Latah Hangman / Eagle Ridge Neighborhood Wildfire Evacuation Drill

After Action Report & Improvement Plan

2026

Acknowledgement

The City of Spokane extends its sincere gratitude to the residents, volunteers, neighborhood leaders, and community partners who supported and participated in this wildfire evacuation drill. Your willingness to give your time, share your feedback, and actively engage in preparedness efforts made this exercise possible.

Community resilience is not built by government alone; it is built by neighbors who care for one another and who choose to prepare before an emergency occurs. Every resident who participated, asked questions, helped spread information, or volunteered their time contributed to making our neighborhoods safer and more resilient.

Thank you for believing in this work and for helping strengthen our community's ability to respond to future emergencies. Your partnership, commitment, and civic spirit continue to make Spokane a stronger and more prepared city.

Exercise Overview

Exercise Name: Latah Hangman / Eagle Ridge Wildfire Evacuation Drill

Exercise Date: 4/25/2026

Scope: Functional evacuation drill led by City of Spokane Emergency Management

Purpose: This functional exercise provided an opportunity for neighborhood residents to practice evacuation procedures during a simulated wildfire event in a wildland-urban interface (WUI) area. This exercise represents the city's continued effort to evaluate evacuation readiness in high-risk WUI areas with constrained egress and increasing wildfire exposure

Sponsor: City of Spokane Emergency Management

Participants: City of Spokane Emergency Management, Spokane County Emergency Management, Spokane Police, Spokane Fire, Washington State Patrol, neighborhood residents.

Exercise Summary

On 4/25/2026, the City of Spokane conducted a wildfire evacuation drill in the Latah Hangman / Eagle Ridge neighborhood area. The exercise simulated a phased evacuation based on a realistic wildfire progression model, with evacuation alert notifications issued according to proximity to the simulated incident.

Residents received drill-specific evacuation alerts through the new countywide alert and notification tool (Alert Spokane system, using the new ReGroup tool) and through Wireless Emergency Alerts (WEA).

The drill emphasized real-world evacuation behavior, including:

- Self-directed evacuation (no centralized evacuation site)
- Use of personal evacuation plans and destinations
- Adaptive route selection based on traffic conditions

The exercise demonstrated strong community participation and generally safe evacuation behavior, while highlighting persistent constraints related to traffic congestion, alerting variability, and infrastructure limitations.

This After-Action Report summarizes performance against established objectives and incorporates findings from observer reports, interagency coordination, and community feedback.

Exercise Design & Approach

The drill was planned over several months by a multidisciplinary planning group that included city partners (emergency management, fire, and police), external partners (Washington State Patrol and Spokane County Emergency Management), and 5–7 volunteer representatives from the target community. Spokane Fire District 3 and the Washington State Department of Transportation were invited to participate in the planning and implementation of this drill, though neither agency assigned resources to this exercise.

Planning meetings were conducted on a weekly basis leading up to the exercise to ensure timely coordination and organization of all components. A hybrid meeting format was utilized to support both in-person and remote participation.

Drill Boundaries & Scenario

The drill targeted a defined portion of the Latah Valley area based on a realistic wildfire scenario to the southwest of the neighborhood area. The drill area was broken into three zones based on proximity to the simulated fire, to simulate a realistic flow of alerts based on proximity and risk. In a real wildfire scenario, first responders would use a similar process to evacuate residents, based on their proximity to the wildfire event.

Figure 1: Map of Drill Evacuation Zones

Evacuation Parameters

Evacuation parameters for the drill were designed to reflect real-world wildfire conditions. No formal muster point or designated evacuation location was provided, to mirror the way evacuations are typically managed during an actual incident in Spokane County. Instead, residents were instructed to leave the neighborhood, travel a safe distance away from the hazard area, and practice their own real-world reunification plans with family or household members. A final notification was issued to participants indicating that the drill had concluded.

This approach aligns with established wildfire evacuation practices, which prioritize speed, geographic dispersion, and flexibility over movement to centralized evacuation locations or muster points. In rapidly evolving fire conditions, large, predetermined muster points can become unsafe or inaccessible, making decentralized evacuation strategies more effective.

It should also be noted that residential areas adjacent to the targeted drill area that were not included in this exercise are planned for inclusion in future wildfire evacuation drills, in coordination with neighboring communities.

Primary Egress Routes

Based on existing road infrastructure in the area, the primary identified egress routes for a wildfire originating southwest of the targeted neighborhood include the following intersections:

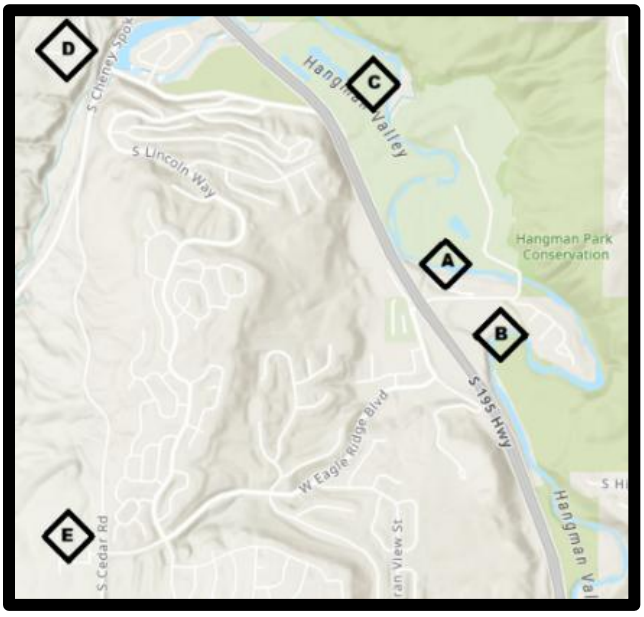
A. E. Meadowlane Rd. → Highway 195 (Northbound)

B. E. Meadowlane Rd. → Highway 195 (Southbound)

C. W. Qualchan Dr. → Highway 195 (Southbound)

D. W. Qualchan Dr. → Cheney-Spokane Rd. (Northbound)

E. W. Eagle Ridge Blvd. → S. Cedar Rd. (Northbound)



Please note that while S. Cedar Rd (southbound from W. Eagle Ridge Blvd.) is a major access route for this area, it would likely be compromised during a wildfire event due to its proximity to potential fire activity. For this reason, the route was treated as unavailable during the drill, and alert/notification messages directed residents to avoid using it for evacuation.

Alert & Notification Strategy

System Transition Context

In the weeks leading up to this drill, Spokane County Emergency Management implemented a transition to a new alert and notification platform (ReGroup), delivered through the Alert Spokane system for use by public safety partners. Public access to the updated system was made available approximately one week prior to the exercise, allowing residents to opt in and enroll.

At the time of the drill, there was uncertainty regarding how many users from the legacy alerting system had been carried over into the new platform versus how many residents needed to re-register. As a result, both the City of Spokane and Spokane County emphasized the need for all residents to re-enroll in Alert Spokane. This exercise occurred during an early phase of system adoption, providing a unique opportunity to evaluate both system performance and user engagement under real-world conditions.

Public Outreach & Community Awareness

To support the rollout of the new alerting system and promote participation in the drill, the City of Spokane and Spokane County conducted a coordinated, multi-channel outreach campaign. This effort included digital communications, community messaging, and localized engagement strategies aimed at maximizing awareness of both the drill and the need to enroll in Alert Spokane.

These outreach efforts contributed to high levels of pre-drill awareness within the community and helped establish trust in the alerting process. The emphasis on early and repeated communication ensured that residents were not only informed about the exercise but also positioned to engage meaningfully when alerts were received.

Approximately one week prior to the exercise, A-frame signs were placed at strategic locations throughout the drill area to notify residents of the upcoming wildfire evacuation drill. This advance outreach was intended to increase community awareness, reduce confusion, encourage participation, and provide residents with adequate time to prepare for the exercise. Each sign included a QR code that directed residents to a dedicated webpage containing information about the drill and guidance on how to prepare for and participate in the exercise.

On the day of the drill, the advance-notification signage was replaced with "Drill in Progress" messaging. This signage served as a visual reminder to residents and visitors that emergency notifications, increased traffic activity, and public safety operations occurring within the neighborhood were part of a planned exercise. The use of public signage helped reinforce official communications, promote public safety, and ensure community members could easily distinguish the exercise from a real-world emergency.

Operational Alerting Approach

Alerts and notifications during the drill were delivered using a phased approach designed to replicate real-world wildfire evacuation messaging. Notifications were issued at escalating levels, Level 2 (“Be Set”) and Level 3 (“Go Now”), based on each area’s proximity to the simulated fire. The operational area was divided into three geographic zones to reflect how evacuation messaging would be prioritized and expanded during an actual incident.

All notifications clearly identified the event as a drill to prevent confusion, reduce unnecessary emergency calls, and maintain public trust. Messaging was crafted to balance realism with clarity, allowing residents to experience authentic alert conditions while remaining aware that no real hazard was present.

