



OFFICE OF  
INSURANCE COMMISSIONER

May 28, 2026

**Office of Insurance Commissioner Report on Property Protection Classification scoring**

Dear Sen. Kauffman, Rep. Walen, and members of the Senate and House insurance committees:

In the [2025 supplemental operating budget](#), the Washington State Legislature directed the Office of the Insurance Commissioner “to review and evaluate the efficacy of current property protection class rating methodologies and to study the feasibility of modernizing community property classification rating schedules to more accurately reflect the fire protection risk and available mitigations for a specific property.”

For background, property protection classification is a rating provided by the Washington Surveying & Rating Bureau (WSRB) to grade local fire protection services’ capability to suppress structure fires. This rating is NOT used to evaluate wildfire risk; insurance companies use data from various vendors other than WSRB to generate wildfire risk scores.

The intent of the property protection classification rating system is to evaluate a community’s fire department, water supply system, and emergency communications in coordinating reduction of property loss from structure fires. Most property insurance companies use the scoring system as a data point to determine if a property is eligible for property insurance. Almost all property insurance companies will provide different insurance pricing per scoring level related to fire insurance. Finally, fire districts evaluate purchasing equipment and vehicles, staffing needs, and where to build fire stations in response to this scoring system.

The OIC contracted with LM2 & Associates, led by former U.S. Fire Administrator Dr. Lori Moore-Merrell, to conduct this study. Dr. Moore-Merrell and her team of experts have deep experience with the fire service community, expert-level knowledge of National Fire Protection Association standards, geospatial analysis, and Centers for Public Safety Excellence guidelines.

The report’s findings on the current methodology include:

- **It lacks transparency into how classifications are calculated.** Fire departments cannot model improvements or verify data used in their own ratings.

- **It measures documented input rather than operational performance.** It does not consistently reflect how fire departments perform during actual incidents, creating a disconnect between measured capability and real outcomes.
- **Fixed distance thresholds create “cliff” effects that produce abrupt rating changes disproportionate to actual differences in fire risk.** Minor geographic variation should not produce major classification swings.
- **Rural and volunteer departments operate under standards calibrated to urban, career-based models.** The 3-to-1 volunteer equivalency ratio and apparatus age penalties affect rural departments and does not measure effectiveness.
- **Most of the data needed to support a modernized approach already exists in operational systems.** Currently, these local authoritative data sources are not being applied or integrated. Additionally, the existing data collection mechanism is highly antiquated and is a reasonable cause for concern around data accuracy, completeness, quality, and reliability.

In response to these findings, the project team developed a design-ready data schema that defines what a modernized rating system should measure, how that data should be structured, and how scoring could work at both the community and property level. Report’s recommendations include:

- **Improve transparency and data access:** Establish that fire departments have the right to review and verify data used in their own classification, and that rating methodology must be fully explainable, reproducible, and auditable.
- **Performance-based modernization:** Incorporate National Fire Protection Association 1750-aligned response metrics, Emergency Response Facility performance, and outcome-based prevention measures. Conduct a structured pilot of the PPC 2.0 framework across representative community types.
- **Legislative and regulatory foundation:** Provide statutory direction on methodology disclosure, performance-based evaluation, data use standards, and accountability for rated components outside direct fire department control.

The full report by LM2 & Associates is attached for your review. Please do not hesitate to reach out with any questions about this report or to schedule a discussion or technical review of potential legislative action.

Sincerely,



Patty Kuderer  
Insurance Commissioner



**LM2 & Associates**

Expertise Innovation Solutions

# PPC Evaluation FINAL REPORT

**FOR WASHINGTON STATE  
OFFICE OF INSURANCE COMMISSIONER**

# **Review and Evaluate Current Property Protection Classification Rating Methods and Study the Feasibility of Modernizing Community Property Classification Rating Schedules**

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## **FINAL REPORT**

Prepared by  
**LM2 & Associates**

**May 2026**

### **Companion Deliverables to this Final Report**

- Interested Party Engagement Report (Deliverable 1)
- Current State Assessment and Status Report (Deliverable 2)
- PPC Data Inventory (Deliverable 3)
- PPC 2.0 Preliminary Target Methodology Report and Data Schema Workbook (Deliverable 4)

## 1. Executive Summary

The Washington State Office of the Insurance Commissioner (OIC) contracted LM2 & Associates to evaluate the fire property protection classification (PPC) methodology administered by the Washington Surveying and Rating Bureau (WSRB) and to assess the feasibility of modernizing how fire protection capability is measured for insurance rating purposes in Washington State.

This project was conducted over five months beginning in late 2025 and encompassed four workstreams — interested party engagement across the state, a structured review of the current WSRB methodology, a comprehensive inventory of available data sources, and development of a proposed modernized data schema (PPC 2.0). Four companion deliverables document those workstreams in full. This report synthesizes findings across all four and presents the project team’s conclusions and recommendations to OIC.

### What We Found

The current WSRB methodology provides a consistent, structured framework for evaluating fire protection capability that is well established and broadly understood by the insurance industry. However, the assessment identified significant gaps between what the methodology measures and what Washington’s fire service and communities need it to measure.

Five findings emerged consistently across every region and community type:

- **Transparency is the highest priority concern among fire service professionals statewide. Rated #1 of 27 criteria by 59 survey respondents, with an average score of 4.44 out of 5.00, the inability to understand how classifications are calculated — or to model how investments would change outcomes — was described as the single greatest barrier to using the rating system as a planning tool for fire service professionals statewide.**
- **The current methodology documents the number of items or equipment rather than operational performance. It does not consistently reflect how fire departments perform during actual incidents, creating a disconnect between measured capability and real fireground outcomes.**
- **Fixed distance thresholds create “cliff” effects that produce abrupt rating changes disproportionate to actual differences in fire risk. Minor geographic variation should not produce major classification swings.**
- **Rural and volunteer departments operate under standards calibrated to urban, career-based models. The 3-to-1<sup>1</sup> volunteer equivalency ratio, apparatus age penalties, and distance thresholds were cited as barriers to equitable treatment in every session.**

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<sup>1</sup> The 3-to-1 volunteer equivalency concept defines the staffing ratio where three on-call or volunteer firefighters are credited as one career on-duty firefighter to meet the minimum personnel requirements of the WSRB grading schedule.

- **Most of the data needed to support a modernized approach already exists in operational systems.<sup>2</sup> The constraints are in antiquated processes for PPC survey data collection from local jurisdictions and lack of streamlined data integration from local, authoritative sources and systems. These deficits in the PPC data collection and management processes underpin systemic issues around data accuracy, quality, and reliability.**

## What We Developed

In response to these findings, the project team developed the PPC 2.0 Preliminary Target Methodology — a design-ready data schema that defines what a modernized rating system should measure, how that data should be structured, and how scoring could work at both the community and property level.

The PPC 2.0 framework organizes fire protection capability into six performance-based modules: response performance, staffing and readiness, deployment and coverage, water supply, prevention and risk reduction, and regional and specialized capability. It replaces fixed distance thresholds with GIS-based travel time analysis, substitutes theoretical equivalency ratios with observed response data, and introduces continuous scoring that rewards incremental improvement rather than requiring communities to cross binary thresholds.

This framework is not a deployable replacement for the current WSRB methodology. Converting it to a functioning rating system requires actuarial validation — specifically, calibrating metric weights against historical fire loss data and confirming that resulting scores preserve the loss-predictive meaning of the established 1–10 PPC scale. That work is the essential next step.

## Recommendations

The project team makes ten recommendations organized around three strategic priorities:

- **Transparency and data access: Establish that fire departments have the right to review and verify data used in their classification, and that rating methodology must be fully explainable, reproducible, and auditable.**
- **Performance-based modernization: Incorporate national standards for National Fire Protection Association, NFPA 1750-aligned response metrics, effective response force (ERF) performance, and outcome-based prevention measures. Conduct a structured pilot of the PPC 2.0 framework across representative community types.**
- **Legislative and regulatory foundation: Provide statutory direction on methodology disclosure, performance-based evaluation, data use standards, and accountability for rated components outside direct fire department control.**

Considered as a whole, the case for modernization is clear and well-supported by the evidence gathered through this project. The path forward is incremental, not disruptive — building on the strengths of a well-established system while addressing limitations that are widely recognized and, in many cases, technically straightforward to correct.

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<sup>2</sup> These systems include local computer-aided dispatch (CAD), records management systems (RMS), geographic information systems (GIS), and inspection platforms.

## 2. Project Overview

### 2.1 Background and Purpose

Fire property protection classifications (PPCs) are used by insurers as a primary input in assessing property risk from fire and setting fire insurance premiums. PPC's are used to evaluate the community's ability to reduce damage from structure fire. In Washington State, insurers rely on Protection Classes (PCs) developed and maintained by the **Washington Surveying and Rating Bureau (WSRB)**, a not-for-profit organization that administers the state's classification system. **WSRB** operates independently of the national **ISO Public Protection Classification (PPC)** system used elsewhere. These ratings are different from wildfire risk scores that insurers use to consider the risk of wildland interface fire entering the built environment.

The OIC initiated this project to evaluate whether the current WSRB methodology adequately reflects fire protection capability across Washington's diverse communities, and to assess the feasibility of modernizing the approach. Growing concerns about equity — particularly for rural communities, volunteer departments, and wildland-urban interface (WUI) areas facing an insurance access crisis — provided the primary policy motivation.

### 2.2 Scope of Work

The project was organized into four workstreams, each producing a stand-alone deliverable:

1. Interested Party Engagement (Deliverable 1): One virtual session and four in-person sessions held across Western, Central, and Eastern Washington, engaging 59 fire service professionals and community members. An interview with an authorized Washington state insurance company supplemented the fire service input.
2. Current State Assessment (Deliverable 2): A structured review of the WSRB methodology, grading schedule, and underlying assumptions, based on documentation review and direct discussions with WSRB staff.
3. Data Inventory (Deliverable 3): A catalog of publicly available and accessible geospatial, fire service, and wildfire risk datasets relevant to a modernized rating methodology.
4. PPC 2.0 Preliminary Target Methodology (Deliverable 4): A design-ready data schema defining what a modernized system should measure, how it should be structured, and how scoring would work.

**This final report integrates findings across all four workstreams and presents recommendations to OIC. The companion deliverables are the authoritative source on each workstream and should be read alongside this report.**

### 2.3 A Note on Methodology Limitations

During the project, the team sought access to WSRB's raw scoring data and detailed point-value calculations to calibrate and analytically validate a modernized methodology. WSRB chose not to make this data available. As a result, the PPC 2.0 framework is a description of what to measure and how to structure it, not a validated scoring model. Actuarial validation against historical fire loss data is an essential prerequisite before the deployment of a new scoring model.

### 3. Assessment of the Current WSRB Methodology

#### 3.1 Strengths

The WSRB methodology provides a structured, repeatable framework applied consistently across Washington State. Its core strengths include:

- **Statewide consistency:** A defined grading schedule enables standardized comparison of communities using common criteria, which supports insurance rating comparability.
- **Established insurer relationships:** The system is well understood by Washington insurers and reflects decades of alignment with insurance rating practice. Unlike ISO, WSRB is Washington-specific, allowing direct dialogue with fire departments and state stakeholders.
- **Grounded in recognized practice:** The methodology incorporates established fire service standards across staffing, training, apparatus, water supply, and communications.
- **Operational accessibility:** Participants consistently acknowledged WSRB’s responsive customer service and the utility of classification reports for conversations with elected bodies and policymakers.

#### 3.2 Key Limitations

The assessment identified nine significant limitations in the current methodology. These are summarized in the table below and documented in full in Deliverable 2.

Finding	Summary
<b>Transparency</b>	Most consistent concern across all regions and department types (ranked #1, avg 4.44/5.00). Departments cannot model improvements or verify data used in their own ratings.
<b>Documentation over performance</b>	The current system prioritizes evidence of compliance with outdated rules and completing forms over actual operational performance, meaning it doesn't always reflect how quickly or effectively a department truly responds to an emergency. For example, response reliability and ERF assembly are not measured.
<b>Cliff effects</b>	Fixed distance thresholds create abrupt classification changes. Small differences in location produce large rating swings disproportionate to actual risk differences.
<b>Prevention not credited</b>	Investments in sprinkler adoption, risk assessments, code improvements, and WUI mitigation have no meaningful pathway to classification improvement.
<b>Rural and volunteer inequity</b>	Urban-calibrated standards disadvantage rural and volunteer departments. The 3-to-1 volunteer equivalency ratio and apparatus age penalties were raised at every session.

Finding	Summary
<b>Limited planning utility</b>	Departments cannot evaluate investment scenarios or model the impact of capital improvements. The system does not function as a useful planning tool.
<b>Data collection and use of authoritative data sources</b>	Most data needed for a performance-based system already exists in local computer-aided dispatch (CAD) systems, local records management systems (RMS), and inspection systems. Currently, these local authoritative data sources are not being applied or integrated. Additionally, the existing data collection mechanism is highly antiquated and is a reasonable cause for concern about data accuracy, completeness, quality, and reliability.
<b>Data access asymmetry</b>	Fire departments generate the operational data underlying WSRB ratings but have no structured right to review or verify it.
<b>Insurance constraint</b>	Any replacement methodology must preserve the 1–10 PPC scale and its loss-predictive meaning to remain viable for insurance rating purposes.

