteed ride home programs offer employees peace of mind when they choose an alternative commute mode but worry about getting home quickly in an emergency.

Parking Cashout

An employer-based daily bonus for employees who do not drive and park personal cars at work that day. This is often added directly to an employee's paycheck.

Parking Management

Reducing the number of employees who drive and park at work by managing parking supply and charging parking fees. Parking management can reduce drive-alone commute trips and VMT, encourage employees to use alternative modes, and free up scarce parking for customers.

Telework

When an employee spends some or all of their time working from outside the office, often from their own homes, co-working spaces or other offsite locations. Also called telecommuting or remote work, teleworking is a highly effective transportation demand management policy.

Transportation Demand Management (TDM)

Targeted strategies to reduce the number of vehicle trips and vehicle miles traveled in a neighborhood, city, or region. TDM focuses primarily on commute trips during peak hours, although in recent years it has expanded to include discretionary off-peak trips as well. TDM strategies come in many forms.

Vehicle Miles Traveled (VMT)

The total annual miles of vehicle travel in a neighborhood, city, metropolitan region, or state. Often expressed as VMT per capita, or total annual miles of vehicle travel divided by population.

Transportation Network Company (TNC)

A company that allows users to hail rides from private vehicle operators using a website or mobile app, similar to a taxi service. TNCs operate in many U.S. cities and they include popular ride hailing mobile apps Lyft and Uber.

VI. TDM HAZARD RECOVERY WORKSHEET CHECKLIST FOR EMPLOYERS [PULLOUT]

This checklist summarizes the steps a business should take to implement TDM policies that will help employees keep working after a hazard event. This is not an exhaustive list of things to consider, but it may be a helpful starting point for a business starting to think about emergency procedures, continuity of business plans, and employee transportation needs.

Popular TDM Strategies

- Free or subsidized transit passes
- Telework
- Flexible scheduling (to reduce trips or allow off-peak commutes)
- Carpool matching and discounted parking for carpool/vanpool vehicles
- Higher daily parking prices
- Bonuses for walking or biking to work
- Other incentives for commuters who bike or walk
- Trip-planning assistance for transit riders, cyclists, or walkers
- Marketing transportation options and services to employees
- Emergency Ride Home programs
- Discounted or corporate memberships for car share services

Actions: TDM Plan Framework

- Survey employees' commute behavior to establish baseline transportation mode choice (percentage of use by mode).
- Establish mode share goals for the business, prioritizing non-single occupant vehicle trips.
- Promote travel options (e.g., transit, carpool, bike, walk, telework) in organizational materials, and at meetings; use executive/supervisor as advocates.
- Incentivize employees (free/discounted transit fares, monetary, or recognition) to achieve mode share goals.
- Periodically (at least every two years) re-survey employees to assess progress in reaching goals.
- Employ TDM polices as an integral part of a post-hazard continuity of business plan.

Actions: Employee Communications

- Determine acceptable communication methods with employees – preferred, secondary, emergency (email, text, phone, intranet, etc.).
- Convey clearly how these methods of communications should be used (set expectations).
- Establish communication protocols for inclement weather, emergency response, and post hazard recovery situations.
- Empower employees to take responsibility for their transportation/communication duties.
- Ensure all employees understand their responsibilities during a recovery scenario, set clear expectations about coming into the office or working in alternative locations.
- Identify a staff person responsible for sharing information and news.
- Plan how to communicate information in the months and weeks following a major hazard event. Here are some examples of information to communicate with employees in these scenarios:
 - **The building:** is the building open and accessible? Is there electricity? Are the servers up and running? Is the parking garage accessible?
 - **The business:** is the business open today? Should employees try to come to the office or can they work from home?
 - **Traffic and weather reports:** up-to-date information about traffic and weather. Are the roads accessible by car? Is there more snow/rain/hail/smoke in the forecast?
 - **Public transportation:** which transit lines are currently running? Are buses and trains on snow routes or reduced schedules? Are park-and-ride lots open? Should employees budget extra travel time due to slow transit?
- Periodically test emergency/inclement weather communication protocols with all staff members.