At the time of the exercise, a live, publicly accessible evacuation map was not available due to the ongoing onboarding of the alerting system with regional dispatch. As a result, participants relied solely on the content of alert messages for direction. While this reflects a potential real-world limitation during system transitions or early-stage incidents, it also highlights an opportunity to enhance future capabilities through the integration of visual mapping tools to support public understanding of evacuation zones and status.

Volunteer Design

Volunteers from the drill area and adjacent areas were recruited for documentation and evaluation purposes. In addition to around 15 local volunteers, an esteemed researcher from Boise State University’s Resilience Institute was on site to support drill evaluation. A structured volunteer program was implemented to support real-time data collection and qualitative assessment during the drill. Observers were strategically staged at nine key

intersections and roadway segments throughout the exercise area, with an emphasis on primary egress routes and known or anticipated traffic pinch points. Placement was designed to provide a representative view of evacuation patterns, traffic flow, and resident behavior across the operational area.

Volunteer roles were clearly defined to ensure consistency in data collection. At primary egress points, observers focused on vehicle counts to help quantify evacuation participation and identify peak flow periods. At secondary locations, volunteers conducted behavioral and safety observations, noting factors such as adherence to traffic controls, use of multiple evacuation routes, pedestrian activity, and any conditions that could present safety concerns or operational challenges.

All volunteers were provided with standardized materials to support their assignments, including role-specific job aids, structured observation forms, and high-visibility safety vests. A pre-event briefing was conducted to review expectations, safety considerations, and reporting protocols. This approach ensured that observations were collected in a consistent, organized manner, contributing valuable data to inform post-drill analysis and future planning efforts.

Command Post & Operational Coordination

A centralized command post was established in the parking area at Spokane Fire Station 5, located within the exercise area, to support coordination and operational oversight throughout the drill. The site served as the primary staging location for the City Emergency Manager (exercise lead), volunteers, external partners, and media representatives. It provided a controlled environment for pre-event briefings, distribution of materials, and real-time coordination of field activities. Its location within the neighborhood allowed for direct visibility into operational conditions while maintaining a safe and organized hub for communication and decision-making.

The Spokane Fire Department and Spokane Police Department played integral roles in both the planning and execution of the exercise. The Spokane Fire Department deployed multiple apparatus and personnel throughout the evacuation area, enhancing the realism of the scenario and providing valuable operational insight. Fire personnel observed evacuee behavior, traffic patterns, and safety considerations, while also using the exercise to evaluate ingress conditions under constrained circumstances. These observations helped identify access challenges and informed future planning related to apparatus positioning and response routing during wildfire events.

The Spokane Police Department contributed subject matter expertise during the planning phase, particularly related to traffic safety and roadway management. During the drill, SPD personnel were present in the field, supporting real-time coordination and observing traffic flow and public behavior. Their presence reinforced interagency coordination, enhanced situational awareness, and provided a law enforcement perspective on evacuation dynamics and potential traffic control needs.

Together, the command post structure and active participation of fire and law enforcement partners supported a coordinated, well-managed exercise environment. These elements contributed to both the operational effectiveness of the drill and the collection of meaningful observations to inform future planning efforts.

Drill Costs

The majority of planning, coordination, and implementation activities associated with the wildfire evacuation drill were completed by city staff during normal working hours and with support from community volunteers. As a result, no additional personnel costs or overtime expenses were incurred specifically for the exercise.

Limited costs were associated with public outreach and exercise support materials. While standard printing of flyers and informational materials was conducted, these expenses were minimal and did not represent a significant cost to the city.

The primary direct expense for the exercise was the purchase of reusable public signage used to notify residents before, during, and after the drill. This signage included advance notification banners, exercise-in-progress messaging, and post-exercise survey promotion utilizing QR codes for resident feedback collection. The total cost of the signage was approximately $140. These materials are durable and intended for reuse during future neighborhood evacuation drills, reducing costs for subsequent exercises.

Additional exercise resources, including A-frame sign boards, high-visibility safety vests, and clipboards, were borrowed from other city departments at no additional cost. Community volunteers also supported observation and data collection activities, further reducing the overall cost of conducting the exercise.

Data Collection & Evaluation

Evaluation Methods

A multi-method evaluation approach was used to assess the effectiveness of the drill, combining quantitative data, qualitative observations, and participant feedback to provide a comprehensive understanding of performance.

Field data collection was conducted by volunteer observers positioned throughout the exercise area. Observers recorded vehicle counts at primary egress routes to estimate participation levels and traffic flow, while also documenting qualitative observations related to resident behavior, route selection, compliance with messaging, and any safety concerns or operational challenges observed during the evacuation period.

Following the drill, a digital post-event survey was distributed to residents within the affected area to capture participant perspectives. For one week after the drill, signage with QR codes linking to the survey was placed throughout the neighborhood. The survey was also shared through established community channels, including HOA and neighborhood council email lists. In addition, printed copies were made available at the Latah Valley Open House hosted by the City of Spokane the week following the drill. The survey collected feedback on alert receipt and clarity, understanding of evacuation instructions, actions taken, and overall perceptions of the exercise. This input provided valuable insight into how messaging was received and acted upon by the public.

An After-Action Review (AAR) meeting was subsequently conducted with participating agencies, partners, and select community representatives. The AAR provided a structured forum to review observed outcomes, validate key findings, and identify strengths, gaps, and areas for improvement. Together, these evaluation methods informed a well-rounded assessment of the drill and supported actionable recommendations for future exercises and real-world response planning.

Overall, the data provides a moderate-to-high level of confidence in identifying key trends and operational patterns, though precise quantification of traffic flow and timing is limited by gaps in observer coverage, inconsistent time-based data collection, and voluntary survey response rates.

Drill Objectives

The overarching goal of the drill was to provide community members with a practical, experience-based opportunity to strengthen their preparedness for wildfire evacuations and to improve their understanding of how to respond to evacuation notifications. To

support this goal, a set of SMART objectives (**S**pecific, **M**easurable, **A**chievable, **R**elevant, and **T**ime-bound) was developed to guide the design, implementation, and evaluation of the exercise. Using SMART objectives ensures that performance expectations are clearly defined, outcomes can be meaningfully measured, and findings can be directly applied to improve future planning, training, and response efforts. These objectives are outlined below.

1. **Education/Awareness**
    a. Notify neighborhood area residents about the drill, at least one week before the drill.
    b. Provide neighborhood area residents with wildfire evacuation and preparedness information before the drill.
2. **Coordination**
    a. Ensure relevant city departments are engaged to support the drill on the day of the drill.
    b. Ensure relevant external partners (i.e., non-city) are invited to participate in the drill, at least one month before the drill.
3. **Evacuation**
    a. Achieve an evacuation response from households in the alerted area following the alert/notification of the L3 evacuation notifications.
4. **Alert/Notification**
    a. Send L3 evacuation alerts through the countywide alert and notification tool to the targeted area within 1 minute of target send time.
    b. Send Wireless Emergency Alerts (WEA) alert to targeted area within 1 minute of target send time.

All core objectives were substantially achieved within the scope of the exercise, though variability in participant behavior and alert delivery highlights opportunities for refinement.

Exercise Assessment

Objectives & Outcomes Summary

All SMART objectives established for this exercise were successfully achieved. The defined outcomes were achieved within the scope and timeframe of the drill, demonstrating that the exercise design, participant engagement, and operational execution aligned effectively with the intended goals. Measurable indicators, such as participant response to notifications, observed evacuation behaviors, and feedback collected through surveys and the After-Action Review validated that the objectives were both appropriate and attainable. Overall, the successful completion of these objectives indicates that the exercise meaningfully advanced community preparedness and provided actionable insights to inform future wildfire evacuation planning and drills.

Education & Awareness

Pre-drill education and outreach efforts were robust and contributed to a high level of community awareness ahead of the event. Messaging was distributed through multiple channels, including direct communications, community networks, and media engagement. The drill received extensive press coverage before, during, and after the event, which further amplified reach and visibility. This multi-channel approach not only increased awareness, but also helped build public trust and legitimacy around the exercise.

A key strength of the drill was the opportunity for residents to experience real alert and notification systems in action. Receiving live alerts on personal devices provided a tangible and memorable learning experience, reinforcing the importance of alert registration and familiarity with emergency messaging.

While general awareness of the drill appears to be high based on participation, the resident survey indicates that participant understanding of the exercise's purpose and intended actions were inconsistent. Some residents did not fully grasp what was being tested or how they were expected to respond beyond simply evacuating. Future efforts should place greater emphasis on clearly communicating:

- The specific objectives of the drill
- The expected actions residents should take upon receiving alerts
- The rationale behind evacuation behaviors, including timing, route selection, and preparedness actions

Coordination

The exercise demonstrated strong coordination across participating agencies, partners, and community residents, reflecting the effectiveness of the collaborative planning process established in advance of the drill. City departments, including emergency management, fire, communications and police worked closely with Spokane County Emergency Management and other external partners to support both the design and execution of the exercise.