### 3.3 How the Current PPC Scoring Method Works

WSRB uses a two-step process. First, it evaluates the overall community (as defined by WSRB), fire protection capacity using a grading schedule that allocates points across four weighted components:

- Fire department capabilities: 40% of the total score (apparatus, staffing, training, automatic aid, travel distances)
- Water supply: 35% of the score (hydrant coverage, fire flow, alternative sources)
- Emergency communications: 9% of the score (dispatch, CAD, communications infrastructure)
- Fire safety control: 16% of the score (code enforcement, inspections, public education)

Second, property-level classification rules adjust an individual property’s Protection Class (PC 1–10) based on distance to fire stations and available water supply. Properties within the same community can receive different PCs based on these distance rules. A property’s PC cannot exceed the community’s grade. Classifications are assigned based on score thresholds — meaning a small difference in total score can shift a community from one class to another.

## 4. Interested Party Engagement Findings

### 4.1 Engagement Process

LM2 & Associates conducted a five-session structured engagement process from January through March 2026, reaching fire service professionals across all regions of Washington State. Initial contact was established with statewide fire service organizations, including the

Washington State Fire Chiefs, Washington State Fire Fighters Association, Washington State Council of Fire Fighters, and Washington Fire Commissioners.

Format	Date	Location	Region	Attendees
Virtual	Jan 22, 2026	Virtual (Teams/Zoom)	Statewide	~10–12
In-person	Feb 11, 2026	Puget Sound Fire Dept., Station 52	Western WA (King/Pierce)	~25
In-person	Feb 12, 2026	Clark County Fire Dist. #6, Station 63	Western WA (Clark Co.)	~10
In-person	Mar 2, 2026	Spokane County Fire District #4	Eastern WA (Spokane region)	~23
In-person	Mar 3, 2026	Kennewick Fire Training Center	Central/Eastern WA	~15

A total of 59 individuals completed the 27-criterion prioritization survey across all in-person sessions, representing career, combination, and volunteer departments across urban, suburban, and rural settings from 15 counties. Rankings were derived using z-score standardization. Z-score is a statistical measure showing how far each score sits above or below the group average to control for individual scoring tendencies.

#### 4.2 Top-10 Criteria Rankings (Combined, n = 59)

Survey respondents rated 27 criteria on a 1–5 scale of importance for informing a modernized rating methodology. The top-10 criteria by z-score are shown below. Full rankings for all 27 criteria and detailed breakdowns by region are documented in Deliverable 1.

Rank	Criterion	Category	Z-Score	Avg (1–5)
1	Rating Transparency and Appeals	Transparency & Oversight	+0.835	4.44
2	Staffing – Effective Response Force	Fire Department	+0.600	4.27
3	Radio Communications	Emergency Communications	+0.472	4.15
4	Community Risk Assessment	Community Risk Assessment	+0.326	3.95
5	Wildfire Response Capabilities	WUI Risk & Mitigation	+0.319	4.02
6	Response Time Performance	Fire Department	+0.292	3.97
7	Standards of Cover	Community Risk Assessment	+0.274	3.92
8	Training and Certification	Fire Department	+0.236	3.90
9	Response Time Performance Data	Performance Analytics	+0.175	3.81

Rank	Criterion	Category	Z-Score	Avg (1–5)
10	Incident Outcome Analysis	Performance Analytics	+0.131	3.76

## 4.3 Cross-Cutting Themes

### Transparency and Data Access

Rating Transparency and Appeals ranked #1 of 27 criteria in every individual session and in the combined dataset — the only criterion with unanimous top-rank status across all regions. With a combined average of 4.44/5.00, no other criterion was close. Fire departments described the current system as a “black box” that makes it impossible to understand how scores are calculated, verify the accuracy of data inputs, or determine what specific investments would improve their Protection Class and rating.

A related theme was data ownership. Departments generate the inspection and performance data that WSRB uses to produce ratings sold to insurers yet are not provided with access to the data they provide. They also don’t receive any structured data feedback in return. As one elected fire commissioner charged with fiduciary responsibilities stated when referencing WSRB: “As a [government] agency operating with taxpayer dollars, transparency is not only expected — it is required.”

### Performance-Based Metrics vs. Distance Thresholds

Effective Response Force (ERF) assembly ranked #2 overall; Response Time Performance ranked #6; Community Risk Assessment (#4) and Standards of Cover (#7) also ranked in the top ten. All significantly outranked the distance-based thresholds currently used. Participants consistently requested GIS-based travel time analysis to replace the 5-mile and 7-mile station proximity rules and the 1,000-foot hydrant threshold, which they described as creating arbitrary “cliff effects” that do not reflect real-world response capability.

### Rural and Volunteer Equity

The 3-to-1 volunteer-to-career equivalency ratio was questioned in every session. In departments where volunteers carry equivalent certifications to career staff, the fixed ratio understates response capability. Shared resources between fire departments should be recognized and counted for each participating department. Apparatus age penalties for well-maintained older units, training requirements calibrated to individual fire department owned facilities, and standards designed for urban deployment models were all cited as barriers to higher scores for smaller and rural departments. The Rural and Small Community Standards criterion ranked as high as #2 in Clark County and #4 in the Richland session.

### Wildfire and WUI Risk

Wildfire-related criteria showed the largest regional divergence of any topic. Wildfire Response Capabilities ranked #2 in Eastern/Central Washington but #15 in Western Washington — a 13-rank difference that reflects the current insurance access crisis facing WUI communities east of the Cascades. Eastern Washington participants described fire districts that have invested heavily in wildland capabilities and community mitigation programs yet receive no classification credit for those investments.

### Accountability for Rated Components

Fire departments are evaluated in part on water system performance, 911 dispatch operations, and code enforcement — components they often do not control. Districts without statutory

authority over independent water purveyors, PSAP operations, or AHJ responsibilities described absorbing public consequences for rating outcomes they cannot fully audit or correct. Participants recommended that the rating framework clearly distinguish between components the fire department controls and those it does not.

#### **4.4 Insurance Industry Perspective**

A one-on-one interview with an authorized Washington state insurance company confirmed that PPC functions primarily as a numerical score input to premium rating models, with fire representing approximately 16% of a homeowner's premium. The interviewee noted that incremental score changes within a broad rating band do not affect consumer premiums.

The most significant constraint identified was actuarial: any new methodology that is designed to replace, or be used in conjunction with, the current PPC scoring must preserve the 1–10 PPC scale and the loss-predictive meaning of each score level. Altering the relationship between score levels and historical fire loss outcomes would require insurers to completely rebuild actuarial models, which was described as neither feasible nor acceptable in the near term. New variables and performance-based measures are acceptable provided this constraint is maintained. The project team recommends that this constraint be revisited with additional insurance providers and actuaries to explore whether a structured transition is feasible over a longer timeframe.

## **5. PPC 2.0 — Proposed Modernization Framework**

### **5.1 Overview**

The PPC 2.0 Preliminary Target Methodology is a design-ready data schema for a modernized fire protection classification system. It is grounded in nationally recognized fire service performance standards — principally NFPA 1750, the CPSE Standards of Cover model, and NFPA 1300 — and is directly responsive to the priorities expressed by Washington's fire service community through the engagement process.

The framework is structured around two complementary components:

- A Community Capability Score that evaluates how well the fire protection system performs using a set of performance-based metrics organized into six modules.
- A Property-Level Data Schema that captures how risk and operational conditions vary at the structure level, providing additional context within the broader community score.

The PPC 2.0 framework is not a deployable scoring system and does not propose metric weights. Weights must be calibrated through actuarial analysis against historical fire loss data before the framework can be deployed as a rating methodology. The full specification is documented in Deliverable 4 (PPC 2.0 Preliminary Target Methodology Report and accompanying Data Schema Workbook).

### **5.2 Community Capability Score Modules**

The Community Capability Score is organized into six modules, each grounded in operational data sources routinely available to fire departments:

Module	What It Measures
<b>1. Response Performance</b>	90th-percentile first-unit arrival time; percent of incidents meeting NFPA 1750 response benchmarks; ERF reliability by structure risk level; call processing time (scored separately from fire department response).
<b>2. Staffing, Training &amp; Readiness</b>	Observed on-duty staffing; volunteer turnout rates and actual per-incident response; NFPA 1001/1021 certification rates; annual training hours; multi-company and regional drills.
<b>3. Deployment &amp; Coverage</b>	Percent of population within 480-second (career) and 610-second (volunteer/suburban) GIS network travel time from a staffed station. Normalized resource density (stations per 100 sq mi; engines per 10,000 population).
<b>4. Water Supply Capability</b>	GIS-derived hydrant coverage; water tender and drafting site availability in non-hydrant protected areas; percent of identified target hazards with verified adequate fire flow.
<b>5. Prevention &amp; Risk Reduction</b>	Inspection coverage of required occupancies; current Community Risk Assessment (NFPA 1300/CFAI); current Standards of Cover; percentage of structure fires confined to room of origin at arrival.
<b>6. Regional &amp; Specialized Capability</b>	Automatic aid participation; mutual aid agreements; WUI apparatus and NWCG-qualified personnel (conditional module applied where wildfire exposure warrants).

### 5.3 Property-Level Data Schema

The Property-Level Data Schema complements the Community Capability Score by capturing variation within a community that matters at the parcel level. It includes two components:

- **Proximity and Accessibility:** GIS-derived travel time from the nearest staffed station to the specific parcel (continuous, not binary); distance to nearest hydrant; alternative water source proximity and access characteristics for high-risk or rural properties.
- **Structural Risk Attributes:** Construction type, exterior materials, roof cover, building age and condition, floor area, sprinkler presence, and verified fire flow adequacy. These would be sourced from a commercial property data provider, consistent with current industry practice.

Property-level data is not intended as a standalone scoring system. It provides additional context within the broader classification framework and allows for differentiation between properties that receive similar community-level service but present materially different risk conditions.

### 5.4 Key Design Principles

The PPC 2.0 framework embodies several principles that directly address limitations of the current methodology:

- Performance over inputs: Metrics measure how the system performs, not what equipment the fire department has. ERF reliability, response time compliance, and fire confinement rates replace static apparatus counts and staffing rosters.
- Continuous scoring: Metrics are normalized to a 0–100 scale and combined into a continuous community score, eliminating the sharp threshold effects that create cliff conditions in the current system.
- Travel time over road miles: GIS network analysis replaces binary road-mile distance rules, reflecting actual response time rather than proximity as-the-crow-flies or along arbitrary road segments.
- Observed over theoretical: Volunteer turnout rate and per-incident response data replace the 3-to-1 equivalency ratio. The methodology measures what the volunteer component actually delivers, not what it is theoretically assumed to contribute.
- Transparency by design: Because the model is built on clearly defined metrics and a documented scoring structure, departments can understand how their scores are derived, identify specific areas for improvement, and model the likely impact of investments.
- Built on existing data: The framework is designed around data fire departments already collect — CAD, GIS, inspection records, and NERIS incident data — reducing the burden of new data collection and supporting more timely updates.

## 5.5 What Remains to Be Done

Converting the PPC 2.0 framework into a deployed rating system requires the following additional steps, documented in full in Deliverable 4:

1. **Actuarial validation and weight calibration:** Historical fire loss data by community and property must be assembled to statistically establish the relationship between proposed metrics and observed loss outcomes. This step also confirms that the scoring model preserves the loss-predictive meaning of each level on the 1–10 PPC scale.
2. **Stakeholder review:** Fire department representatives, WSRB, and insurance industry actuaries should review the schema before finalization. Normalization thresholds and conditional module criteria would benefit from structured technical review against Washington-specific operating conditions.
3. **Pilot testing:** The methodology should be piloted against a representative sample of Washington fire departments — including urban career agencies, suburban combination departments, rural volunteer districts, and agencies with significant WUI exposure — before broader deployment.
4. **NERIS adoption support:** NERIS implementation across Washington would provide foundation data required for the proposed, modernized approach. As departments transition to NERIS, the response performance metrics in the schema become directly computable from incident data captured within NERIS. OIC and the Washington State Fire Marshal’s Office could support and accelerate NERIS adoption by local fire departments.

## 6. Recommendations

The following ten recommendations are grounded in findings across all four project workstreams. They are organized to support a phased, incremental approach to modernization — not immediate replacement of the current methodology. Short-term actions can be taken

within the current system; longer-term actions require the development and validation work outlined in Section 5.

