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Enhanced Response Plan for Woodland Primary School

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Enhanced Response Plan for Woodland Primary School

The city of Woodland, Washington sits along the very busy north and south railroad line that connects Portland and Vancouver with the Tacoma and Seattle areas and beyond. Each day over a dozen trains carrying a vast assortment of cargo goes rumbling by, some of it is mundane and some are volatile. What is very worrisome is that the Woodland Primary School is only a hundred meters from the tracks. Although remote, there is always the possibility of a train derailment close to the school. The local emergency services have plans for a train derailment, they fall under their standard operating procedures; the biggest concern is the plans that are in place at the Primary School level, they are lackluster and only cover the basics of what needs to be done in an emergency. These shortcomings will be addressed and new plans put into place that better serve the Woodland Primary School and the community in a time of emergency.

The majority of the information utilized for this paper was gleaned through phone calls and interviews. Some was accessed through internet searches and downloads. The quickest way to find out a fire districts response plan is to call them and discuss what their response plans are; this same tactic was used for the school and other organizations. Another, useful approach was walking the grounds of the school and its surrounding area. When analyzing an areas terrain the easiest way to do this is by looking at a map or a street view on their phone or computer, but to get a true sense of what the terrain and buildings look like, one must get out and walk it to get the true understand the area.

Woodland resides at the confluences of the Columbia and Lewis River. It is a quiet city that has a population of almost 6,000 residents, but it is rapidly growing and is expected to double its population in the next two decades (Landrigan, 2017). One small town feature is that there is only one intersection with a stop light and also, no matter where you are in town you can hear the trains blowing their whistles as they approach the railroad crossings. On average, each day there is a dozen or more trains traveling up and down the tracks carrying a variety of cargo, from automobiles to plywood to passengers to crude oil. These tracks run right next to the downtown



Figure 1

business district and about 100 hundred meters to the west of the Woodland Primary School (WPS) and the 320 kindergartener and 1st graders who attend there (see Figure 1). This is worrisome because of the possibility of a catastrophic train derailment in the vicinity of the Primary School could be

tragic.

When a train derailed, it tends to be big news. In June of 2016, an oil train derailed in Mosier, Oregon, and it caused part of the city to be evacuated, including a nearby school; the fire burned for 14 hours and spilled thousands of gallons of oil (Hernandez, 2016). None of the train cars that caught fire exploded, they just burned and if one had exploded it could have been a much larger disaster. The cause of the crash was found to be faulty bolts holding the tracks together. Union Pacific Railroad owns and maintains the tracks and was blamed for not properly maintaining them.

Train accidents and derailments are a frequent occurrence in the US, but most are small and do not usually cause as extensive damage as what happened in Mosier. The owner and maintainer of the tracks that run through Woodland is Burlington Northern Santa Fe (BNSF). They inspect the tracks regularly and routinely perform maintenance; especially after the incident in Mosier. If possible they will strategically place hazardous train cars in the train column so that they are not next to each other. Each train conductor carries a manifest of the cargo that they are transporting. If there is an accident, it will be handed over to the first responders to help them coordinate their response (Landrigan, 2017). This is just several of the mitigation techniques that BNSF has put into place. The accident in Mosier was a wakeup call for the Pacific Northwest, they knew that oil trains were running through the region, but not a great deal of thought was given until one crashed and caused problems.

Just the thought of a fiery train crash close to the school should put a shiver down the spine of parents and emergency services alike. Although, there is a remote chance of this happening, there is always the possibility and this situation should be well planned for, for if it does ever happen, the teachers and faculty of the school must know what needs to happen to keep themselves and the kids safe.