A key strength of this effort was the active involvement of community volunteers, who participated not only on the day of the drill but also throughout the planning process. This early and sustained engagement contributed to a shared understanding of exercise objectives and helped ensure that the drill was grounded in the lived realities of the neighborhood. The inclusion of Spokane Fire Department apparatus and personnel enhanced operational realism and provided valuable opportunities for responders to observe evacuation behavior and traffic conditions under simulated stress.

The Spokane Police Department's involvement in both planning and field operations further strengthened coordination, particularly in areas related to traffic safety, roadway management, and real-time situational awareness. Their presence supported a more integrated operational environment and allowed for immediate observation of potential traffic control needs and public safety considerations.

No significant coordination gaps were identified during the exercise. Communication between agencies was effective, roles and responsibilities were clearly understood, and field operations were conducted in a cohesive and organized manner. This level of coordination reflects a strong foundation for multi-agency response during real-world incidents.

In addition to operational outcomes, the exercise served as an important opportunity to strengthen relationships across agencies and with external partners. These connections, including engagement with academic institutions and community members, represent a valuable resource for future efforts related to data analysis, modeling, grant opportunities, and long-term resilience planning.

Evacuation Behavior

Observed evacuation behavior was largely positive and aligned with expected outcomes. Residents demonstrated patience and cooperation in traffic queues, contributing to a safe and orderly evacuation environment. Many drivers exhibited adaptive decision-making by

selecting alternate routes in response to congestion, indicating situational awareness and flexibility.

Merging behavior and highway access were generally conducted safely, even under increased traffic volumes. Overall, community sentiment was positive, with many residents expressing outward appreciation for the opportunity to participate in a realistic preparedness activity. Several behavioral trends were noted that have implications for future planning:

- Some residents chose to evacuate on their own timeline, regardless of alert level or timing, reflecting the need for messaging that accounts for varied risk perceptions
- A high number of observed vehicles included pets, reinforcing the importance of pet-inclusive preparedness messaging
- Households with additional needs (e.g., mobility limitations, larger families) may benefit from stronger emphasis on earlier evacuation at Level 2 (“Be Set”)

Behavioral response, rather than (alert) system failure, appears to be the primary limiting factor in physical evacuation compliance.

Traffic Flow & Egress Performance

Traffic flow during the evacuation drill varied across primary and secondary egress points, highlighting how roadway design, route familiarity, and traffic distribution influence overall evacuation efficiency. While multiple routes were available, performance was uneven, with certain corridors experiencing sustained congestion while others maintained steady flow.

E. Meadowlane Rd. → Highway 195 (Northbound & Southbound)

The E. Meadowlane Rd. corridor functioned as the most constrained egress route during the exercise. Queue lengths reached approximately 35–50 vehicles at peak times, with consistent congestion observed throughout the operational period.

At the northbound intersection, approximately 149 vehicles were recorded exiting the neighborhood, with the highest traffic flow occurring between 10:30 AM and 10:45 AM. Similarly, the southbound intersection saw approximately 145 vehicles, with peak flow occurring between 10:15 AM and 10:30 AM, and the most significant backup observed around 10:30 AM.

Observers noted that congestion was occasionally exacerbated by large apparatus and oversized vehicles entering Highway 195. These vehicles required additional time to merge safely, temporarily slowing overall throughput. These findings reinforce Meadowlane's role as a primary but capacity-limited evacuation corridor, particularly under high-volume conditions.

W. Qualchan Dr. → Highway 195 (Southbound)

The W. Qualchan Dr. connection to Highway 195 (southbound) performed relatively efficiently during the drill. Approximately 200 vehicles were observed exiting at this location, with minimal backup.

This suggests that, under similar conditions, this route may provide a more reliable evacuation option, likely due to more favorable merging conditions and lower competing traffic volumes compared to Meadowlane.

W. Qualchan Dr. → Cheney-Spokane Rd. (Northbound)

This intersection experienced the highest overall traffic volume, with approximately 457 vehicles observed exiting the neighborhood. Despite this high usage, traffic flow remained steady, with minimal queuing, generally no more than three vehicles at a time.

The strong performance of this route indicates that it has greater capacity to accommodate higher volumes of traffic and serves as a critical outlet for dispersing evacuation flow away from more constrained corridors.

W. Eagle Ridge Blvd. → S. Cedar Rd. (Northbound)

Traffic flow at this intersection remained steady, with no backups observed during the drill. It should be noted that vehicles exiting via this route were subsequently counted at the W. Qualchan Dr. and Cheney-Spokane Rd. intersection for participation purposes, reflecting the interconnected nature of the roadway network and the importance of understanding downstream traffic impacts when evaluating overall egress performance.

Internal Neighborhood Intersections

Observations at internal intersections provided additional context on how residents accessed primary evacuation routes.

At Eagle Ridge Blvd. and Park Ridge, localized congestion was observed during peak evacuation periods, with approximately 10-15 vehicles queued for an extended duration between 10:35 AM and 11:15 AM This indicates that even before reaching primary egress routes, certain internal intersections can experience sustained delays under high demand.

In contrast, the intersection at Eagle Ridge Blvd. and S. Shelby St. showed no significant congestion. Traffic distributed naturally, with approximately one-third of vehicles traveling northbound and two-thirds heading south toward Highway 195 access points. This pattern reflects typical directional preferences and highlights how internal circulation influences demand on primary corridors.

Overall Participation & Data Considerations

In total, approximately N=951 unique vehicles were observed exiting the neighborhood through designated intersections and are considered participants in this exercise. Counts were adjusted to avoid duplication where possible; however, totals should be interpreted as an estimate rather than a precise count. Vehicles that exited via S. Cedar Rd. and traveled south toward the simulated wildfire area, as well as those that traveled southbound on S. Cheney-Spokane Rd. toward the simulated incident, were not included in this count.

Key Implications

These findings demonstrate that while multiple egress routes exist, evacuation performance is heavily influenced by a small number of critical corridors. Routes such as E. Meadowlane Rd. are highly susceptible to congestion under peak demand, while alternatives such as W. Qualchan Dr. provide more efficient flow and greater capacity.

This distribution highlights the importance of:

- Encouraging route diversification through public education
- Implementing traffic management strategies at known choke points
- Continuing to evaluate infrastructure capacity and improvements

Collectively, these insights will help inform future evacuation planning and improve the ability of the transportation network to support safe and timely egress during a real-world wildfire event.

Alert & Notification Performance

The Alert Spokane system performed reliably for registered users, with consistent delivery and clear messaging. The use of multiple alerting channels allowed residents to cross-reference notifications, which increased confidence in the legitimacy of the alerts.

Wireless Emergency Alerts demonstrated inconsistent performance during the drill. Some residents and responders did not receive alerts, while others reported delays in delivery timing. These inconsistencies may be attributed to factors such as carrier variability, device settings, or geotargeting limitations.

Unlike Alert Spokane, which requires users to opt in and enroll, Wireless Emergency Alerts (WEA) are automatically delivered to WEA-capable mobile devices within a targeted geographic area. However, delivery may still vary based on device settings, carrier behavior, and geotargeting limitations

It was identified that many residents may not be familiar with the phone numbers or short code sender IDs associated with emergency alerts delivered via SMS through Alert Spokane or WEA. This lack of familiarity can create uncertainty about the legitimacy of messages and may delay action during time-sensitive situations. These findings reinforce the need for redundant alerting strategies and continued public education on alert recognition.

Key Strengths & Positive Outcomes

The exercise produced several notable strengths and positive outcomes:

- Strong volunteer participation & engagement
- Positive resident behavior and cooperation
- Effective use of multi-channel communications to educate the public ahead of time
- High visibility through media coverage
- Realistic operational environment with fire apparatus presence
- Safe and adaptive driver behavior under stressful conditions
- Successful testing of a newly deployed countywide alerting system
- Demonstration of community willingness to participate in emergency preparedness/response activities

Drill Costs

During the After Action Review, participants noted that additional A-frame signage would have improved public visibility throughout the exercise area. Future drills should consider acquiring additional banners so that messaging can be displayed on both sides of each A-frame, increasing visibility for residents approaching from multiple directions.

The After Action Review also identified opportunities to increase resident feedback participation. While QR code-based surveys provided a cost-effective method for collecting responses, mailed paper surveys may have resulted in higher participation rates and a more representative sample of neighborhood residents. Future drill budgets should consider allocating funds for the development, printing, mailing, and return postage associated with paper-based survey distribution.

Barriers to Readiness & Forward Planning Considerations

The evacuation drill provided valuable insight into several structural, operational, and behavioral factors that influence evacuation effectiveness in the target neighborhood area. These findings highlight both existing constraints and opportunities to strengthen future preparedness efforts.

Traffic Congestion & Bottlenecks

Traffic congestion emerged as a primary operational constraint during the exercise. Queuing at key egress points, particularly along Highway 195, reinforced the corridor's role as a critical bottleneck for neighborhood evacuation. The combination of limited route redundancy and the presence of inbound traffic contributed to reduced flow efficiency and would likely impede both resident evacuation and emergency responder ingress during a real wildfire event.