#	Recommendation	Description
R-1	<b>Improve Transparency</b>	Establish a clear expectation that departments have the right to review, verify, and access the data used in their own classification. This should be part of a modernized data collection, integration, and management capability. Provide quantified guidance on how specific operational changes affect Protection Class outcomes.
R-2	<b>Incorporate Performance-Based Metrics</b>	Supplement the current documentation-based framework with response reliability measures, ERF performance, and demonstrated fire flow. Align with NFPA 1750 benchmarks for first-unit arrival and ERF assembly times.
R-3	<b>Replace Distance Thresholds with Travel-Time Analysis</b>	Transition from fixed road-mile cutoffs (5-mile, 7-mile station proximity; 1,000-foot hydrant distance) to GIS network-based travel time analysis that reflects actual response conditions.
R-4	<b>Modernize Data Collection and Integration</b>	Shift from survey-based documentation to structured use of existing operational data systems including CAD, GIS, NERIS, and inspection platforms. Support NERIS adoption across Washington fire departments as a foundational step.
R-5	<b>Pilot the PPC 2.0 Framework</b>	Conduct a structured pilot in jurisdictions representing urban, suburban, rural, and WUI community types to validate data availability, test performance metrics, and compare results against current WSRB classifications.
R-6	<b>Incorporate Property-Level Data</b>	Add parcel-level proximity, water supply adequacy, and structural characteristics to provide a more accurate representation of fire protection at the property level.
R-7	<b>Recognize Prevention and Risk Reduction</b>	Ensure that investments in sprinkler adoption, community risk assessment, standards of cover, and wildfire mitigation produce measurable movement in classification outcomes.
R-8	<b>Address Rural and Volunteer Equity</b>	Replace theoretical equivalency ratios with observed response data. Credit apparatus based on condition and certification testing rather than age. Develop tiered standards that reflect the operational and financial realities of smaller departments.
R-9	<b>Clarify Accountability for Rated Components</b>	Distinguish between classification components within fire department control and those outside it (water purveyors, PSAP operations, code enforcement). Adjust accountability structures accordingly.

#	Recommendation	Description
R-10	<b>Establish Legislative/Regulatory Framework</b>	Provide statutory or regulatory direction on methodology transparency, data use, performance-based evaluation, and data collection standards to support consistent implementation over time.

## Priority Actions

Of the ten recommendations, three represent the highest-leverage near-term actions:

- **Establish data access rights (R-1):** Direct that fire departments have the right to review, verify, and access the data underlying their own classifications. This can be established through regulatory guidance and does not require changes to the underlying methodology.
- **Seek funding from the Legislature and structure the pilot (R-5):** Commission a formal pilot of the PPC 2.0 framework in 8–12 jurisdictions representing diverse community types. This is the prerequisite for actuarial validation and meaningful progress toward a deployable system.
- **Develop a legislative framework (R-10):** Engage the Legislature to establish statutory direction on methodology transparency and a modernized performance-based evaluation method. Current statutes provide broad insurance regulatory authority but no explicit requirements for how fire protection classification methods should be documented, disclosed, or structured.

## 7. Legislative and Policy Considerations

Implementation of these recommendations does not require a complete restructuring of Washington law, but it does highlight areas where additional clarity or authority would support modernization. Current statutes under Title 48 RCW provide broad insurance regulatory authority without establishing specific expectations for how fire protection capability should be evaluated, how data should be used, or how methodologies should be disclosed.

Key Legislative and Regulatory Gaps
<b>Transparency:</b> No requirement that classification methodologies be documented, explainable, or accessible to the communities being evaluated.
<b>Data access:</b> No structured right for fire departments to review or verify data used in their own classification.
<b>Performance-based measures:</b> No statutory signal that response reliability, ERF performance, or outcome-based metrics must be included.
<b>Data standards:</b> No direction on acceptable data sources, collection methods, formats, schemas, or quality standards for classification inputs.

**Accountability:** No mechanism distinguishing rated components within fire department control from those outside it (water purveyors, PSAP operations, AHJ authority).

**Community type variation:** No provision for differentiated standards reflecting the operational and financial realities of rural, volunteer, and WUI departments.

Addressing these gaps does not require prescribing a specific methodology. Statutory or regulatory direction that establishes the expectation of transparency, supports performance-based evaluation, and acknowledges the diversity of Washington’s fire service would create the framework within which modernization can proceed consistently and equitably.

## 8. Implementation Path

The project team recommends a three-phase implementation path that builds incrementally from the work completed in this project. Each phase has distinct activities, outputs, and prerequisites. Phases are not rigidly sequential — near-term transparency improvements (R-1, R-2) can proceed in parallel with pilot development.

Phase	Timeframe	Activities	Key Outputs
<b>1 – Pilot</b>	Near-term	Select 8–12 jurisdictions representing urban, suburban, rural, and WUI community types. Collect PPC 2.0 data elements. Compare results alongside WSRB classifications.	Validated data dictionary; gap analysis; side-by-side comparison report.
<b>2 – Validation</b>	Intermediate	Secure access to historical fire loss data. Conduct actuarial analysis to calibrate metric weights and confirm loss-predictive alignment with the 1–10 PPC scale. Expand insurance industry consultation.	Weighted scoring model; actuarial validation report; confidence intervals for key metrics.
<b>3 – Integration</b>	Longer-term	Work with WSRB to incorporate performance-based elements. Support NERIS adoption to enable automated data integration. Develop digital tools for department self-assessment.	Updated WSRB methodology with performance components; NERIS-integrated data pipeline; department planning tool.

Critical Prerequisites for Phases 2 and 3
Access to historical fire loss data by community and property: This is the single most important precondition for actuarial validation and weight calibration.
NERIS adoption across Washington fire departments: Many response performance metrics in the PPC 2.0 schema are most efficiently computed from NERIS incident data.
Engagement with additional insurance providers and actuaries: The actuarial constraint identified by one insurer in this project should be tested with a broader set of stakeholders to understand whether a structured, phased transition to modernized scoring criteria is feasible.
Access to WSRB scoring data and calculation logic: Without this, independent validation of a replacement methodology is not possible.

## 9. Conclusion

The WSRB fire protection classification methodology has served Washington well as a structured, consistent approach to evaluating fire protection capability for insurance purposes. It reflects decades of institutional knowledge and benefits from established insurer relationships and a Washington-specific governance structure that participants consistently value over nationally administered alternatives.

At the same time, the evidence gathered through this project is clear: the current methodology does not adequately reflect how fire protection systems perform in practice, disadvantages rural and volunteer departments operating under urban-calibrated standards, and falls short as a planning tool because it does not allow departments to understand or model the impact of their investments.

The case for modernization does not require replacing a well-functioning system overnight. The PPC 2.0 framework developed through this project demonstrates that a performance-based, transparent, and equitable alternative is technically feasible, grounded in nationally recognized standards, and responsive to the priorities expressed consistently by Washington’s fire service community. The path from that framework to a deployed rating system is well-defined, and the essential next step — a structured pilot backed by actuarial validation — is within reach.

OIC has the authority, the evidence, and the deliverables in hand to move this work forward. The communities, fire departments, and homeowners of Washington state have a direct stake in the outcome.

## 10. Summary of Project Deliverables

This Final Report is the fifth and integrating deliverable of the project. The four companion deliverables are the authoritative sources on each workstream and should be referenced alongside this report.

#	Deliverable	Contents
D-1	<b>Interested Party Engagement Report</b>	Full documentation of the five-session engagement process, 27-criterion survey methodology, complete criteria rankings (all 59 respondents), regional analysis, cross-cutting themes, selected participant statements, and conclusions.
D-2	<b>Current State Assessment and Status Report</b>	Structured review of WSRB methodology and grading schedule, underlying assumptions, limitations, and analysis of how the current system aligns with or diverges from modern fire service performance standards.
D-3	<b>PPC Data Inventory</b>	Catalog of publicly available and accessible geospatial, fire service, and wildfire risk datasets, with use-case analysis for each data source and identification of data access status and gaps.
D-4	<b>PPC 2.0 Preliminary Target Methodology Report and Data Schema Workbook</b>	Full specification of the PPC 2.0 framework including scientific and standards foundation, module-by-module data field specifications, normalization approach, property-level schema, crosswalk to current WSRB components, and implementation pathway.
D-5	<b>Final Report (this document)</b>	Synthesis of findings across all workstreams, key findings, recommendations, legislative considerations, and implementation path for OIC.

## 11. List of Acronyms

- **AHJ (Authority Having Jurisdiction):** The organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.
- **AWWA (American Water Works Association):** An international nonprofit association that develops engineering and management standards for water supply systems, including the design and maintenance of fire hydrants.
- **CAD (Computer-Aided Dispatch):** A suite of software used by emergency dispatchers to track the status of field units, prioritize 911 calls, and recommend the most appropriate resources for an incident.
- **CRA (Community Risk Assessment):** A comprehensive process used to identify and prioritize local hazards—such as fire, medical, or environmental risks—to inform a department's strategic planning and resource allocation.
- **ERF (Effective Response Force):** The minimum number of qualified personnel and specific equipment required to be on-scene within a certain timeframe to effectively perform the tasks necessary to control an emergency.

- **GIS (Geographic Information System):** A framework for gathering, managing, and analyzing spatial data, used by fire services to map hydrants, response zones, and incident trends.
- **ISO (Insurance Services Office):** A national organization that evaluates municipal fire protection efforts and provides a rating (the Public Protection Classification) used by many insurance companies to set premiums.
- **NERIS (National Emergency Response Information System):** The modern, cloud-based data platform currently replacing the legacy National Fire Incident Reporting System (NFIRS) as the standard for U.S. fire incident data.
- **NFPA (National Fire Protection Association):** A global nonprofit organization that develops more than 300 consensus codes and standards regarding fire prevention, electrical safety, and emergency responder equipment.
- **NWCG (National Wildfire Coordinating Group):** An operational group that provides national leadership and standardizes training, equipment, and qualifications for wildland fire management across different agencies.
- **PPC (Public Protection Classification):** A proprietary rating system used to gauge the capacity of local fire departments and water systems; it is the national standard used in most states outside of Washington.
- **PSAP (Public Safety Answering Point):** The centralized call center (dispatch center) where emergency 911 calls are received from the public and routed to the appropriate first responders.
- **Response Time:** The total time elapsed from the initial receipt of a 911 call to the arrival of the first emergency unit on the scene.
- **RMS (Records Management System):** Software used by fire departments to store and manage permanent records, including incident reports, personnel training, equipment maintenance, and fire inspections.
- **SOC (Standards of Cover):** A written policy that defines a department's service goals, including how many people and trucks it intends to get to an emergency and how quickly it expects them to arrive.
- **WSRB (Washington Surveying and Rating Bureau):** The independent, nonprofit organization that evaluates fire protection capabilities specifically within Washington State to determine insurance protection classes.
- **WUI (Wildland-Urban Interface):** The zone where human-made structures and infrastructure meet or intermingle with undeveloped wildland or vegetative fuels.



**LM2 & Associates**

Expertise Innovation Solutions

# Interested Party Engagement Report

APRIL 2026

# Interested Party Engagement Report

April 2026 | LM2 & Associates

## 1. Executive Summary

The Washington State Office of the Insurance Commissioner (OIC) contracted LM2 & Associates to evaluate the efficacy of and study the feasibility to modernize the state's Property Protection Classification (PPC) / Community Protection Class (PC) fire rating system, currently administered by the Washington Surveying and Rating Bureau (WSRB). As part of this study, the project team conducted a structured interested party engagement process consisting of one virtual session and four in-person sessions held across the state, as well as an interview with a Washington-licensed insurance provider.

LM2 & Associates established initial contact with statewide fire service organizations, including the Washington State Fire Chiefs, Washington State Fire Fighters Association, Washington State Council of Fire Fighters, and Washington Fire Commissioners. Additionally, citizen and consumer advocacy groups recommended by local fire departments and commissioners were engaged.

The virtual interested parties meeting was structured to ensure balanced representation across all invited groups. Outreach for in-person sessions was conducted through direct email, social media, and formal announcements distributed by fire service organizations. Furthermore, LM2 & Associates extended invitations to several key contacts identified by the Office of the Insurance Commissioner (OIC).

The virtual session, held January 22, 2026, brought together approximately 10–12 fire service leaders selected to represent diverse perspectives statewide - chiefs, commissioners, labor, and volunteer associations. That session served as the foundational input for developing the 27 criteria subsequently used for the in-person ranking surveys. The four in-person sessions followed in February and March 2026, reaching fire service representatives across Western, Central, and Eastern Washington.

A total of 59 individuals completed the criteria prioritization survey across all in-person sessions. Survey respondents represented fire service leadership from career, combination, and volunteer departments across urban, suburban, and rural settings - including city fire departments, fire districts, and regional fire authorities from across the state - as well as local government and community perspectives. Participants rated 27 criteria on a 1-5 importance scale for informing a modernized rating methodology.

The following findings emerged consistently across all sessions and the full survey dataset:

- Rating transparency was the single highest-priority concern, receiving the top combined average score (4.44/5.00). Participants across all regions expressed



frustration with the proprietary, “black box” nature of the current WSRB methodology.

- Performance-based metrics - Assembling an Effective Response Force (ERF), Response Time, Community Risk Assessment, and Standards of Cover - were ranked significantly higher than the distance-based thresholds currently used.
- Wildfire-related criteria ranked significantly higher in Eastern and Central Washington than in Western Washington - Wildfire Response Capabilities ranked #2 in Eastern WA vs. #15 in Western WA - reflecting the acute insurance access crisis facing WUI communities.
- Rural and small community equity emerged as a persistent cross-cutting concern, with many participants noting that current standards apply urban-model assumptions uniformly and do not reflect the realities of rural or volunteer departments.
- Data ownership and return on investment were frequently raised: fire departments generate the inspection and performance data WSRB uses to produce ratings yet receive no structured data feedback in return.