Actions: Parking Management

- Find out where employees are parking.
- Find out what percentage of employees drive to work and park nearby.
- Consider increasing the parking price.
- Consider eliminating the monthly rate to switch to a daily rate.
- Consider giving employees a small bonus each day that they don't drive to work or at least don't park at work.
- Talk to the finance director about including parking demand management in your resiliency strategies
- Add carpool pricing to encourage people to carpool. Place carpool spaces in visible and convenient locations.

Actions: Transit & Employee Transit Benefits

- Review local employer-based transit programs. Determine which program best suits the business.
- Stock and distribute transit maps and information to employees.
- Calibrate shift starting times to coincide with the arrival of commuter transit service.
- Engage the transit agency to offer route planning assistance to employees.
- Incentivize transit use by offering free or discounted annual/month transit passes.
- Offer pretax deduction for transit use through employer cafeteria plan.
- Conduct annual transportation surveys to track ridership.

Actions: Telework

- Identify which files employees will need to have remote access to. Digital or physical files?
- Choose how employees will access files at home (specialty software and system security authorizations). Can employees download or email files to their telecommuting computers, or do they need remote access to a business server?
- Address additional security concerns for remote file access for telecommuting employees such as Virtual Private Networks. Does the business legally require extra security for files because of sensitive or proprietary information?
- Identify the type of login/authentication employees will need to access remote servers (e.g. single password, two-factor authentication, etc.).

Actions: Carpool & Shared Transportation

- Use discount-priced carpool parking as an incentive.
- Make sure transportation information has up-to-date information about carpool, ride sharing, and car sharing policies and programs.
- Create an internal carpool matching system. If desired, the GetThereOregon.org tool (similar programs available in other states) has a closed network function to limit the search to internal employees only.
- Partner with a car share company to do a promotional event or coupon code for employees.
- Supplement fleet vehicles with car share services to save money on maintenance and insurance.
- Dedicate priority parking spaces on-site for roundtrip car share vehicles to promote and encourage their use.

Actions: Bike/Walk Incentives

- Provide covered, secure bike parking.
- If bike share is a viable option for your employees and the organization, consider providing memberships or discounts.
- Ask employees what they need to be able to bike to work, such as showers and lockers, maintenance stand and tools, or a place to hang clothes.
- Provide bike and walk maps with new employee onboarding materials.
- Consider adding bikes to fleet vehicles, including electric assist and cargo bikes depending on the type and size of business.
- Conduct organized lunchtime walks to promote walking and target employees living nearby to periodically walk to work.
- Encourage riding and walking to work by offering financial (or additional PTO accumulation) incentives.

Actions: Other TDM Strategies

- Review the attendance policies in the employee handbook and discuss with managers which positions are time-sensitive and which ones can be flexible. Work to create new clear, transparent policies on flexible scheduling for all employees.
- Look to other groups that have developed policies for a guaranteed ride home program, --perhaps the local transit agency, --and use that to draft one for the business.
- Allocate funds in the budget to support the guaranteed ride home program and other TDM programs.
- Identify a transportation coordinator(s) in the organization or company to serve as the point(s) of contacts to distribute information.
- Get bike and transit maps and brochures from the local government or transit agency to have on hand and to include in new employee packets.

Actions: Continuity of Business Plans

- Use resources such as Ready.gov or *Forbes* for more in-depth advice on continuity of business plans.
- Identify essential business functions.
- Identify essential personnel.

- Create a continuity of business plan and communicate it to employees.
- Test and update the continuity of business plan regularly.

Actions: Special Considerations for Freight

- Keep track of how often the business receives and sends shipments. This includes office supplies, manufacturing equipment, medical supplies, mail, food, and any goods that need to be moved between locations.
- Document the names and contact information for the companies who deliver and/or pick up freight from the business.
- Analyze how far your regular freight deliveries and shipments travel.
- Consider how long the business could operate without the ability to receive or send shipments because of post-hazard road conditions for one month. Three months?
- Determine the vulnerability of the freight delivery location and whether it could be affected long-term by a major hazard event.
- Identify any regular freight shipments that could be transitioned to off-peak delivery times to avoid congestion.
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