Addressing these conditions will require a combination of operational planning and real-time traffic management strategies. Future planning should prioritize the identification of high-risk choke points and the development of intersection-specific traffic control plans. The deployment of law enforcement personnel to manage traffic flow, the potential use of contraflow strategies where feasible, and the implementation of measures to limit or control inbound traffic during evacuations will be important considerations. Additionally, maintaining clear ingress routes for emergency responders should remain a priority in evacuation planning.

Alerting System Limitations

The performance of alert and notification systems during the drill highlighted the importance of a layered communication strategy. While Alert Spokane demonstrated relatively consistent performance for registered users, WEA showed variability in both delivery and timing. These inconsistencies may be influenced by factors outside local control, including cellular carrier behavior, device settings, and geotargeting limitations inherent to the federally managed WEA system.

Given these constraints, continued coordination with Spokane County Emergency Management will be important to better understand and, where possible, mitigate alert delivery gaps. At the same time, increasing public enrollment in Alert Spokane remains a critical priority, as its effectiveness is directly tied to user participation.

Public education also plays an important role in strengthening alerting effectiveness. Residents should be encouraged to recognize official alert sender IDs (Alert Spokane

messages ending in “0730” and WEA messages ending in “56339”) to build trust and support timely action. While verification tools such as warn.pbs.org can provide additional confirmation, it is essential to reinforce that verification should never delay protective action during Level 3 (“Go Now”) evacuations. Maintaining a redundant, multi-channel alerting approach will continue to be key to ensuring broad and reliable message delivery.

Infrastructure & Access Constraints

The drill further underscored the structural limitations associated with the neighborhood’s limited egress network. Reliance on a small number of primary evacuation routes creates inherent vulnerability, particularly under high-demand conditions where congestion can rapidly escalate. These constraints are compounded by the absence of public transportation options, which presents additional challenges for residents without access to private vehicles, including those with mobility limitations or other access and functional needs. These findings highlight disproportionate impacts on residents without access to private vehicles or with access and functional needs. While emergency responders can deploy buses or other transportation resources during an incident, relying solely on those ad hoc solutions introduces uncertainty, delay, and coordination challenges, particularly during fast-moving wildfire events.

An established public transit route provides several preparedness advantages. First, it creates a known, familiar, and accessible option for residents without vehicles or those who cannot drive, reducing hesitation and decision-making time during an evacuation. Second, it supports earlier evacuation behavior, as residents who rely on transit are more likely to act at lower alert levels (e.g., Level 2 “Be Set”) if they have a predictable means of leaving the area. Third, existing routes offer pre-identified corridors and stops that can be leveraged or adapted during emergencies, improving coordination compared to deploying transportation resources on short notice.

Additionally, routine transit service helps emergency planners better understand travel patterns and rider needs, which can inform more effective evacuation planning for access and functional needs populations**.** In contrast, areas without established transit options require fully improvised solutions during an incident, which may not scale effectively under time constraints.

Future planning efforts should continue to evaluate both short-term operational strategies and long-term infrastructure considerations. This includes assessing how roadway improvements or traffic control measures may alleviate known bottlenecks, as well as exploring approaches to support populations that may require assistance during evacuation. Clear communication of alternate routes and contingency planning will also be important components of ongoing preparedness efforts.

Future transportation and construction projects along Highway 195 and within the surrounding neighborhood should incorporate planning considerations that allow for the rapid restoration of full roadway access during emergency events. In wildfire-prone WUI areas, where evacuation timelines are compressed and route redundancy is limited, the ability to reopen lanes, remove barriers, or suspend construction-related restrictions at a moment's notice is critical to life safety. While this level of flexibility may not be necessary in all parts of the city, WUI neighborhoods require adaptable infrastructure that can quickly transition from normal operations to emergency use. Integrating these considerations into project design, traffic control plans, and contractor requirements will help ensure that evacuation routes remain viable and responsive under dynamic wildfire conditions.

Data Collection Limitations

While data collection during the exercise yielded useful insights, several limitations affected the overall depth of analysis. Observation forms were not designed to capture vehicle counts by time, and the lack of standardized time-stamped data limited the ability to assess traffic flow dynamics, including peak congestion periods and evacuation timing relative to alert issuance. Although some observers independently recorded time-based data, this was not done consistently across all locations.

Strengthening data collection practices will enhance the value of future exercises. Ensuring comprehensive observer coverage, standardizing counting methodologies to reduce duplication, and incorporating time-based tracking (such as interval counts or timestamps) will improve the ability to evaluate evacuation performance. Enhancements to survey collection methods (including improved visibility and timing of outreach) will also support more robust and actionable community feedback.

Education & Public Understanding

Although overall awareness of the drill was high, findings indicate that participant understanding of the exercise's purpose and intended actions was inconsistent. Some residents did not fully understand what behaviors were being evaluated or how their actions during the drill translate to real-world evacuation scenarios.

This highlights the need for more targeted and explicit communication in future efforts. Outreach should more clearly articulate the objectives of evacuation drills, the specific actions residents are expected to take at each evacuation level, and the reasoning behind those actions. Reinforcing key concepts, such as the absence of a centralized evacuation location and the importance of early evacuation for households with additional needs (e.g., pets, children, mobility limitations), will help ensure that awareness translates into meaningful preparedness outcomes. Continued education on the appropriate use of

alerting and situational awareness tools, such as Alert Spokane, PBS Warn website and the Watch Duty application will further support informed decision-making during real incidents.

Operational & Programmatic Considerations

In addition to the primary barriers identified, several operational and logistical considerations emerged that present opportunities to improve future exercises. Minor issues such as unsecured signage and limited visibility of signage can be addressed through simple adjustments, including the use of weighted A-frame supports and clearer visual design.

Future drills should also incorporate more deliberate planning for the re-entry phase, as return traffic presents its own set of coordination and safety considerations. From a programmatic perspective, maintaining a regular cadence of evacuation drills and expanding coverage to additional areas within the neighborhood will support broader community preparedness. Continued engagement with external partners, including academic institutions, may also provide opportunities to enhance data analysis, secure grant funding, and advance wildfire mitigation and preparedness strategies.

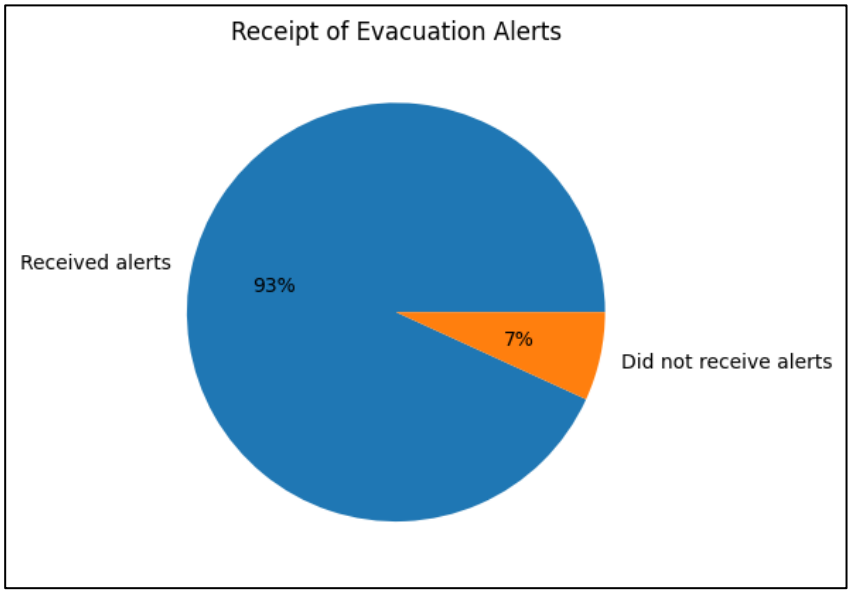
Resident Survey Findings

The resident survey yielded 117 responses and provides a strong dataset to understand community awareness, behavior, and preparedness related to wildfire evacuation. Overall, results indicate high pre-drill awareness and strong alert reach, with 93% of respondents reporting receipt of evacuation notifications. While a majority of residents participated in the evacuation and reported increased preparedness following the drill, the data also highlight important gaps in behavioral response, household readiness, and evacuation planning.

Notably, a portion of residents chose not to evacuate despite receiving alerts, and a significant percentage lack fully prepared emergency kits or pre-identified evacuation destinations. These findings suggest that while systems and outreach are largely effective, continued emphasis on public education, behavioral response, and household-level preparedness is needed to strengthen overall evacuation readiness.

Alerting Effectiveness

Out of 117 surveys submitted, 109 individuals (93%) reported receiving evacuation alerts, while 8 individuals (7%) indicated they did not receive any alert notification.