## 2. Engagement Overview

### 2.1 Purpose and Approach

The engagement process was designed to gather structured input from fire service practitioners, local government officials, and community members on: (1) the strengths and limitations of the current WSRB PPC rating system; and (2) the relative importance of 27 criteria for a modernized rating methodology. Participants are referred to as “interested parties” throughout this report.

The process was structured in two phases. The January 22 virtual session served as an initial listening and criteria-development session, with participants invited to represent a cross-section of fire service perspectives statewide. Their input directly informed the development of the 27-criterion framework used in subsequent in-person sessions. The four in-person sessions then deployed that framework as a structured ranking survey, combined with open facilitated discussion. Survey completion was requested on-site (paper or QR code) with an option for follow-up email submission. Individual comments were not attributed to named participants in any public documentation, to encourage candid input.

### 2.2 Session Summary

All five engagement opportunities are summarized below. The virtual session provided the foundational criteria framework; the four in-person sessions collected structured survey data and captured live comments through facilitated discussion.

Format	Date	Location	Region	Part.
Virtual	January 22, 2026	Virtual (Teams/Zoom)	Statewide (selected representation)	~10–12
In-person	February 11, 2026	Puget Sound Fire Department, Fire Station 52	Western WA (King/Pierce County region)	~25
In-person	February 12, 2026	Clark County Fire District #6, Fire Station 63	Western WA (Southwest — Clark County)	~10
In-person	March 2, 2026	Spokane County Fire District #4	Eastern WA (Spokane County and region)	~23
In-person	March 3, 2026	Kennewick Fire Training Center	Central / Eastern WA	~15

In addition to the structured sessions, a small number of fire department representatives submitted responses electronically following the in-person sessions, allowing departments that could not attend in person to contribute criteria rankings. These responses are included in the combined survey dataset (n = 59).

### 2.3 Participant Profile

A total of 59 survey responses were recorded across all in-person sessions and follow-on submissions. Most respondents identified as fire service personnel, representing career, combination, and volunteer departments across urban, suburban, and rural settings - including city fire departments, fire districts, and regional fire authorities from across the state. Also present were members of the community, local government, OIC, and WSRB. Geographic coverage spanned King, Pierce, Snohomish, Thurston, Clark, Cowlitz, Skamania, Mason, Klickitat, Spokane, Yakima, Benton, Franklin, Walla Walla, and other counties across Western, Central, and Eastern Washington.

## 3. Session Findings

*Session findings reflect participants' perceptions and experiences with the current rating system. Statements are not independently verified against the WSRB grading schedule.*

### 3.1 Virtual Session - January 22, 2026

#### *Format and Participants*

The first interested party engagement was held virtually on January 22, 2026, with approximately 10–12 fire service leaders selected to represent a statewide cross-section of perspectives. Invitees included fire chiefs and commissioners from both Western and Eastern Washington, representatives of statewide fire service associations (career, labor, volunteer, and commissioner organizations), and project team members.

### *Agenda and Purpose*

The session covered the scope of the OIC project, a listening session about the strengths and weaknesses of the current system, and feedback on what a modernized PPC criteria framework should include. The feedback was used to create a list of 27 criteria that should inform a modernized rating methodology, organized across categories covering operational performance, infrastructure, risk and planning, wildfire and WUI, equity and access, and transparency and governance.

### *Key Outputs*

- The 27-criterion framework used in subsequent in-person surveys was developed by the project’s Senior Advisory team from this session’s input.
- Participants flagged the same core themes that would recur across all in-person sessions: transparency, performance-based measurement, and equity for rural and volunteer departments.
- The session established a shared vocabulary and baseline understanding of the project scope and OIC’s intent for the broader engagement process.

## **3.2 Western WA: Puget Sound - February 11, 2026**

### *Location and Attendance*

The first in-person session was held at Puget Sound Fire Department Fire Station 52. Approximately 25 participants attended, representing career, combination, and volunteer departments from the greater Puget Sound region - including East Pierce Fire & Rescue, Enumclaw Fire, Gig Harbor Fire, King County Fire District #2, Snohomish Regional Fire and Rescue, North Whatcom Fire and Rescue, East Jefferson Fire and Rescue, Lacey Fire District 3, Olympia Fire Department, Mountain View Fire and Rescue, South Whatcom Fire Authority, West Pierce Fire & Rescue, and the Washington Fire Chiefs Association, a resident and property developer, and WSRB representatives.

### *Strengths of the Current System*

- WSRB staff were cited as responsive and cooperative when departments need to update ratings based on data changes.

- Final rating reports provide scoring summaries and identify deficiencies with actionable detail, giving departments a starting point for resource justification.
- The rating process can help generate productive dialogue with policymakers regarding fire department needs.

### *Concerns and Limitations*

- Proprietary rating calculations prevent departments from running what-if scenarios or understanding the precise steps needed to improve their class. One participant described having reverse-engineered a rating sheet but being unable to replicate the base calculations due to the proprietary limitations.
- Rigid distance thresholds (5-mile, 7-mile, 1,000-foot hydrant rules) create “cliff” effects where minor geographic variations produce large rating changes disproportionate to actual risk differences.
- Training hour requirements are difficult to achieve given firefighter shift schedules, and credit is not given for equivalent training conducted off-site or in non-traditional settings.
- Consolidated, accredited, or combination agencies feel the current grading does not reflect modern deployment models, performance-based risk management, or regional service delivery.
- Community risk reduction investments and building code improvements are not reflected in their ratings. One department described having worked with builders to sprinkle over 2,800 homes, only to find that neither the sprinkler installations nor the associated building code improvements moved their rating. Builders are increasingly questioning why they should absorb the cost of fire mitigation if there is no rating benefit.
- Modern water delivery capability exceeds the threshold used for credit. Departments can pump 3,000 feet of supply line with current equipment yet receive no credit beyond the 1,000-foot hydrant distance cutoff, which was set for older hose and pump technology.

### *Modernization Priorities*

- Shift from rigid distance metrics to performance-based measures such as assembly of an Effective Response Force (ERF), critical task completion, and time-to-task completion aligned with NFPA 1750 benchmarks.
- Evaluate staffing and apparatus needs based on incident type and critical task requirements rather than fixed headcounts per unit.
- Credit functional tasking and dual-role staffing (ALS/BLS units) that achieve outcomes even without traditional apparatus configurations.

- Recognize sprinkler effectiveness and fire prevention measures; align with ICC and NFPA standards with consistent code application.
- Incorporate accreditation and continuous improvement as performance indicators with potential scoring recognition.
- Use GIS-based travel times and community risk assessment for station distribution and resource deployment analysis, replacing road-mile thresholds.

### **3.3 Western WA: Clark County - February 12, 2026**

#### *Location and Attendance*

The second in-person session was held at Clark County Fire District #6 Fire Station 63. Approximately 10 participants attended, representing fire agencies and county government from the Southwest Washington region - including Clark County Fire Districts 6 and 10, Cowlitz 2 Fire & Rescue, Skamania County, South Whidbey Fire/EMS, Tumwater Fire Department, West Klickitat Fire, West Mason Fire, and Klickitat County. WSRB also had representatives in attendance.

#### *Strengths of the Current System*

- WSRB staff are responsive when updates are needed, such as hydrant location changes.
- The system is comprehensive in evaluating multiple aspects of community fire defense.
- A recent adjustment allowing WSRB to share rating reports with water purveyors was viewed positively.

#### *Concerns and Limitations*

- Transparency is the primary concern: the proprietary nature of scoring makes it difficult for agencies to understand how to improve their rating or plan capital investments.
- The “cliff” effect, particularly around the 1,000-foot hydrant threshold, was cited as a major frustration - being 0.1 mile outside a boundary can dramatically change a rating outcome.
- Volunteer-to-career equivalency (3-to-1 ratio) was questioned as inaccurate for departments where volunteers carry the same certifications and response capability as career staff.
- Training requirements apply uniformly to volunteer and career staff; credit is not given for equivalent training at off-site or non-traditional locations.

- Apparatus age penalties do not account for condition, maintenance records, or the prohibitive cost of replacement for smaller agencies.
- Agencies whose entire building stock is two stories or fewer are penalized for not having a ladder truck for high-rise response. One department described being required to carry 35-foot ladders on all engine companies for buildings where a 28-foot ladder is the operational standard - equipment that goes unused and displaces other needed gear.
- Training time is being consumed by competing mandatory requirements that the rating system does not account for: EMS certification maintenance, wildland qualifications, state-mandated driver training, and additional administrative training. Fire-specific training hours rated by WSRB compete directly with these obligations, and there is no mechanism to reflect the full training burden a modern combination department carries.
- Not all insurance carriers use the WSRB rating, creating inconsistent outcomes for homeowners in some areas.

#### *Modernization Priorities*

- Response time performance using actual CAD data and validated response time standards, replacing static road-mile thresholds.
- Proper credit for automatic and mutual aid - rating agencies should verify aid agreements with all involved parties and reflect guaranteed cross-jurisdictional response in ratings.
- A transparent roadmap from WSRB on the specific steps and point values needed to improve a class rating.
- Graduated rather than binary distance thresholds. Both the station proximity and hydrant distance rules currently function as on/off switches. A graduated credit system that recognizes partial coverage and transitional distances would more accurately reflect real-world risk.
- More granular credit for a water tender that recognizes the quality and reliability of mobile water supply operations, not just the presence of a signed tender agreement.

### **3.4 Eastern WA: Spokane - March 2, 2026**

#### *Location and Attendance*

The third in-person session was held at Spokane County Fire District #4. Approximately 23 participants attended, representing career, combination, and volunteer departments across the Spokane County region and surrounding Eastern Washington - including Spokane County Fire Districts 4, 8, 9, and 13, Spokane Valley Fire Department, Newman

Lake Fire, South Pend Oreille Fire and Rescue, Stevens Fire-Rescue, and Ferry/Okanogan FPD 14. WSRB also had representatives in attendance.

### *Strengths of the Current System*

When asked to identify positive aspects of the current WSRB system, participants offered no responses.

### *Concerns and Limitations*

- The system is a “black box.” Departments cannot model the impact of investments or understand how ratings are calculated, making it impossible to justify capital expenditures to governing boards or taxpayers.
- Poor return on investment: new stations, staffing, and equipment do not produce meaningful improvement in PC grade or reductions in insurance premiums for community members.
- Road-mile thresholds (5 miles from a station, 1,000 feet from a hydrant) are arbitrary and produce dramatic rating drops that do not reflect real-world response capabilities.
- Staffing requirements (e.g., six firefighters per engine) are unachievable for many departments and do not reflect the equivalency of volunteers with the same training and certifications as career staff.
- Equipment criteria mandate items that may be irrelevant to the buildings in a district, while not crediting modern equipment or tactics that achieve equivalent outcomes.
- Modern suppression tactics that demonstrably reduce fire loss - such as using foam for all structure fires - receive no credit. Departments reported being evaluated on equipment inventories and procedures rather than on whether their tactics achieve superior outcomes.
- Distance thresholds function as binary cutoffs rather than graduated measures. Participants noted that WSRB recently changed the station distance threshold from 5 to 7 miles, but this remained an on/off switch - a department at 7.1 miles receives the same treatment as one at 12 miles. The concern is not the specific mileage but the binary nature of the rule.
- The appeals and re-rate process is too slow - time limits should be imposed. One participant described waiting over six weeks for a draft report.

### *Modernization Priorities*

- Performance-based metrics grounded in national standards (NFPA 1750): time-based GIS analysis replacing road-mile thresholds, unit hour utilization (UHU), unit availability/reliability, and ERF assembly times.
- A modernized, transparent digital platform that allows departments to retain data ownership and run what-if scenarios to model the impact of potential investments.



- Credit for wildfire preparedness, WUI risk mitigation, and community wildfire protection plans.
- Outcome-based equivalency standards: credit departments for demonstrated outcomes and mission completion rather than prescribed inputs or employment classification.

### **3.5 Central WA: Yakima / Columbia Basin - March 3, 2026**

#### *Location and Attendance*

The fourth in-person session was held at the Kennewick Fire Training Center. Approximately 15 participants attended, representing career and combination departments from the Yakima, Benton, Franklin, and Walla Walla County areas - including Benton County Fire Districts 1 and 4, Benton County Fire Protection District 2, Franklin County Fire District 3, KCFD 7, Richland Fire and EMS, Walla Walla County Fire District 5, Yakima County Fire Districts 4 and 5, and Yakima Fire District 12. WSRB also had representatives in attendance.