The Woodland School District (WSD) utilizes the Standard Response Protocol (SRP) to help determine how to respond to threats. The SRP is broken down into four different response protocols to threats: Lockout, Lockdown, Evacuate, and Shelter. Lockout is to secure the perimeter and keep a possible threat outside of the building; an example is of a police incident in the neighborhood. Lockdown is locking the internal doors, turning off the lights, and staying quiet from a threat that has possibly gotten into the school building, like a disgruntled parent who has made it into the building. Evacuation means to leave for another location, hopefully one that

is predetermined. Shelter is sheltering in place from a hazard that is on the exterior of the building, like a tornado or fire (School Safety, 2015). The SRP is a general set of guidelines that can help schools plan for disasters and other hazardous events. WPS practices fire drills and earthquake drills quarterly; this has allowed them to practice the basics for evacuating the building.

The WSD has a parental telephonic call system in place. If the school has been placed in an altered status, as in a lockout or lockdown, then the parents will be notified of when it has begun and when it has ended. Multiple times a year parents are asked to fill out an emergency early release form, it tells the school where the child should be sent if school has an unscheduled early release. It asks the parents where their child should go and how they will get there; it could be to a friend's or a relative's house, a nonparent could be the one who comes and picks them from the school, or they might need to take a different bus than they usually take. Parents will be notified before their children are released and sent off. These forms and phone calls are a great boost to the information that the school can access in the event of a major incident and an effective communication tool with the parents and guardians of the WSD.

Some of the non-WSD agencies in the region that will respond in the event of a train derailment will be BNSF, Woodland Fire Department (WFD), Vancouver Fire Department (VFD), Cowlitz County Department of Emergency Management (CCDEM), and multiple law enforcement agencies. The majority of the City of Woodland resides in Cowlitz County and only a little bit is in Clark County, the dividing line is the Lewis River. The WFD is contracted through the Clark County Fire & Rescue (CCF&R) and is augmented by volunteers. In the event of a train derailment, WFD will be the first on the scene. The VFD will also respond and their greatest assets that they will provide is their HAZMAT unit, theirs is the largest and best trained

in SW Washington. The CCDEM will most likely be placed in charge of the scene and run the Emergency Operations Center (EOC) to coordinate the efforts of the different agencies that respond. BNSF will provide a manifest of what the train was transporting and offer any other assistance that they can provide.

The responding agencies will have operating procedures that they will utilize. CCF&R has enhanced their knowledge of how to handle a train derailment and the fighting of fires caused by them. They have accelerated their learning, training, and response after the accident in Mosier, OR. Once a train accident has occurred, there will be an EOC established to ensure that the different agencies are coordinating their efforts and that response of preserving Life, Property, and Environment is occurring in this order. Once they arrive on scene and the situation will be assessed, the EOC will decide if evacuations will be necessary, if there needs to be an exclusion zone, and how big this area should be. None of these agencies have a specific plan for a train derailing on a certain stretch of track, even in the center of Woodland. What they have prepared is a set of guidelines, a “playbook,” that is flexible enough to allow them to adapt their responses to any situation, location, and time.

What the WSD is in need of is a more comprehensible plan of what to do if there is a train derailment in the vicinity of WPS. The SRP is a good guideline, but new concepts need to be planned and rehearsed. These new concepts could replace and enhance the schools current fire drill procedures. The current fire drill procedure is to evacuate the school and stand in the open field to the west of the school, in between the school and the railroad tracks, until the all clear is given (See Figure 2). Everyone remembers fire drills from when they were in school; the alarm goes off, everyone goes outside until the all clear is given, and then they return to class. But, what should be done if the students are not allowed to return to the inside of the building?

WPS's plan it to wait for the students parents or busses to pick them up. The biggest concern should be the weather or other natural hazards to the students and faculty standing in the field, if it is raining or subfreezing temperatures, they could be stuck there for hours until their transportation arrives. This is where enhancing the current fire drill, on the same logic as a possible hazardous train derailment, can have a great impact. What is going to need to be accomplished is finding suitable, temporary evacuation points for the kids and faculty to go to until their parents and busses can arrive to retrieve them.