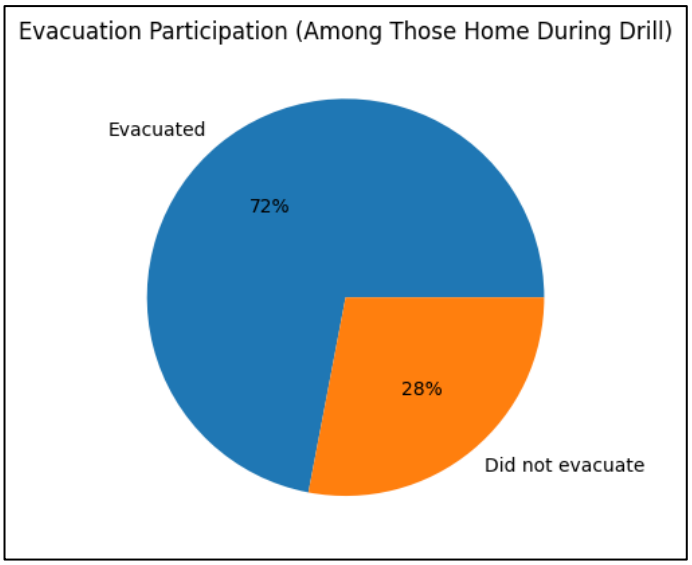


This indicates that the alert and notification system reached the majority of survey respondents within the drill area. However, a small but notable portion of the population did not receive alerts, despite being within the intended notification zone.

Evacuation Behavior

When asked about evacuation actions during the drill (117 people):

Home during drill (94 people total):

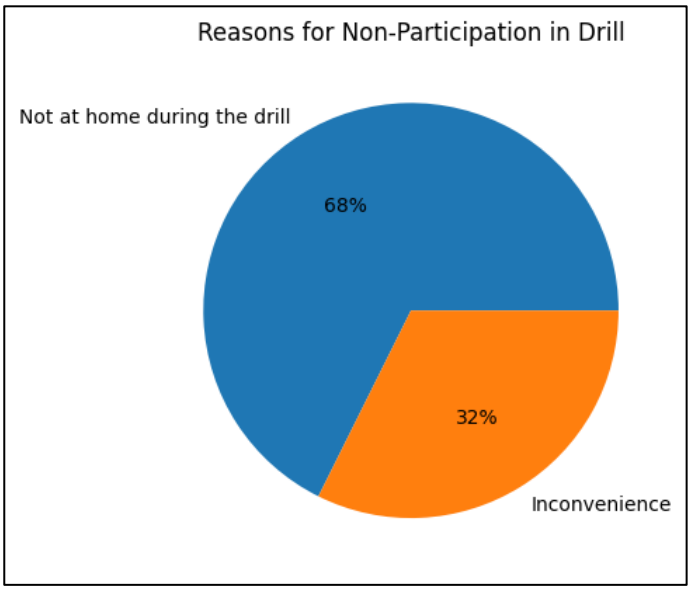


- 68 respondents (72% of those who were home during the drill) did evacuate
- 26 respondents (28% of those who were home during the drill) did not evacuate. Of those 26 people:
    - 22 respondents reported receiving an alert but choosing not to evacuate;
    - 4 respondents reported that they neither received an alert nor evacuated

Not home during the drill (23 people total): 20% of all respondents were not at home during the drill (therefore, did not evacuate).

The data suggest that resident behavior, not alert delivery, may be the primary limiting factor in evacuation compliance. Nearly one in five respondents chose not to evacuate after receiving a notification, highlighting the need for stronger public messaging around evacuation expectations and urgency. Future efforts should focus on improving behavioral response through clearer pre-event communication, risk framing, and public education.

Reasons for Not Evacuating



Among respondents who reported that they did not evacuate (34 people total), the most reported reasons for non-evacuation included:

- Not being at home during the drill (23 people, 68%)
- Inconvenience (11 people, 32%)

The remaining 83 respondents did evacuate for the drill.

Additional responses included mobility limitations, illness, being out of the area, participation as a volunteer, and isolated instances of not receiving alerts or perceiving low personal risk.

The reasons for non-evacuation fall into three primary categories:

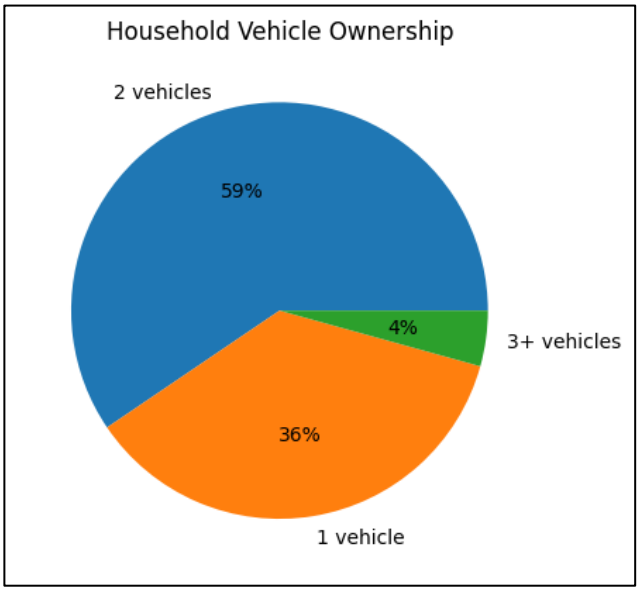
1. Situational barriers (e.g., not home)
2. Behavioral decisions (e.g., inconvenience)
3. Communication gaps (e.g., unclear expectations)

While situational barriers are largely unavoidable, the presence of behavioral and communication-related factors suggests opportunities to improve messaging clarity. In particular, ensuring that residents understand that drills are intended to simulate real evacuation actions may improve participation and better test system performance.

Household Evacuation Load (Vehicles)

Respondents reported the following number of vehicles expected to evacuate from their household:

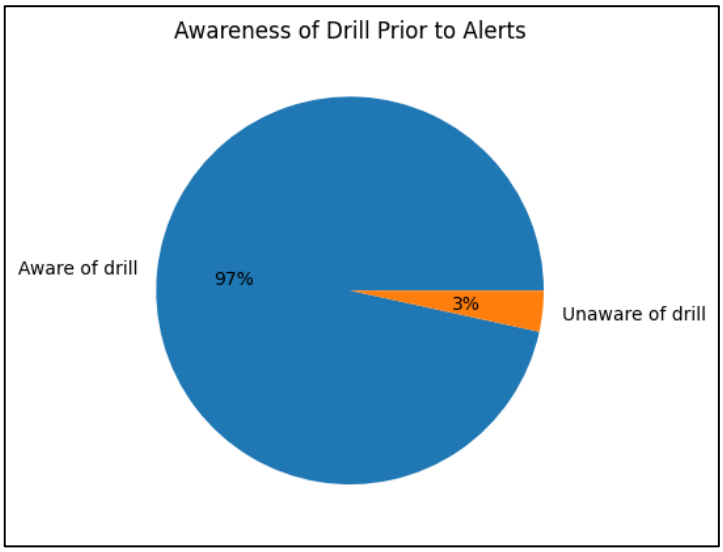
- 2 vehicles: 69 households (59% of respondents)
- 1 vehicle: 42 households (36% of respondents)
- 3 or more vehicles: 5 households (4% of respondents)



This indicates that most households anticipate evacuating with multiple vehicles. These findings have direct implications for evacuation modeling and traffic management. The predominance of two-vehicle households suggests that vehicle volume during an evacuation may be higher than population-based estimates alone would indicate. This reinforces the importance of accounting for household-level evacuation behavior when planning for roadway capacity, congestion mitigation, and phased evacuation strategies.

Pre-Drill Awareness

Survey results indicate that 113 respondents (97%) were aware of the drill prior to receiving evacuation alerts, while only 4 respondents (3%) were unaware.



Pre-drill outreach efforts were highly effective in reaching the community. The near-universal awareness suggests that the communication strategy was successful in preparing residents for participation. This level of awareness likely contributed to overall engagement and supports continued investment in similar outreach methods for future exercises.

Information Sources (How Residents Heard About the Drill)

Among those who were aware of the drill, the most commonly reported information sources included:

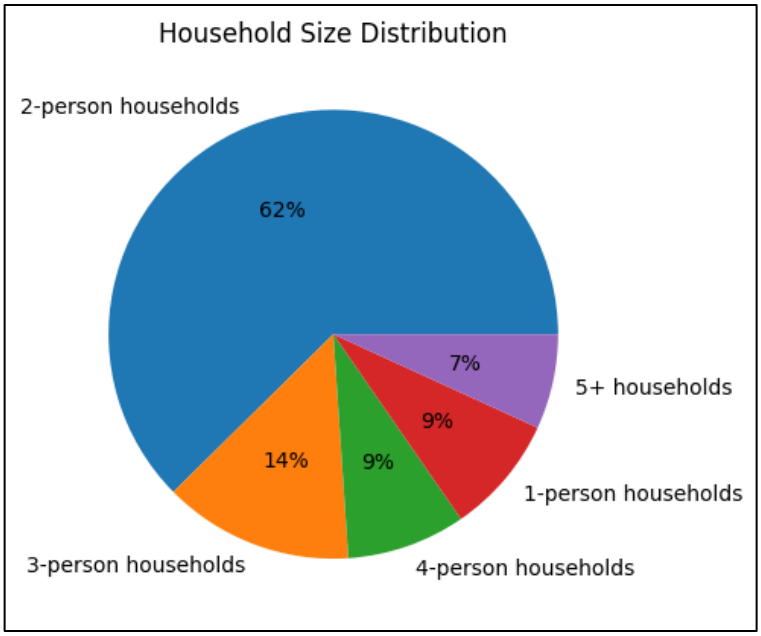
- Neighborhood newsletters and outreach flyers (primary source)
- Word of mouth
- City communications (newsletters, outreach materials)
- Local media and social media (less frequently cited)

Many respondents indicated multiple sources of information, with neighborhood-level outreach appearing most consistently. The data demonstrate that hyper-local, community-based outreach methods were the most effective at reaching residents. This suggests that future preparedness campaigns and drills should continue to prioritize localized engagement strategies, including partnerships with neighborhood organizations and direct distribution methods.