#### *Strengths of the Current System*

- WSRB is Washington-specific, allowing direct dialogue and adjustments without requiring consensus across dozens of other states as would be required with a national system.
- A collaborative history with Washington fire chiefs and statewide fire service organizations has produced a working relationship that participants viewed as a meaningful advantage over ISO.
- WSRB provides accessible customer service - participants noted they can reach staff directly and receive responses to rating questions.
- WSRB communicates ratings to public officials, providing fire departments with a third-party evaluation they can use in budget and policy conversations with elected bodies.

#### *Concerns and Limitations*

- Apparatus age penalties were a prominent concern: a well-maintained older engine in reliable service should not be penalized relative to a newer unit with more downtime. The cost of replacement (exceeding \$1 million per unit, with 33-month build times) makes near-term fleet renewal financially infeasible for many agencies.
- Fire departments are rated on water system performance and dispatch operations they do not control. Multiple participants noted having no statutory authority over independent PSAPs or water purveyors.

- The 3-to-1 volunteer-to-career equivalency ratio was questioned; the number of personnel assembled for an incident and their assembly timeframe should carry equal weight to on-station staffing.
- Code enforcement scoring is problematic for fire districts that have no Authority Having Jurisdiction (AHJ) over commercial properties or residential code in unincorporated areas.
- The training facility size requirement - 2 acres and a 3-story tower - was described as arbitrary. Departments serving communities with no structures over two stories have no operational need for a high-rise training tower yet are penalized for not having one. Shared training facilities accessed through inter-local agreements also receive no equivalent credit.
- Fueling credit requires fuel at or immediately adjacent to the station, but departments with easy access to shared fueling facilities at nearby stations receive no equivalent credit.

### *Modernization Priorities*

- Recognition of emerging technologies that change the resource calculus: drones deployed as first responders to confirm fire vs. no-fire before committing apparatus, AI-assisted call screening at dispatch centers. Units equipped with power inverters no longer need a portable generator, yet departments are still penalized for not carrying one.
- Outcome-based and competency-based standards: measure whether the department achieves the mission, not merely what inputs were logged.
- Apparatus credit based on condition and certification testing results rather than age.
- Community Risk Assessment as the foundational document driving station distribution, staffing deployment, and resource allocation criteria.
- Explicit recognition in the rating framework that some scoring components - water systems, code enforcement, dispatch - lie outside direct fire department control, and that accountability structures should reflect this.

### **3.6 Insurance Industry Interview - February 27, 2026**

As part of the engagement process, the project team conducted a one-on-one interview with a representative from a Washington-licensed property insurance provider. The interview focused on how the current PPC system functions from an insurer's perspective and what constraints a modernized methodology would need to satisfy.

The interviewee confirmed that PPC is used primarily as a numerical score input to the rating mechanism, with fire representing approximately 16% of a homeowner's premium.

Insurers group PPC scores into broad bands, meaning incremental changes within a band do not affect consumer premiums. The interviewee noted WSRB favorably for its responsive customer service and property-level data interface, contrasted with ISO, which was described as less transparent for insurers.

The most significant constraint identified was actuarial: any new methodology must maintain the 1–10 PPC scale and preserve the loss-predictive meaning of each score level. As the interviewee noted, if a community that scores a 7 under the current method scores a 4 under a new one, insurers would over time see loss distributions that no longer align with their models, requiring a complete actuarial rebuild, which was described as neither feasible nor acceptable. New variables and measurement approaches are acceptable if they can be correlated to the existing scale without disrupting the established loss data relationship.

On response time, the interviewee noted that fire severity increases exponentially beyond approximately 10 minutes from ignition, reinforcing response time as a meaningful factor in loss outcomes. For wildfire, the interviewee indicated that most insurers use separate catastrophic models and recommended against incorporating wildfire risk into the PPC framework, suggesting it be left to those dedicated models.

## 4. Criteria Prioritization Survey Results

### 4.1 Methodology

At each in-person session, participants were asked to rate 27 criteria on a 1-5 scale of importance for informing a modernized fire protection rating system. The criteria were developed from the January 22 virtual session's input, refined by the project's Senior Advisory team, and organized into 10 categories. Surveys were completed on paper or via QR code using a Survey123 webform.

Two analytical methods were applied to the 59 completed surveys. Simple averages (mean raw score per criterion per group) provide a direct read of the 1-5 scale. Z-score standardization is used as the primary ranking method: each respondent's 27 scores are converted to z-scores - the respondent's score minus their personal mean, divided by their personal standard deviation. Z-scores are then averaged across respondents per group, with the highest average z-score indicating the highest-priority criterion. This approach weights respondents who clearly differentiated between criteria more heavily than those who scored everything similarly, and it is robust to individual scoring idiosyncrasies including reversed scale usage. All rankings in this section are derived from z-score averages. Simple averages are shown alongside for reference.

### 4.2 Combined Rankings - All Sessions (n = 59)

All 27 criteria listed in descending order by overall z-score. Rank 1 = highest priority. Simple average shown on the 1-5 scale for reference.

Rank	Criterion	Category	Z-Score	Avg (1-5)
1	Rating Transparency and Appeals	Transparency & Oversight	+0.835	4.44
2	Staffing – Effective Response Force (ERF)	Fire Department	+0.600	4.27
3	Radio Communications	Emergency Communications	+0.472	4.15
4	Community Risk Assessment	Community Risk Assessment	+0.326	3.95
5	Wildfire Response Capabilities	WUI Risk & Mitigation	+0.319	4.02
6	Response Time Performance	Fire Department	+0.292	3.97
7	Standards of Cover	Community Risk Assessment	+0.274	3.92
8	Training and Certification	Fire Department	+0.236	3.90
9	Response Time Performance Data	Performance Analytics	+0.175	3.81
10	Incident Outcome Analysis	Performance Analytics	+0.131	3.76
11	Rural and Small Community Standards	Equity & Fairness	+0.123	3.81
12	Community Wildfire Mitigation	WUI Risk & Mitigation	+0.107	3.80
13	Station Distribution and Coverage	Fire Department	+0.103	3.78
14	Call Receipt and Processing	Emergency Communications	+0.091	3.73
15	Computer-Aided Dispatch Integration	Emergency Communications	+0.008	3.66
16	Regional Service Delivery Credit	Equity & Fairness	+0.007	3.64
17	Standard Operating Procedures	Fire Department	-0.060	3.63

Rank	Criterion	Category	Z-Score	Avg (1–5)
18	Alternative Water Supply	Water Supply	-0.068	3.58
19	WUI Risk Assessment	WUI Risk & Mitigation	-0.079	3.59
20	Fire Prevention and Code Enforcement	Community Risk Reduction	-0.146	3.54
21	Apparatus and Equipment	Fire Department	-0.171	3.49
22	Water System Capacity and Reliability	Water Supply	-0.247	3.44
23	NERIS Participation and Data Use	Community Risk Assessment	-0.387	3.22
24	Public Fire Safety Education	Community Risk Reduction	-0.445	3.31
25	Service Benefit Charges Recognition	Equity & Fairness	-0.768	2.90
26	Fire Department Accreditation	Fire Dept. Excellence	-0.817	2.88
27	Fire Investigation	Community Risk Reduction	-0.910	2.81

### 4.3 Rankings by Category

The 27 criteria are organized into 10 categories. Category rankings reflect the average z-score of all criteria within each category.

Rank	Category	Z-Score	Criteria Included
1	Transparency & Oversight	+0.835	Rating Transparency and Appeals
2	Emergency Communications	+0.190	Radio Comms, Call Receipt, CAD Integration
3	Fire Department	+0.166	ERF/Staffing, Response Time, Training, Station Distribution, SOPs, Apparatus
4	Performance Analytics	+0.153	Response Time Performance Data, Incident Outcome Analysis
5	WUI Risk & Mitigation	+0.116	Wildfire Response Capabilities, Community Wildfire Mitigation, WUI Risk Assessment

Rank	Category	Z-Score	Criteria Included
6	Community Risk Assessment	+0.071	Community Risk Assessment, Standards of Cover, NERIS Participation
7	Water Supply	-0.157	Water System Capacity and Reliability, Alternative Water Supply
8	Equity & Fairness	-0.213	Service Benefit Charges, Regional Service Delivery, Rural/Small Community Standards
9	Community Risk Reduction	-0.500	Fire Prevention/Code Enforcement, Public Fire Safety Education, Fire Investigation
10	Fire Dept. Excellence	-0.817	Fire Department Accreditation

#### 4.4 Regional Differences and Notable Observations

The survey results were analyzed separately for Western WA (Puget Sound + Clark County, 29 responses) and Eastern/Central WA (Spokane + Richland, 30 responses). Several patterns are notable:

- **Rating Transparency and Appeals:** Ranked #1 overall and #1 in every individual meeting. The only criterion with unanimous top-rank status across all four sessions and both regions.
- **Wildfire Response Capabilities:** Ranked #15 in Western WA but #2 in Eastern/Central WA, which was the largest regional divergence among all criteria. Community Wildfire Mitigation showed a similar pattern (#19 West, #5 East). These shifts reflect the greater WUI exposure and active insurance access crisis in Eastern Washington.
- **Alternative Water Supply:** Ranked #1 in Clark County but #18-19 in the other three sessions. This sharp divergence likely reflects the rural character of Southwest Washington attendees and their reliance on mobile water supply operations in areas without municipal hydrant coverage.
- **Rural and Small Community Standards:** Ranked #2 in Clark County and #4 in Richland but #17 in Puget Sound and #18 in Spokane. The polarization reflects the community size mix at each meeting: rural-dominant sessions ranked this criterion much higher than sessions with stronger representation from larger regional agencies.
- **Incident Outcome Analysis:** Ranked #4 in Puget Sound but #24 in Clark County, #8 in Spokane, and #18 in Richland. A strong Westside priority not shared uniformly across all regions, though it still ranks #10 overall.

- **Fire Department Accreditation:** Consistently ranked among the lowest criteria across all four meetings (#23, #27, #24, #26). Accreditation was not seen as a meaningful driver for a PPC-equivalent rating system by any regional group.

## 5. Cross-Cutting Themes

### 5.1 Transparency and Data Access

Rating transparency was the dominant theme across all sessions and the highest-ranked survey criterion (combined avg: 4.44/5.00, ranked #1). Participants consistently described the current WSRB methodology as a “black box” that prevents departments from understanding how their score is calculated, what specific investments would improve their class, or how to translate rating changes into dollar impacts for governing boards and taxpayers.

A related grievance is data ownership. Fire departments generate the inspection and performance data that WSRB uses to produce ratings sold to insurers yet receive no structured data in return. Multiple participants described having to reverse-engineer rating sheets or rebuild years of documentation without access to the underlying calculations. One participant submitted written documentation of specific instances where they contended WSRB relied on third-party data that was later found to be inaccurate or outdated, citing this as a data quality control concern that fire departments are poorly positioned to identify. A positive development noted by participants was WSRB’s recent decision to begin sharing rating reports with water purveyors, which was seen as a model for similar transparency with fire departments.

### 5.2 Performance-Based Metrics vs. Distance Thresholds

The shift from rigid distance-based thresholds to performance-based measures was the most consistently requested modernization across all regions. Participants objected specifically to the 5-mile and 7-mile station proximity rules and the 1,000-foot hydrant threshold, noting that these create arbitrary “cliff” effects that do not reflect real-world response capability or risk.

Desired alternatives include assembly of an Effective Response Force (ERF) assessment, critical task analysis, time-based GIS travel analysis (replacing road-mile calculations), NFPA 1750-aligned response time standards, and unit availability and reliability tracking. Several participants specifically asked how time-to-effective-mitigation is weighted relative to structural inputs and recommended that ERF-based performance metrics replace or substantially supplement the current framework.

### 5.3 Volunteer and Rural Equity

The 3-to-1 volunteer-to-career staffing equivalency ratio was questioned across all sessions. In communities where volunteers carry the same certifications as career personnel - or where volunteers demonstrably turn out at higher rates for actual incidents than for drills - the fixed ratio understates department capability. Participants called for equivalency standards based on demonstrated outcomes and certifications rather than employment classification.

Rural departments face compounding disadvantages: apparatus age penalties for well-maintained older units, training requirements that assume fixed-facility access, water supply scoring applied to districts where water purveyors operate independently, and standards calibrated to urban deployment models. The Rural and Small Community Standards criterion ranked 11th overall by z-score - and as high as 2nd in Clark County and 4th in Richland - reflecting broad recognition that a modernized system must account for the operational and financial constraints of smaller agencies.

#### **5.4 Wildfire and WUI Risk**

Wildfire-related criteria were among the largest movers between the Western and Eastern/Central WA sessions. Eastern WA participants emphasized that homeowners are losing coverage despite significant mitigation investments, and that fire districts have invested heavily in wildland capabilities not reflected in their PPC ratings. A consistent call emerged for wildfire risk, community mitigation programs, and WUI-specific response capabilities to be formally incorporated into the rating framework, either as a dedicated section or as a parallel rating component.

Several participants noted the tension between this goal and the current single-scale rating: a system that equitably compares rural Eastern WA WUI districts with urban Puget Sound departments cannot use a single undifferentiated metric. A parallel wildfire rating was specifically proposed as a mechanism to support homeowners' ability to maintain insurance coverage regardless of their structural fire risk class.