It is nearly impossible to predict when and where a train will derail, what can be done is to prepare for the possibility that it could happen in certain areas and then making emergency plans for those areas. There is no predicting of how big a hazard the derailment could cause. It could range from one car having one wheel slip of the track or an event similar to the one in Mosier that dumped thousands of gallons of oil and caused a quarter mile evacuation zone or possibly something even worse. If an evacuation is deemed to be necessary, that is not the time to find a location that is suitable to house 16 classes worth of young students. The minimal requirements necessary in an evacuation are shelter, water, and bathrooms. In the area surrounding WPS, there are very few suitable structures that can house over 320 children and faculty; the majority of the structures are residential, small businesses, or industrial. When deciding evacuation points, two should always be planned; just in case the primary is not available, the secondary will be the place to go.

The primary evacuation point for the WPS is going to be the Woodland Middle School (WMS)(See Figure 2). It is located within walking distance of the WPS, about a quarter of a mile at its farthest. The students will be lead by the faculty north and then east on 5th Street, through a parking lot, and then into the main entrance on Park Street. 5th Street is a side street



Figure 2.
 Black Oval= current fire drill evacuation point.
 Red= Evacuation route to Middle school, 5th Street
 Blue= Bus route

consisted of packed, crushed rock. If this route is blocked or seeing heavy volumes of traffic, the students can be lead through the ball and track fields to the north and then east of WPS. WMS has the required elements of shelter, water, bathrooms, and even

snacks provided from the cafeteria. The WPS students would be housed in the gym to help keep them all in one central location and not get intermixed with the middle schoolers. Since the WMS is part of the WSD, they will be abreast of the current situation and response plans. An additional feature is that the WMS is on the same road as the bus depot, Buckeye St, which will help facilitate future transportation needs of the combined students.

The secondary location will be the fire station located at the intersection of Davidson Ave and Goerig St, a little less than half a mile away from the WPS (see figure 3). This also meets the basic requirements of shelter, water, and bathrooms. The fire trucks will not be present at that location at that time, because they will be responding to the incident. The drawback to this location is its size and distance. It is smaller than the WMS and roughly twice as far, but there are few locations in the downtown area that can accommodate the student size requirement. If the weather is accommodating and the situation dictates, across the street from the fire station is Horseshoe Lake Park. It is a fairly open area that has a large play structure. This could keep the kids from being cooped up in the fire station. But, just like the fire station, the Park will not be



the most ideal place to evacuate to. The secondary evacuation points are the ones that you head to when the more suitable primary one is unavailable and that is why the fire station was chosen as the secondary evacuation point.

If it is determined the school needs to evacuate, the students and faculty must know what they need to bring with them. There is no need to over burden them with unnecessary equipment

Figure 3
Blue=primary evacuation route
Green=secondary evacuation route

or bags, as this is already being taught currently in the fire drills. Having the

students bring their coats, cell phones if they have them, and form a single file line by the door. Teachers are to grab the attendance sheet, lead the students to the appropriate evacuation location, and then take attendance. The school administrators should help watch over and guide the teachers and their classes, they will also help at the evacuation site to ensure that all the students are present and if they have become separated, they will help return them to their correct class.

The STP has a color coded card program to help for just such events at the evacuation site. One card is green with, "OK" printed on it. The teacher holds this up to let the administrators know that all students are accounted for and everything is okay. A red card that says, "HELP," signifies that the teacher has a missing or extra student or they might have vital information that needs to be exchanged. There is also a medical card, with a red cross on it that signifies that the teacher needs medical assistance. These cards are useful in the hectic times after the evacuation has been initiated. These cards, along with a first aid kit, and the attendance

sheet will be stored in a backpack, in every classroom for an easy grab and go. Also, to be stored in the backpack will be a rope with handles attached. This rope will help classes stay together while they move from the school to the evacuation point. These can be purchased premade for under \$30, but they could be produced for much cheaper with volunteer help and donations. An additional item to be stored with the backpack will be a large stick, possible a broom handle or dowel, with an animal placard on top. Each animal will be specific to each class and will help students find their teacher and class if they were separated. The stick can also be used at the evacuation site to help raise the SRP color cards higher than an arm can reach. These are items that should always be stored in the classroom and are easily retrieved as they head out the door.