Household Size

Respondents reported the following household sizes:

- 2-person households: 73 responses (62%)
- 3-person households: 16 responses (14%)
- 4-person households: 10 responses (9%)
- 1-person households: 10 responses (9%)
- 5 or more: 8 responses (6%)

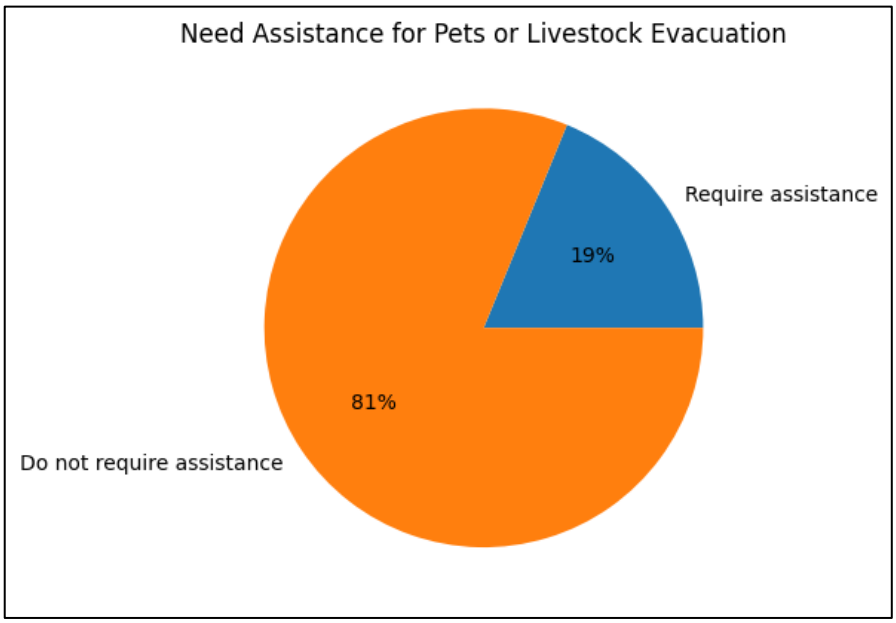


The predominance of smaller households may influence evacuation dynamics, including decision-making speed and mobility. Smaller households may be more flexible and able to evacuate more quickly, while larger households may require additional coordination. Understanding household composition helps inform assumptions around evacuation timing, resource needs, and communication strategies.

Animals Requiring Evacuation Assistance

Respondents were asked whether they had pets or livestock that would require outside assistance during an evacuation.

- 22 respondents (19%) indicated they would require assistance
- 95 respondents (81%) indicated they would not

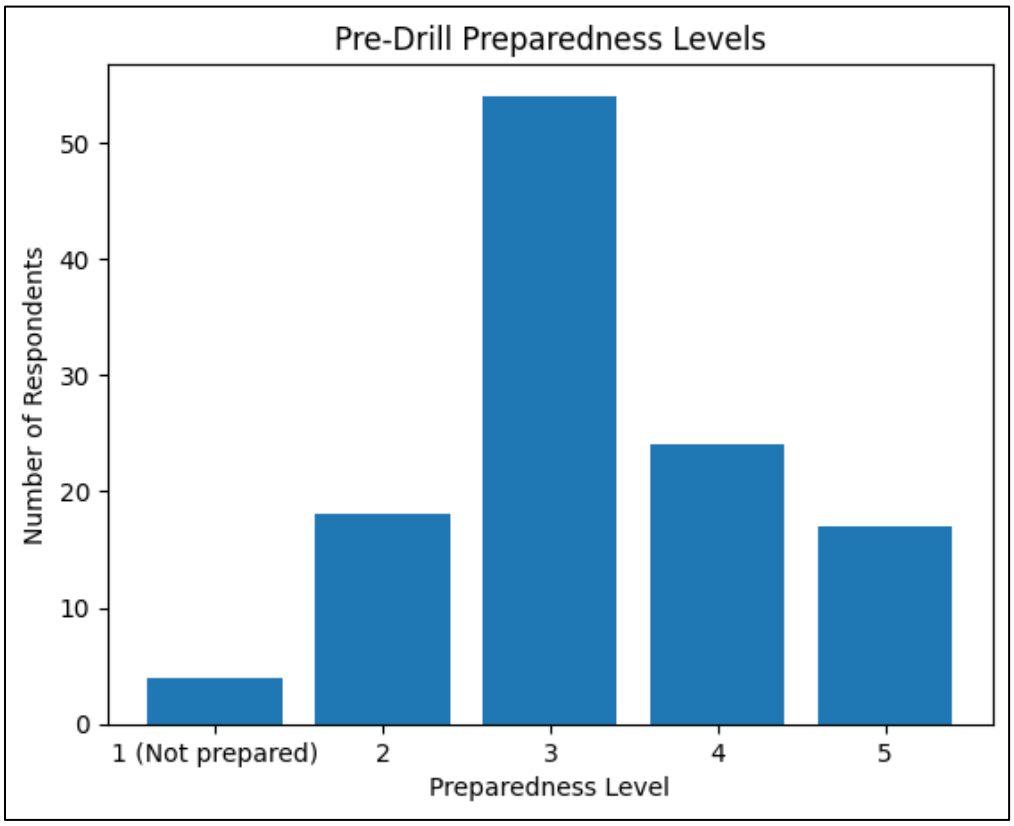


While the majority of households do not require assistance, nearly one in five households may face additional challenges evacuating animals. This represents a meaningful planning consideration, particularly for evacuation timing, transportation support, public messaging (e.g., including animals in preparedness planning). Future outreach and planning efforts should continue to reinforce the importance of pet and livestock evacuation planning and consider how assistance resources might be communicated or coordinated during a real incident.

Pre-Drill Preparedness Levels

Respondents were asked to rate how prepared they felt to evacuate prior to the drill on a scale of 1 (not prepared) to 5 (very prepared). Results were as follows:

- 3: 54 respondents (46%)
- 4: 24 respondents (21%)
- 2: 18 respondents (15%)
- 5: 17 respondents (15%)
- 1 (not prepared): 4 respondents (3%)



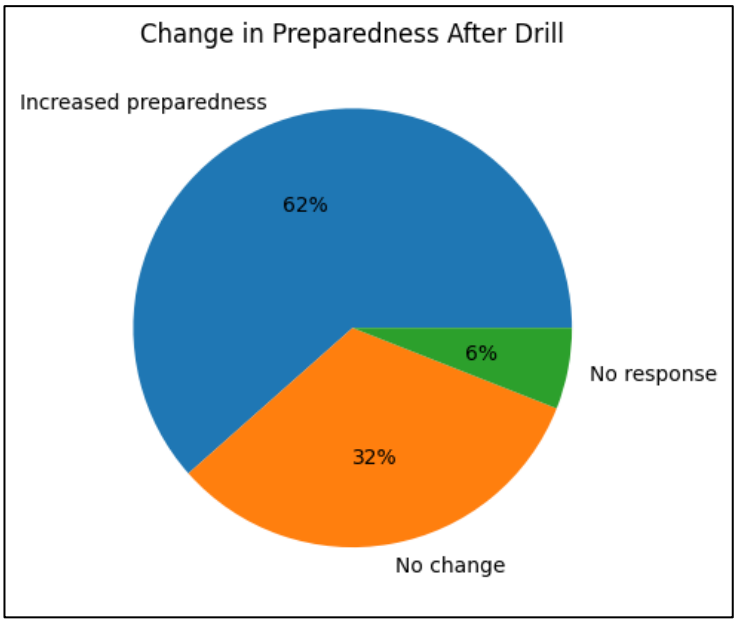
The data indicate that most residents felt moderately prepared, but not highly prepared, prior to participating in the drill. This suggests a baseline level of awareness and readiness, but also highlights a gap between perceived preparedness and optimal readiness. The relatively low percentage of respondents reporting the highest level of preparedness (15%) indicates an opportunity for continued education and engagement to strengthen household-level readiness.