#### **5.5 Apparatus Age and Equipment Standards**

The current practice of reducing or eliminating credit for apparatus over 15-20 years old was widely criticized. Participants noted that apparatus condition, maintenance records, and service history are far better proxies for capability than age alone - and that replacement costs (exceeding \$1 million per unit with 33-month build times) make near-term fleet renewal financially infeasible for many agencies. Equipment lists were also criticized as outdated, requiring items no longer in operational use while not crediting modern equipment or tactics that achieve equivalent or superior outcomes.

#### **5.6 Autonomy and Accountability Constraints**

A practical concern raised across multiple sessions is that fire departments are rated on systems and activities outside their direct authority. Water system performance, 911 dispatch operations, and fire code enforcement all affect a department's PPC rating, yet fire districts often have no statutory authority over water purveyors, PSAP operations, or code enforcement in unincorporated areas. Participants recommended that rating criteria account for jurisdictional authority, or that the framework clearly distinguish between components the fire department controls and those it does not. Several participants described the current dynamic as a broken accountability chain in which fire departments absorb public and political consequences for rating outcomes they cannot fully audit or control.

## 6. Selected Participant Statements

The following statements were made by participants during in-person sessions and reflect sentiments expressed broadly across the engagement. No attribution is made to specific individuals or organizations.

*"We should not be surprised when we get our score."*

*"If WSRB does not have any competition, then what is the purpose of their data being proprietary?"*

*"The process is opaque. We can't see what is behind the curtain."*

*"We have to get rid of 5 and 7 miles. It's an antiquated concept and makes zero sense."*

*"Nothing more effective to reducing risk and protecting property and life than proper staffing levels. Experts who invest in their fire districts should get credit for those investments."*

*"As a government agency operating with taxpayer dollars, transparency is not only expected - it is required."*

*"We should not be responsible for water districts. Chasing water districts and penalizing fire districts is a ridiculous process."*

*"Taxpayer investments in new stations, staffing, and equipment do not result in meaningful improvement in PC class or reductions in insurance costs."*

## 7. Conclusions

Across one virtual session, four in-person sessions, supplemental survey submissions, and an interview with a Washington-licensed insurance provider, the interested party engagement process revealed consistent and strongly held views about the current WSRB PPC rating system. The following conclusions are supported by the engagement findings:

1. **Rating transparency is the highest-priority concern across all regions and department types.** Rating Transparency and Appeals ranked #1 by z-score in both Western and Eastern/Central WA sessions and in the combined dataset, with no meaningful variation by region, department size, or staffing model.
2. **Fire service professionals prefer performance-based evaluation over static distance and inventory thresholds.** ERF, response time, community risk assessment, and standards of cover ranked in the top six criteria overall. Apparatus inventory counts, equipment lists, and road-mile thresholds ranked significantly lower.
3. **Wildfire risk is a materially different priority in Eastern and Central Washington than in Western Washington.** Wildfire Response Capabilities, Community Wildfire Mitigation, and WUI Risk Assessment showed the largest regional divergence of any criteria, reflecting the ongoing insurance access crisis in WUI communities east of the Cascades.
4. **The current system is widely viewed as failing rural departments, volunteer departments, and fire districts that lack control over rated components.** Concerns about the 3-to-1 volunteer equivalency ratio, apparatus age penalties, water purveyor accountability, and AHJ constraints were raised consistently across all four in-person sessions.
5. **Fire departments generate the data underlying WSRB ratings yet receive no structured feedback in return.** This data access gap was one of the most consistently cited grievances across all sessions and all regions.
6. **Any modernized methodology must maintain the 1–10 PPC scale and preserve the loss-predictive meaning of each score level to be viable for insurance rating purposes.** An insurance industry representative indicated that changes to score assignments that alter the relationship between score levels and historical fire loss outcomes would require insurers to completely rebuild their actuarial models, described as expensive and neither feasible nor acceptable. New variables and measurement approaches could be considered provided this constraint is maintained. This conclusion should be revisited with additional insurance providers and actuaries to discuss whether a one-time readjustment to modernized criteria is warranted in spite of its difficulty.

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## Appendix Note

*Raw criteria ranking data and individual survey responses are retained in the project repository. Individual responses are not attributed to named participants or organizations in any public deliverable. Rankings in Section 4 are derived from z-score standardization applied to the full 59-respondent dataset; source data and calculations are documented in the attached Interested Party Criteria Ranking Results. [Appendix]*

APPENDIX

# Deliverable 1: Interested Party Criteria Ranking Results

Washington State Rating Bureau (WSRB) Public Protection Classification Reform Study

LM2 & Associates, LLC

SECTION	DESCRIPTION	PAGES
<b>Section A</b>	Results Summary — Three Analytical Tables	2–4
	A1 · Simple Average Scores (1–5 scale) by Meeting Group	2
	A2 · Z-Score Averages (standardized by respondent)	3
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<b>Section B</b>	Methodology Notes & Meeting Assignments	5
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*n = 59 total respondents across four meetings: Puget Sound (n=18), Vancouver (n=11), Spokane (n=18), Richland (n=12).*

## SECTION A — Results Summary

Source: RESULTS sheet · 27 criteria evaluated across six meeting groups · n=59 total respondents

### A1 - Simple Average Scores (Adjusted, 1–5 Scale)

Mean of raw adjusted scores per criterion per group. Higher scores indicate greater perceived importance.

#	Criteria Name	Category	Simple Average Score (1–5 Scale)							Category	Cat Rank
			Puget Sound	Vancouver	Spokane	Richland	Westside	Eastside	Overall	Z-Score	Rank
1	Response Time Performance	Fire Department	4.39	4.09	3.39	4.08	4.28	3.67	3.97	0.166	3
2	Staffing - Effective Response Force (ERF)		4.67	4.09	4.28	3.83	4.45	4.10	4.27		
3	Training and Certification		3.67	4	3.78	4.33	3.79	4	3.90		
4	Apparatus and Equipment		3.44	3.55	3.44	3.58	3.48	3.50	3.49		
5	Station Distribution and Coverage		3.89	3.73	3.72	3.75	3.83	3.73	3.78		
6	Standard Operating Procedures		3.56	3.55	3.94	3.33	3.55	3.70	3.63		
7	Water System Capacity and Reliability	Water Supply	3.33	3.64	3.56	3.25	3.45	3.43	3.44	-0.157	7
8	Alternative Water Supply		3.33	4.09	3.67	3.33	3.62	3.53	3.58		
9	Call Receipt and Processing	Emergency Communications	3.67	3.36	4.06	3.67	3.55	3.90	3.73	0.190	2
10	Computer-Aided Dispatch Integration		3.83	3.27	3.83	3.50	3.62	3.70	3.66		
11	Radio Communications		4.06	4.09	4.33	4.08	4.07	4.23	4.15		
12	Fire Prevention and Code Enforcement	Community Risk Reduction	3.56	3.91	3.56	3.17	3.69	3.40	3.54	-0.500	9
13	Public Fire Safety Education		3.11	3.73	3.22	3.33	3.34	3.27	3.31		
14	Fire Investigation		2.83	2.91	3.06	2.33	2.86	2.77	2.81		
15	Community Risk Assessment	Community Risk Assessment & Data-Driven Decision Making	4.06	4.09	3.78	3.92	4.07	3.83	3.95	0.071	6
16	Standards of Cover		4	3.82	3.78	4.08	3.93	3.90	3.92		
17	NERIS Participation and Data Use		3.33	3.18	3.17	3.17	3.28	3.17	3.22		
18	WUI Risk Assessment	WUI Risk & Mitigation	3.17	3.73	4.06	3.42	3.38	3.80	3.59	0.116	5
19	Wildfire Response Capabilities		3.33	4.09	4.39	4.42	3.62	4.40	4.02		
20	Community Wildfire Mitigation		3.39	3.91	4.17	3.75	3.59	4	3.80		
21	Fire Department Accreditation	Fire Department Excellence	3.33	2.45	3.17	2.17	3	2.77	2.88	-0.817	10
22	Response Time Performance Data	Deployment & Performance Analytics	4.06	3.73	3.72	3.67	3.93	3.70	3.81	0.153	4

#	Criteria Name	Category	Simple Average Score (1–5 Scale)							Category	Cat Rank
			Puget Sound	Vancouver	Spokane	Richland	Westside	Eastside	Overall	Z-Score	Rank
23	Incident Outcome Analysis		4.11	3.09	4.11	3.33	3.72	3.80	3.76		
24	Rating Transparency and Appeals	Transparency & Oversight	4.67	3.91	4.56	4.42	4.38	4.50	4.44	0.835	1
25	Service Benefit Charges Recognition	Equity & Fairness Considerations	3.11	2.82	3.28	2.08	3	2.80	2.90	-0.213	8
26	Regional Service Delivery Credit		3.72	3.18	3.78	3.75	3.52	3.77	3.64		
27	Rural and Small Community Standards		3.44	4.18	3.67	4.25	3.72	3.90	3.81		
	<b>n =</b>		18	11	18	12	29	30	59		

## A2 - Z-Score Averages (Standardized by Respondent)

Each respondent's 27 scores standardized: (score – respondent mean) / respondent SD. Positive = above average importance; negative = below average. Corrects for response scale bias.

#	Criteria Name	Category	Z-Score Average (Standardized by Respondent)							Category	Cat Rank
			Puget Sound	Vancouver	Spokane	Richland	Westside	Eastside	Overall	Z-Score	Rank
1	Response Time Performance	Fire Department	+0.705	+0.422	-0.341	+0.505	+0.597	-0.003	+0.292	+0.166	3
2	Staffing - Effective Response Force (ERF)		+1.079	+0.356	+0.530	+0.212	+0.805	+0.403	+0.600		
3	Training and Certification		+0.078	+0.312	+0.011	+0.739	+0.167	+0.302	+0.236		
4	Apparatus and Equipment		-0.187	-0.106	-0.330	+0.029	-0.156	-0.186	-0.171		
5	Station Distribution and Coverage		+0.174	+0.044	+0.009	+0.190	+0.124	+0.081	+0.103		
6	Standard Operating Procedures		-0.105	-0.037	+0.103	-0.259	-0.079	-0.042	-0.060		
7	Water System Capacity and Reliability	Water Supply	-0.330	-0.017	-0.289	-0.272	-0.211	-0.282	-0.247	-0.157	7
8	Alternative Water Supply		-0.323	+0.577	-0.103	-0.221	+0.018	-0.150	-0.068		
9	Call Receipt and Processing	Emergency Communications	+0.085	-0.407	+0.403	+0.088	-0.101	+0.277	+0.091	+0.190	2
10	Computer-Aided Dispatch Integration		+0.142	-0.388	+0.171	-0.071	-0.059	+0.074	+0.008		
11	Radio Communications		+0.389	+0.454	+0.564	+0.474	+0.413	+0.528	+0.472		
12	Fire Prevention and Code Enforcement	Community Risk Reduction	-0.043	+0.256	-0.330	-0.391	+0.071	-0.355	-0.146	-0.500	9
13	Public Fire Safety Education		-0.618	-0.028	-0.673	-0.223	-0.394	-0.493	-0.445		
14	Fire Investigation		-0.963	-0.799	-0.773	-1.138	-0.901	-0.919	-0.910		
15	Community Risk Assessment	Community Risk Assessment & Data-Driven Decision Making	+0.430	+0.531	+0.091	+0.333	+0.468	+0.188	+0.326	+0.071	6
16	Standards of Cover		+0.389	+0.187	+0.056	+0.506	+0.312	+0.236	+0.274		
17	NERIS Participation and Data Use		-0.275	-0.403	-0.566	-0.271	-0.324	-0.448	-0.387		
18	WUI Risk Assessment	WUI Risk & Mitigation	-0.594	+0.128	+0.344	-0.129	-0.320	+0.155	-0.079	+0.116	5
19	Wildfire Response Capabilities		-0.370	+0.448	+0.623	+0.778	-0.060	+0.685	+0.319		
20	Community Wildfire Mitigation		-0.396	+0.269	+0.482	+0.149	-0.144	+0.349	+0.107		
21	Fire Department Accreditation	Fire Department Excellence	-0.445	-1.355	-0.564	-1.260	-0.790	-0.842	-0.817	-0.817	10
22	Response Time Performance Data	Deployment & Performance Analytics	+0.416	+0.191	-0.008	+0.073	+0.331	+0.024	+0.175	+0.153	4
23	Incident Outcome Analysis		+0.535	-0.463	+0.296	-0.178	+0.156	+0.106	+0.131		
24	Rating Transparency and Appeals	Transparency & Oversight	+1.115	+0.321	+0.854	+0.861	+0.814	+0.856	+0.835	+0.835	1
25	Service Benefit Charges Recognition	Equity & Fairness Considerations	-0.678	-0.800	-0.434	-1.378	-0.724	-0.811	-0.768	-0.213	8

#	Criteria Name	Category	Z-Score Average (Standardized by Respondent)							Category	Cat Rank
			Puget Sound	Vancouver	Spokane	Richland	Westside	Eastside	Overall	Z-Score	Rank
26	Regional Service Delivery Credit		+0.025	-0.227	+0.033	+0.155	-0.071	+0.082	+0.007		
27	Rural and Small Community Standards		-0.233	+0.536	-0.158	+0.701	+0.059	+0.186	+0.123		
	<b>n =</b>		18	11	18	12	29	30	59		

### A3 - Rankings by Meeting Group (1 = Most Important)

Derived from Z-score averages in descending order. Rank 1 = highest Z-score = most important criterion per group. Color coding: ■ dark blue = top 5 · ■ mid blue = 6–10 · ■ light blue = 11–18 · ■ gray = 19–27.