There are four different responses to threats established by the SRP and utilized by WSD (Lockout, Lockdown, Evacuate, and Shelter). The ones that will be the most beneficial in the event of a train derailment will be lockout, evacuate, and shelter-in-place.

The determination for which of these three responses would be the most practical will be determined by the EOC and WSD and their interpretation of the magnitude of the train derailment. There are many factors that will go into which response will be utilized and the situation could change and go from the beginnings of an evacuation to a shelter in place with just a shifting of the wind. Everybody involved must remain flexible as the hazard will continually be reassessed and the response re-determined.

The simplest and easiest response will be a modified version of the lockout, by keeping everyone inside until their parents and busses arrive to take the children away. If there is a train accident close by, but not directly affecting the school, this will be the most prudent course of action. Parents will be notified about the accident and that the school will be releasing early and

the busses have been notified to begin picking up and dropping off children. This could be a precautionary measure in case the train accident escalates into a more serious situation.

If a train accident was much closer and threatening the school, then an evacuation could be ordered. An evacuation will also be necessary if the EOC determines that there needs to be an evacuation zone and the school falls within it. This is the reason for having two evacuation points. WMS is farther away from the tracks than the WPS, but it could still be in an evacuation zone if the accident is large enough. Once an evacuation has been announced, the evacuation point selected, parents will be notified of where the children will be going to, and the busses will head to that location. Parents will also be heading to pick up their children and the school faculty will be responsible for the accountability of the students leaving and controlling the pickup zones.

Shelter-in-place is when evacuation is not prudent at that time. It is a different status than Lockdown; it could be too hazardous to leave the safety of the buildings. It could be that the derailment caught fire, the fire poses no immediate threat, but the smoke is blowing in the direction of the school. In the event of this response, all doors and windows will be securely shut, and the schools Heating, Ventilation, and Air Conditioning (HVAC) will be turned up to help overpressure the building. This overpressure will help keep the bad air out and the good air in. If it is possible before hand, sheets of plastic and duct tape should be stockpiled in the school. These plastic sheets can help seal the doors and windows if the first two methods are not working effectively. Once the situation is safe enough, busses and parents will be allowed in to retrieve their child or they might move to an evacuation point. The shelter-in-place is the least desirable of the response plans; the goal should be to get the students and faculty out of the danger zone as soon as possible, but shelter-in-place might be necessary.

All of the schools in WSD should look at and if necessary, revamp their response plans into full emergency response plans. WPS had the greatest priority since they are the closest to the railroad tracks, which can be a major hazard if a train derailed close by. The WSD can use the planning and execution that has been done on evacuating the WPS and apply it to their other schools. All of them have evacuation plans, but it must be planned beyond just getting out of the building and standing on a field; structured evacuation points must be found that can accommodate the children and teachers.

In the future, this plan could save the lives of students and teachers if a train derails in the vicinity or another hazard caused the WPS to be evacuated. Rather than evacuating to an open field that is in close proximity to the train tracks, they will now evacuate to a hardened structure that is away from the possible hazard area. This plan greatly enhances the resiliency of the students, the school, and the community as a whole. It is a simple concept; keep the kids safe until they can be reunited with their parents. But, it is very complex because there are many variables and these must be accounted for and not left up to planning what to do when the emergency is occurring.

This concept is relevant to the curriculum that is taught in the Homeland Security and Emergency Preparedness (HLS) program at Concordia University. Many of the required HLS classes deal with the very topic of EOPs. This EOP was much more in-depth than what was done in other classes; where the instructors guided students into the project, by providing them with the initial material. This paper is the culminations of the students being told to show what they have learned from previous classes and applying it to a real world situation. The instructors were asking to be shown what the students had learned in their time HLS program and this

practicum paper has fulfilled the requirement that the teachers have asked for. It also betters the community of Woodland and the Primary School by keeping them and their children safe.

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