Impact of the Drill on Preparedness

Respondents were asked whether the drill helped them feel more prepared for a wildfire evacuation:

- 72 respondents (62%) reported increased preparedness
- 38 respondents (32%) reported no change
- 7 respondents (6%) did not provide a response

A majority of participants reported that the drill improved their sense of preparedness, indicating that the exercise was effective in achieving one of its primary objectives. However, nearly one-third of respondents did not perceive an increase in preparedness. This may reflect:



- Participants who already felt prepared prior to the drill
- Limitations in the realism or perceived value of the exercise
- A need for more targeted or scenario-based engagement

Future drills may benefit from increased realism, varied scenarios, or additional educational components to enhance perceived value for a broader range of participants. Respondents who reported increased preparedness identified several key benefits of the drill. The most frequently cited included:

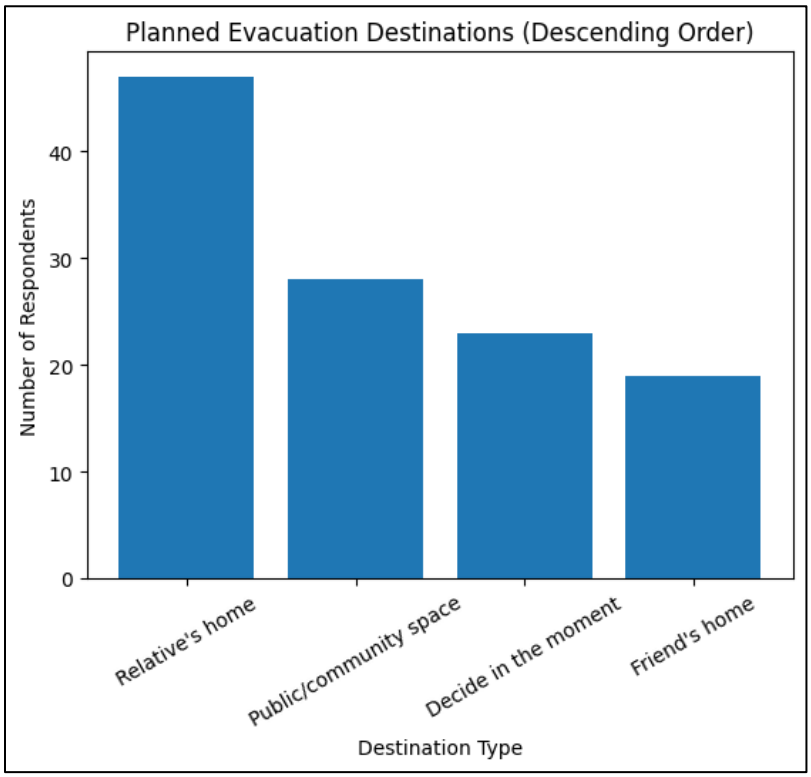
- Validation that they are signed up to receive emergency alerts
- Increased confidence in evacuation procedures
- Experience participating in a realistic evacuation scenario
- Identification of evacuation routes
- Coordination or communication with neighbors (less frequently reported)

These data support that the primary value of the drill was not limited to physical evacuation movement, but rather validation and awareness of systems and processes. Residents gained confidence in their ability to receive alerts, understand procedures, and take action. These findings reinforce the importance of experiential learning in preparedness efforts.

Intended Evacuation Destinations

When asked where they would evacuate during a real wildfire event:

- 47 respondents (40%) indicated they would go to a relative's home
- 23 respondents (20%) indicated they would decide in the moment
- 19 respondents (16%) indicated they would go to a friend's home
- 28 respondents (24%) indicated they would go to a public or community space (grocery stores, parks, faith-based spaces, etc.)



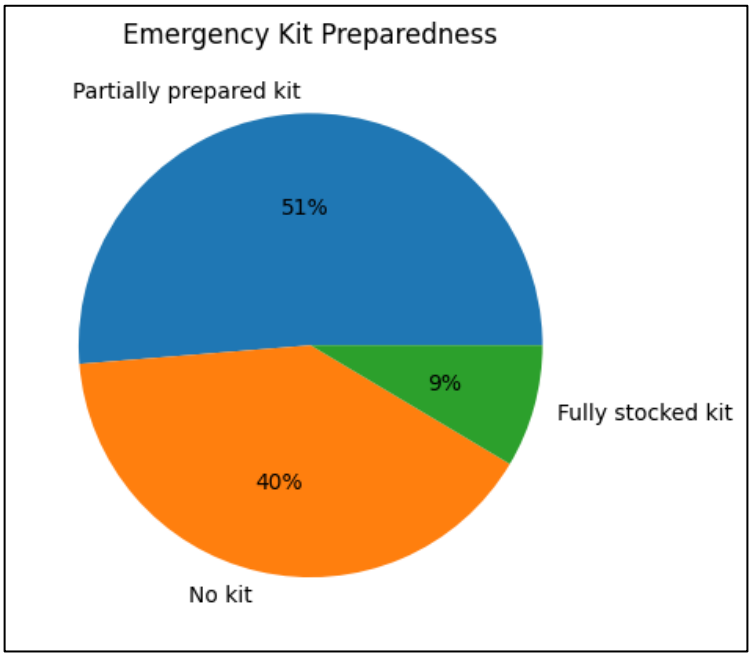
The majority of respondents plan to rely on personal networks (friends or family) for evacuation destinations, which aligns with common evacuation behavior patterns. However, the finding that 20% of respondents would decide where to go in the moment represents a potential vulnerability. Lack of a pre-identified destination may lead to delayed decision-making and increased congestion or confusion during a real evacuation. Public messaging should continue to emphasize the importance of pre-planning evacuation destinations.

Emergency Go-Bag Preparedness

Respondents were asked about the status of their emergency go-bag or kit:

- 60 respondents (51%) reported having a partially prepared kit
- 47 respondents (40%) reported having no kit
- 10 respondents (9%) reported having a fully stocked kit

This represents one of the most significant preparedness gaps identified in the survey. While a majority of respondents have taken some steps toward preparedness, only a small percentage (9%) report being fully prepared. Additionally, 40% of respondents have no emergency kit at all. This indicates a strong opportunity for targeted outreach and education focused on:

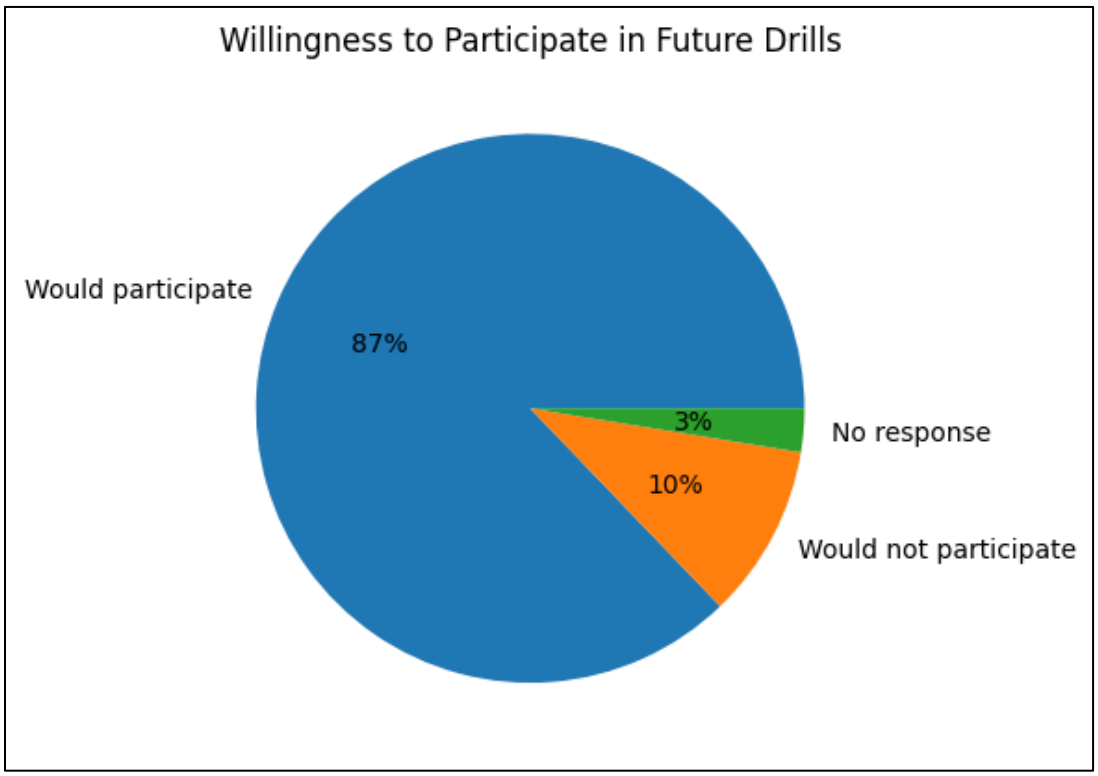


- What to include in a go-bag
- The importance of maintaining a ready-to-go kit
- Simple steps to move from partial to full preparedness

Willingness to Participate in Future Drills

Respondents were asked whether they would participate in a future wildfire evacuation drill:

- 102 respondents (87%) indicated they would participate
- 12 respondents (10%) indicated they would not
- 3 respondents (3%) did not provide a response



These findings indicate there is strong community support for continued evacuation drill efforts, with a high percentage of respondents expressing willingness to participate again. This level of engagement suggests that the program is well-received and can be sustained or expanded in the future. Continued participation will provide opportunities to refine evacuation strategies, improve preparedness, and build community resilience over time.