#	Criteria Name	Category	Ranking (1 = Most Important)							Category	Cat Rank
			Puget Sound	Vancouver	Spokane	Richland	Westside	Eastside	Overall	Z-Score	Rank
1	Response Time Performance	Fire Department	3	6	22	6	3	17	6	+0.166	3
2	Staffing - Effective Response Force (ERF)		2	7	4	9	2	4	2		
3	Training and Certification		12	9	14	3	8	6	8		
4	Apparatus and Equipment		16	19	20	15	20	20	21		
5	Station Distribution and Coverage		9	15	15	10	10	14	13		
6	Standard Operating Procedures		15	18	10	21	17	18	17		
7	Water System Capacity and Reliability	Water Supply	20	16	19	23	21	21	22	-0.157	7
8	Alternative Water Supply		19	1	17	19	13	19	18		
9	Call Receipt and Processing	Emergency Communications	11	23	6	13	18	7	14	+0.190	2
10	Computer-Aided Dispatch Integration		10	21	9	16	14	15	15		
11	Radio Communications		8	4	3	7	5	3	3		
12	Fire Prevention and Code Enforcement	Community Risk Reduction	14	11	21	24	11	22	20	-0.500	9
13	Public Fire Safety Education		25	17	26	20	24	24	24		
14	Fire Investigation		27	25	27	25	27	27	27		
15	Community Risk Assessment	Community Risk Assessment & Data-Driven Decision Making	5	3	11	8	4	9	4	+0.071	6
16	Standards of Cover		7	13	12	5	7	8	7		
17	NERIS Participation and Data Use		18	22	25	22	23	23	23		
18	WUI Risk Assessment	WUI Risk & Mitigation	24	14	7	17	22	11	19	+0.116	5
19	Wildfire Response Capabilities		21	5	2	2	15	2	5		
20	Community Wildfire Mitigation		22	10	5	12	19	5	12		
21	Fire Department Accreditation	Fire Department Excellence	23	27	24	26	26	26	26	-0.817	10
22	Response Time Performance Data	Deployment & Performance Analytics	6	12	16	14	6	16	9	+0.153	4
23	Incident Outcome Analysis		4	24	8	18	9	12	10		
24	Rating Transparency and Appeals	Transparency & Oversight	1	8	1	1	1	1	1	+0.835	1
25	Service Benefit Charges Recognition	Equity & Fairness Considerations	26	26	23	27	25	25	25	-0.213	8

#	Criteria Name	Category	Ranking (1 = Most Important)							Category	Cat Rank
			Puget Sound	Vancouver	Spokane	Richland	Westside	Eastside	Overall	Z-Score	Rank
26	Regional Service Delivery Credit		13	20	13	11	16	13	16		
27	Rural and Small Community Standards		17	2	18	4	12	10	11		
	<b>n =</b>		18	11	18	12	29	30	59		

## SECTION B — Methodology Notes & Meeting Assignments

Source: RESULTS sheet — methodology footer rows

### Methodology Notes

- Simple Average: Mean of raw scores (1-5) per criteria, per group.\*
- Z-Score: Each respondent's 27 scores are standardized (score - respondent mean) / respondent stdev. This weights differentiated scorers more heavily and naturally corrects reversed scoring.
- Rankings: Derived from Z-Score averages (descending). Rank 1 = highest average z-score = most important criteria per that group.

### Meeting Assignments

- Puget Sound (2/11/26): 18 respondents | Vancouver (2/12/26): 11 respondents (includes late response from 2/25/26) | Spokane (3/2/26): 18 respondents | Richland (3/3/26): 12 respondents
- Westside = Puget Sound + Vancouver (29 respondents) | Eastside = Spokane + Richland (30 respondents) | Overall = All 59 respondents

### Special Handling

- \*Record GlobalID 13c9c454-2ae9-4a23-80e1-a8de096e856c (Spokane meeting) used reverse scoring (1 = most important). Scores inverted via  $6 - \text{original\_score}$  before analysis. Confirmed by comments (e.g., Incident Outcome Analysis scored 1 but commented "THE BIGGEST METRIC OF ALL!!").

## SECTION C — Respondent-Level Z-Score Calculations

Source: \_Calculations sheet · 59 respondents · Columns: GlobalID, Meeting, Region, Resp Mean, Resp StdDev, raw scores C1–C27, Z-scores Z\_C1–Z\_C27

### C1 · Z-Scores: Criteria 1–13

ID (partial)	Meeting	Region	Mean	SD	Resp Time	ERF	Training	Apparatus	Station Dist	SOPs	Water Sys	Alt Water	Call Rcpt	CAD	Radio	Fire Prev	Pub Ed
8a6f67f1-f63...	Puget Sound	Westside	+3.85	+0.53	+0.28	+2.15	+0.28	+0.28	+0.28	+0.28	-1.60	+0.28	+2.15	+0.28	+0.28	+0.28	-1.60
ed754077-7ed...	Puget Sound	Westside	+2.37	+1.50	+1.09	+1.76	+0.42	-0.25	+1.76	+0.42	-0.92	+1.09	-0.92	+1.09	+1.09	-0.92	-0.92
8a1e8f9f-300...	Puget Sound	Westside	+4.30	+1.30	+0.54	+0.54	-1.77	-1.77	+0.54	+0.54	-1.77	-1.77	+0.54	+0.54	+0.54	+0.54	+0.54
60e17e91-5b5...	Puget Sound	Westside	+3.26	+1.40	+1.24	+1.24	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	-0.90	+0.53	-1.61	-1.61
115b9dd7-baf...	Puget Sound	Westside	+3.19	+1.08	+1.69	+1.69	-0.17	-0.17	+0.76	-0.17	+0.76	-0.17	+0.76	-0.17	+1.69	-1.10	-1.10
796602f7-0f8...	Puget Sound	Westside	+4.41	+0.69	+0.85	-0.59	+0.85	-2.03	-0.59	+0.85	-0.59	-0.59	+0.85	+0.85	+0.85	-0.59	-0.59
6bb0f128-4fc...	Puget Sound	Westside	+3.52	+1.16	+1.28	+0.42	+1.28	+1.28	+0.42	-0.45	+0.42	-0.45	+1.28	+1.28	+0.42	+0.42	-0.45
8114d201-8c7...	Puget Sound	Westside	+3.63	+0.84	+0.44	+0.44	+1.63	+0.44	-0.75	+0.44	-0.75	+0.44	+0.44	+0.44	-0.75	-0.75	+0.44
d61a78e7-95a...	Puget Sound	Westside	+4.11	+1.01	+0.88	+0.88	-0.11	-0.11	-0.11	-1.10	+0.88	-0.11	+0.88	+0.88	+0.88	-0.11	-1.10
cd42deb6-2db...	Puget Sound	Westside	+2.78	+0.97	+1.25	+0.23	-0.80	+0.23	+1.25	-0.80	+0.23	-1.83	-0.80	+1.25	+0.23	+0.23	-0.80
1912d274-43a...	Puget Sound	Westside	+3.78	+0.70	+0.32	+1.75	+0.32	-1.11	+0.32	+0.32	-1.11	+0.32	-1.11	-1.11	-1.11	+1.75	-1.11
2eb08f2b-5c3...	Puget Sound	Westside	+3.59	+0.97	-0.61	+1.45	-0.61	-0.61	-1.64	+0.42	-0.61	-0.61	-0.61	-0.61	-0.61	+0.42	+0.42
96370413-9bf...	Puget Sound	Westside	+3.48	+0.75	+0.69	+2.02	+0.69	-0.64	+0.69	-0.64	-0.64	+0.69	-0.64	+0.69	-0.64	-0.64	-0.64
0b800198-7c7...	Vancouver	Westside	+3.52	+0.75	+0.64	+1.97	+0.64	+0.64	+0.64	-0.69	+0.64	-0.69	+0.64	-0.69	+0.64	-0.69	-0.69
0a704fc9-28a...	Vancouver	Westside	+4.07	+0.73	-0.10	-0.10	-0.10	-0.10	-0.10	+1.27	-0.10	-0.10	-2.84	-0.10	+1.27	+1.27	+1.27
d64b5055-485...	Vancouver	Westside	+4.15	+0.86	+0.99	-1.33	-0.17	-0.17	+0.99	-1.33	-0.17	+0.99	+0.99	+0.99	+0.99	-0.17	-1.33
2220ad00-362...	Vancouver	Westside	+3.11	+0.64	-0.17	+1.39	-0.17	-0.17	-0.17	+1.39	-0.17	+1.39	-0.17	-1.73	-0.17	+1.39	-0.17
74d93fef-268...	Vancouver	Westside	+4.52	+0.51	+0.95	-1.02	+0.95	-1.02	-1.02	+0.95	-1.02	+0.95	-1.02	+0.95	-1.02	-1.02	-1.02
589081c5-e9f...	Vancouver	Westside	+4.11	+0.80	-0.14	-0.14	+1.11	+1.11	-0.14	-1.39	-0.14	+1.11	-1.39	-1.39	+1.11	-0.14	-0.14
84e1fe9a-24d...	Vancouver	Westside	+3.22	+1.19	+0.65	+1.50	+0.65	-0.19	+0.65	-0.19	+1.50	+0.65	-1.03	-1.03	-0.19	+0.65	+0.65
ec4c7cb7-878...	Puget Sound	Westside	+3.22	+0.75	+1.04	+1.04	-0.30	+1.04	-0.30	-0.30	-0.30	-0.30	+1.04	-1.63	+1.04	+1.04	-0.30
902c58b8-9eb...	Puget Sound	Westside	+4.19	+0.62	+1.31	+1.31	-0.30	-0.30	-0.30	-0.30	-0.30	+1.31	+1.31	-0.30	+1.31	-1.90	-1.90
4170829d-74a...	Puget Sound	Westside	+4.15	+0.77	-0.19	+1.11	-0.19	+1.11	+1.11	-0.19	+1.11	-1.49	-1.49	-0.19	+1.11	+1.11	-1.49
5b7acc46-490...	Puget Sound	Westside	+3.96	+1.09	+0.95	+0.95	+0.03	-0.88	+0.95	+0.03	-0.88	+0.03	-0.88	-0.88	-0.88	+0.03	+0.03
13192f1d-b57...	Puget Sound	Westside	+4.26	+0.71	-0.36	+1.04	+1.04	+1.04	-0.36	-0.36	+1.04	-1.77	-0.36	+1.04	+1.04	+1.04	+1.04
cf5850ff-2c1...	Vancouver	Westside	+4.15	+0.77	-0.19	-1.49	-1.49	-1.49	-0.19	-0.19	-0.19	+1.11	-0.19	-1.49	+1.11	-0.19	-0.19
600cacda-1cb...	Vancouver	Westside	+3.22	+0.89	-0.25	+0.87	-0.25	+0.87	-0.25	-0.25	+0.87	+0.87	-0.25	+0.87	-0.25	+0.87	-0.25
5aedf421-68d...	Vancouver	Westside	+3.52	+1.31	+1.13	+1.13	+1.13	+0.37	+0.37	-0.40	-0.40	+0.37	+0.37	+0.37	+0.37	+1.13	+1.13
aa0e9a8a-014...	Vancouver	Westside	+2.41	+1.39	+1.14	+1.14	+1.14	-1.01	-0.29	+0.43	-1.01	-0.29	+0.43	-1.01	+1.14	-0.29	+0.43
f3a2e296-2c2...	Spokane	Eastside	+3.78	+1.05	-0.74	+0.21	+0.21	-0.74	-0.74	-0.74	+1.16	+1.16	+1.16	+1.16	+0.21	-0.74	-0.74