Future Data Collection and Cross-Sector Coordination Opportunities

The implementation of this neighborhood-level evacuation drill also highlighted an opportunity to expand the scope of data collection in future exercises. While the current survey instrument provided valuable insights into resident behavior, preparedness, and evacuation decision-making, there is potential to further refine and standardize data collection efforts to support broader resilience objectives.

In particular, future iterations of this program may benefit from coordination with external partners, including the Washington State Office of the Insurance Commissioner (OIC), insurance carriers, and other regional entities, to better understand what types of data could be collected through pre- and post-drill surveys. These partners have a vested interest in understanding community-level risk, preparedness, and evacuation behavior, as these factors can influence both loss outcomes and recovery timelines following disaster events.

Potential areas of expanded data collection could include:

- Household-level preparedness indicators (defensible space, home hardening measures, insurance coverage awareness etc.)
- Evacuation timing and decision triggers
- Access and functional needs within households
- Transportation dependencies and constraints
- Behavioral intent versus actual action during evacuation scenarios
- Barriers to preparedness (financial, physical, informational)

By aligning future data collection efforts with the needs of both public sector and private sector partners, the city can help contribute to a more comprehensive understanding of community resilience at the neighborhood level. This may support more informed policy decisions, improved risk modeling, and the development of targeted mitigation and preparedness strategies.

Additionally, more robust and standardized data collection may position the city to better demonstrate the value of these exercises, support future funding opportunities, and contribute to emerging discussions around the role of community-level preparedness in insurance markets and regulatory frameworks.

Conclusion

This neighborhood wildfire evacuation drill provided a valuable, real-world test of community evacuation behavior, alerting system performance, and transportation network capacity within a high-risk wildland-urban interface area. The exercise demonstrated strong community engagement, effective interagency coordination, and generally safe and adaptive evacuation behavior among participating residents.

At the same time, the drill reinforced several critical realities that will shape future wildfire preparedness efforts in Spokane. Evacuation performance is heavily influenced by a limited number of key transportation corridors, with congestion emerging quickly under increased demand, particularly along Highway 195. While alternative routes provided effective distribution in this scenario, the overall system remains sensitive to bottlenecks, route availability, and real-time traffic conditions.

Alerting systems performed adequately overall, but variability in Wireless Emergency Alerts (WEA) delivery and the reliance on user enrollment for Alert Spokane highlight the continued need for a layered, redundant communication strategy. Just as importantly, survey findings indicate that behavioral response (not alert receipt) is likely the primary limiting factor in evacuation compliance. A meaningful portion of residents chose not to evacuate despite receiving notifications, underscoring the need for continued public education focused on risk perception, urgency, and expected actions.

The exercise also highlighted broader structural considerations, including the limitations of existing infrastructure, the absence of public transportation options, and the need to plan for populations with access and functional needs. These factors emphasize that effective evacuation planning extends beyond emergency response and must be integrated into long-term infrastructure, transportation, and community resilience strategies.

Importantly, the drill demonstrated that experiential learning through realistic, community-based exercises enhances individual and household preparedness. Most participants reported increased confidence and awareness as a result of the drill, reinforcing the value of continued investment in this program.

Overall, this exercise represents a meaningful step forward in understanding how Spokane communities respond to wildfire evacuation scenarios. The findings provide actionable insights that will inform future drills, improve operational planning, and support ongoing efforts to strengthen community resilience in wildfire-prone areas.

Glossary of Terms

Alert/Notification
A message issued by local, regional, or federal authorities to inform the public of an imminent or ongoing emergency, including evacuation instructions.

Alert Spokane
Spokane County's official opt-in emergency notification system that delivers alerts via text, phone call, email, or mobile app to registered users.

After Action Report (AAR)
A structured report developed following an exercise or incident that evaluates performance, identifies strengths and gaps, and outlines recommendations for improvement.

Bottleneck
A localized point of traffic congestion where evacuation flow is slowed or restricted, often due to infrastructure limitations or high vehicle volume.

Contraflow
A temporary traffic management strategy in which lanes are reversed or repurposed to increase outbound traffic capacity during evacuations.

Egress
The routes or pathways used by residents to exit a neighborhood or hazard area during an evacuation.

Evacuation Levels
A tiered system used to communicate urgency during evacuations:

- **Level 1 (Be Ready):** Awareness of a potential threat; begin preparing.
- **Level 2 (Be Set):** Significant risk; prepare to leave at a moment's notice.
- **Level 3 (Go Now):** Immediate danger; leave the area without delay.

Functional Exercise (Drill)
A simulated emergency scenario designed to test specific functions, such as alerting, coordination, or evacuation, without full deployment of field resources.

Ingress
The routes or pathways used by emergency responders or others to enter an area during an incident.

Intersection Control Point
A location where traffic flow may be managed or observed during an evacuation, often used to monitor congestion or implement control measures.

Phased Evacuation
A strategy in which evacuation orders are issued in stages based on proximity to the hazard, rather than evacuating all areas simultaneously.

Quick Response (QR) Code
A scannable code used during the drill to collect participation data or direct residents to surveys or informational resources.

Self-Directed Evacuation
An evacuation approach in which residents leave the hazard area and determine their own destination (e.g., family, friends, hotel), rather than being directed to a centralized location.

SMART Objectives
A framework for setting measurable goals. Objectives should be:

- Specific
- Measurable
- Achievable
- Relevant
- Time-bound

Wireless Emergency Alerts (WEA)
A federally managed system that sends short, geographically targeted emergency messages to WEA-capable mobile devices within a defined area.

Wildland-Urban Interface (WUI)
The geographic area where residential development meets or intermingles with wildland vegetation, creating increased wildfire risk.

Re-entry (Return Phase)
The period following an evacuation when residents are allowed to return to their homes, typically after hazards have been mitigated and areas are deemed safe.

Resident Survey Instrument

Neighborhood Wildfire Evacuation Drill Resident Survey

An optional survey for residents of Latah/Hangman and Eagle Ridge areas

1. Did you receive any evacuation alerts (Levels 1–Level 3) from your local government during this drill?

☐ Yes

☐ No

2. Did you evacuate for this drill?

☐ Yes

☐ No, I received an evacuation alert but did not evacuate

☐ No, I did not get an evacuation alert and I did not evacuate

☐ N/A – I was not at home during the drill

3. If you chose not to evacuate for the drill, please share why:

☐ Not applicable; I did evacuate for the drill

☐ Physical limitations (household members with disabilities, limited mobility, or health conditions)

☐ It was inconvenient

☐ I do not consider my household to be at risk

☐ I was not at home at the time

☐ Other: _____

4. How many vehicles would evacuate from your residence?

☐ 1

☐ 2

☐ 3+

5. If you did not get an evacuation alert, please share your address:

6. Did you know about the drill prior to receiving evacuation alerts?

☐ Yes

☐ No

7. If aware of the drill ahead of time, how did you hear about it? (Check all that apply)

☐ Neighborhood newsletter or outreach flyer

☐ Local TV or radio news

☐ City of Spokane newsletter or outreach

☐ Social media

☐ Word of mouth

8. How many people live in your household?

9. Do you have pets or livestock that would require outside assistance for evacuation? *

☐ Yes

☐ No

10. How prepared did you feel to evacuate before this drill? (Circle answer)

1 2 3 4 5

(1=Not prepared → 5=Very prepared)

11. Did this drill help you feel more prepared?

☐ Yes

☐ No

12. How did this drill make you feel more prepared? (Check all that apply)

☐ Not applicable

☐ Gained confidence about evacuation procedures

☐ Identified quickest evacuation route

☐ Gained evacuation experience

☐ Connected with neighbors

☐ Confirmed emergency alert signup

☐ Other: _____

13. In a real wildfire evacuation, where would you go? *

☐ Friend’s house

☐ Relative’s house

☐ Grocery store

☐ Library

☐ Shopping center

☐ Park or outdoor space

☐ Faith-based space

☐ I don’t know

☐ Decide in the moment

☐ Community center

☐ Other: _____

14. Do you have an emergency go bag?

☐ Yes, fully ready

☐ Yes, partially ready

☐ No

15. Would you participate in a future drill?

☐ Yes

☐ No

16. Major concerns about wildfire evacuations (optional)

17. Something you learned from this drill (optional)

18. What went well about the drill? (optional)

19. What could be improved? (optional)

20. Other comments

---------- end of survey----------