ID (partial)	Meeting	Region	Mean	SD	Resp Time	ERF	Training	Apparatus	Station Dist	SOPs	Water Sys	Alt Water	Call Rcpt	CAD	Radio	Fire Prev	Pub Ed
95e03cbc-320...	Spokane	Eastside	+3.44	+1.15	+0.48	+0.48	+0.48	-2.12	-0.38	-0.38	-0.38	-0.38	+1.35	+1.35	+1.35	+0.48	-0.38
fd6853ee-23d...	Spokane	Eastside	+3.81	+1.21	+0.15	+0.15	-0.67	-0.67	-0.67	+0.98	-0.67	-0.67	+0.98	+0.15	+0.15	-0.67	-1.50
47fd79c1-db9...	Spokane	Eastside	+4.30	+0.67	-0.44	+1.05	+1.05	-1.94	-0.44	-0.44	-0.44	-0.44	+1.05	+1.05	+1.05	-0.44	-0.44
455a6b32-e28...	Spokane	Eastside	+3.52	+1.01	-0.51	+0.47	-0.51	+1.46	+1.46	-0.51	-0.51	+0.47	-1.50	+0.47	+0.47	-1.50	-1.50
145d0a51-cb8...	Spokane	Eastside	+3.81	+0.83	+1.42	+1.42	-0.98	-0.98	+1.42	-2.18	-0.98	-0.98	+0.22	-0.98	+0.22	-0.98	-0.98
69a96fd1-61c...	Spokane	Eastside	+4.93	+0.27	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	-3.47	-3.47
60c20cc4-599...	Spokane	Eastside	+4.11	+0.80	-1.39	-0.14	-0.14	-0.14	+1.11	-1.39	-0.14	-2.64	+1.11	+1.11	+1.11	+1.11	-0.14
6a9a6ce4-083...	Spokane	Eastside	+4.48	+0.75	+0.69	+0.69	+0.69	+0.69	+0.69	+0.69	-0.64	-1.97	+0.69	+0.69	+0.69	+0.69	-0.64
e6144f9a-8d7...	Spokane	Eastside	+3.85	+1.03	-2.78	+0.14	+0.14	-0.83	+0.14	+0.14	-0.83	-0.83	+1.12	+1.12	+1.12	+0.14	+0.14
b305c1eb-609...	Spokane	Eastside	+3.52	+0.75	-0.69	+1.97	+0.64	-0.69	-0.69	-0.69	-0.69	+1.97	+0.64	-0.69	-0.69	+0.64	-0.69
f546fa93-b2a...	Spokane	Eastside	+2.93	+0.92	-2.10	-1.01	+0.08	+0.08	+0.08	+1.17	+1.17	-1.01	+1.17	+0.08	+0.08	+1.17	+0.08
47687f84-893...	Spokane	Eastside	+4.22	+1.09	-0.20	+0.72	-0.20	-1.13	-1.13	+0.72	-1.13	-0.20	-0.20	-0.20	-0.20	+0.72	+0.72
5633e463-723...	Spokane	Eastside	+4.07	+0.73	-0.10	-0.10	-1.47	-0.10	-0.10	-0.10	-1.47	+1.27	+1.27	+1.27	+1.27	-0.10	+1.27
5b48e553-b2d...	Spokane	Eastside	+3.85	+1.17	+0.98	+0.98	+0.13	-0.73	-0.73	+0.13	+0.13	+0.13	-0.73	-2.44	+0.98	-0.73	-1.59
c8bcbafe-56c...	Spokane	Eastside	+2.89	+1.01	-0.88	+0.11	+0.11	+0.11	+0.11	+2.08	+0.11	+1.10	+0.11	+0.11	+1.10	-0.88	-0.88
f39846a9-fe7...	Spokane	Eastside	+3.33	+0.88	+0.76	+0.76	-0.38	+0.76	-0.38	+0.76	-1.52	+0.76	-0.38	-0.38	-0.38	-1.52	-1.52
13c9c454-2ae...	Spokane	Eastside	+2.78	+1.65	-1.08	+1.35	+0.74	+0.74	+0.13	+1.35	+1.35	+0.13	-1.08	-1.08	+1.35	+0.13	+0.13
c9077dfc-428...	Richland	Eastside	+3.15	+0.91	-0.16	-0.16	+0.94	-0.16	+0.94	-0.16	-0.16	-0.16	+0.94	+0.94	+0.94	-0.16	-0.16
7594dfb-3f6...	Richland	Eastside	+3.78	+1.09	+1.13	+0.20	-0.72	+0.20	+0.20	-0.72	+0.20	-0.72	-0.72	-0.72	+1.13	+0.20	-0.72
338a0fcb-9d7...	Richland	Eastside	+3.48	+0.89	-0.54	-1.66	+1.70	-0.54	+0.58	-0.54	+0.58	+0.58	-0.54	-0.54	+0.58	-0.54	-0.54
61daf9f4-e33...	Richland	Eastside	+4.07	+1.14	-0.94	-0.94	+0.81	-1.82	-0.94	+0.81	-0.94	-0.06	+0.81	-0.94	+0.81	-0.94	+0.81
c4e1d00c-41e...	Richland	Eastside	+3.96	+0.98	+1.06	+0.04	+0.04	+0.04	+1.06	-2.00	-0.98	-3.02	+0.04	+0.04	+1.06	+0.04	+1.06
08430312-11f...	Richland	Eastside	+2.96	+1.37	+0.03	+0.76	+1.48	+0.76	+0.76	-0.70	-1.43	+0.76	+0.76	+0.76	+0.76	-0.70	-1.43
2c964e66-76e...	Richland	Eastside	+3.56	+1.19	+1.22	+1.22	+1.22	+0.37	+1.22	-0.47	+0.37	+1.22	-0.47	-0.47	-0.47	-1.31	+0.37
0ae23a6a-230...	Richland	Eastside	+3.93	+0.87	+1.23	+1.23	+0.08	+1.23	+0.08	+0.08	+0.08	+0.08	+1.23	+0.08	+0.08	-1.06	-1.06
663982b1-e14...	Richland	Eastside	+3.07	+1.27	-0.06	+0.73	+0.73	-0.06	-0.06	+1.52	-0.06	-0.85	-0.06	-0.06	-0.06	+1.52	+0.73
d8bd4d54-33a...	Richland	Eastside	+3.44	+1.01	+1.54	-0.44	+0.55	-0.44	+0.55	-0.44	-0.44	-0.44	-0.44	+0.55	+0.55	-0.44	-0.44
deb3ec7f-1c0...	Richland	Eastside	+3.63	+0.79	+0.47	+0.47	+1.73	+0.47	-0.80	-0.80	-0.80	+0.47	-0.80	-0.80	-0.80	-0.80	-0.80
1427dc52-030...	Richland	Eastside	+3.63	+1.24	+1.10	+1.10	+0.30	+0.30	-1.31	+0.30	+0.30	-0.51	+0.30	+0.30	+1.10	-0.51	-0.51

**C2 · Z-Scores: Criteria 14–27**

ID (partial)	Meeting	Region	Mean	SD	Fire Invest	CRA	SOC	NERIS	WUI Risk	Wildfire Resp	WUI Mitig	Accredit	RT Perf Data	Incident Out	Rating Trans	Svc Ben Chg	Reg Svc Cred	Rural/S mall
8a6f67f1-f63...	Puget Sound	Westside	+3.85	+0.53	-1.60	+0.28	+0.28	+0.28	+0.28	+0.28	-1.60	-1.60	+0.28	+0.28	+0.28	-1.60	+0.28	+0.28
ed754077-7ed...	Puget Sound	Westside	+2.37	+1.50	-0.92	-0.92	-0.92	-0.92	-0.92	-0.92	-0.92	-0.92	+0.42	-0.25	+1.09	-0.92	+1.09	+1.09
8a1e8f9f-300...	Puget Sound	Westside	+4.30	+1.30	+0.54	+0.54	+0.54	-2.54	-0.23	+0.54	+0.54	+0.54	+0.54	+0.54	+0.54	+0.54	+0.54	-1.00
60e17e91-5b5...	Puget Sound	Westside	+3.26	+1.40	-0.90	+0.53	+1.24	+1.24	-0.18	-0.18	-0.18	+1.24	+0.53	+0.53	+1.24	+1.24	+1.24	-0.18
115b9dd7-baf...	Puget Sound	Westside	+3.19	+1.08	-1.10	-0.17	-0.17	-1.10	-1.10	+0.76	+0.76	-2.03	-1.10	-1.10	+0.76	+0.76	+0.76	-0.17
796602f7-0f8...	Puget Sound	Westside	+4.41	+0.69	-2.03	+0.85	+0.85	+0.85	-0.59	-0.59	-0.59	-2.03	+0.85	+0.85	+0.85	-0.59	+0.85	+0.85
6bb0f128-4fc...	Puget Sound	Westside	+3.52	+1.16	-0.45	+0.42	-0.45	-1.31	+1.28	+0.42	-0.45	-0.45	+0.42	-1.31	-0.45	-2.18	-2.18	-0.45
8114d201-8c7...	Puget Sound	Westside	+3.63	+0.84	-0.75	+0.44	-0.75	-0.75	-0.75	-0.75	+0.44	-1.94	-0.75	+1.63	+1.63	-1.94	+1.63	+0.44
d61a78e7-95a...	Puget Sound	Westside	+4.11	+1.01	-1.10	+0.88	+0.88	-1.10	-2.08	-2.08	-1.10	+0.88	+0.88	+0.88	+0.88	-0.11	+0.88	-1.10
cd42deb6-2db...	Puget Sound	Westside	+2.78	+0.97	-0.80	+1.25	+0.23	+0.23	-0.80	-0.80	+0.23	-0.80	+0.23	+1.25	+2.28	+0.23	-0.80	-1.83
1912d274-43a...	Puget Sound	Westside	+3.78	+0.70	-1.11	+0.32	+0.32	+0.32	-1.11	+0.32	-1.11	+0.32	+0.32	+1.75	+1.75	-1.11	+0.32	+0.32
2eb08f2b-5c3...	Puget Sound	Westside	+3.59	+0.97	-0.61	+1.45	+1.45	-0.61	+0.42	+0.42	+0.42	+1.45	+1.45	+1.45	+0.42	-1.64	-0.61	-1.64
96370413-9bf...	Puget Sound	Westside	+3.48	+0.75	-1.97	+0.69	+0.69	-0.64	-1.97	-0.64	-0.64	-0.64	+0.69	+0.69	+2.02	-0.64	+0.69	+0.69
0b800198-7c7...	Vancouver	Westside	+3.52	+0.75	-0.69	+0.64	+0.64	+0.64	-0.69	-0.69	-0.69	-3.34	+0.64	+0.64	-0.69	-0.69	+0.64	+0.64
0a704fc9-28a...	Vancouver	Westside	+4.07	+0.73	-0.10	+1.27	-0.10	-0.10	-0.10	-0.10	-0.10	-2.84	-0.10	-0.10	+1.27	-0.10	-0.10	-0.10
d64b5055-485...	Vancouver	Westside	+4.15	+0.86	-1.33	-0.17	-0.17	-1.33	+0.99	+0.99	+0.99	-1.33	-0.17	+0.99	-1.33	-1.33	+0.99	+0.99
2220ad00-362...	Vancouver	Westside	+3.11	+0.64	-0.17	+1.39	+1.39	-1.73	-0.17	-0.17	-0.17	-0.17	-0.17	+1.39	-1.73	-1.73	-0.17	-0.17
74d93fef-268...	Vancouver	Westside	+4.52	+0.51	-1.02	-1.02	-1.02	+0.95	+0.95	+0.95	+0.95	-1.02	+0.95	-1.02	+0.95	+0.95	+0.95	+0.95
589081c5-e9f...	Vancouver	Westside	+4.11	+0.80	-1.39	+1.11	+1.11	+1.11	-0.14	-0.14	-1.39	-0.14	+1.11	-1.39	+1.11	-1.39	+1.11	-0.14
84e1fe9a-24d...	Vancouver	Westside	+3.22	+1.19	-0.19	-0.19	-0.19	-0.19	-1.03	+0.65	+0.65	-1.03	-0.19	-1.87	+1.50	-0.19	-2.71	+0.65
ec4c7cb7-878...	Puget Sound	Westside	+3.22	+0.75	-0.30	-1.63	-0.30	-0.30	-1.63	-0.30	-1.63	-0.30	+1.04	+1.04	+2.37	-0.30	-0.30	-0.30
902c58b8-9eb...	Puget Sound	Westside	+4.19	+0.62	-1.90	-0.30	+1.31	-0.30	-0.30	-0.30	-0.30	-0.30	+1.31	-0.30	+1.31	-0.30	-0.30	-0.30
4170829d-74a...	Puget Sound	Westside	+4.15	+0.77	-0.19	+1.11	-0.19	+1.11	-0.19	-0.19	-0.19	-0.19	-0.19	+1.11	+1.11	-1.49	-1.49	-1.49
5b7acc46-490...	Puget Sound	Westside	+3.96	+1.09	-1.80	+0.95	+0.95	+0.95	+0.95	-0.88	+0.95	-0.88	+0.95	+0.95	+0.95	-1.80	-1.80	+0.95
13192f1d-b57...	Puget Sound	Westside	+4.26	+0.71	-0.36	+1.04	+1.04	-0.36	-1.77	-1.77	-1.77	-0.36	-0.36	-0.36	+1.04	-0.36	-0.36	-0.36
cf5850ff-2c1...	Vancouver	Westside	+4.15	+0.77	-1.49	+1.11	-0.19	-0.19	+1.11	+1.11	+1.11	-1.49	-0.19	-0.19	+1.11	+1.11	+1.11	+1.11
600cacda-1cb...	Vancouver	Westside	+3.22	+0.89	-0.25	+0.87	-0.25	-1.37	-0.25	+0.87	+0.87	-1.37	+0.87	-1.37	+1.99	-2.49	-1.37	-0.25
5aedf421-68d...	Vancouver	Westside	+3.52	+1.31	-1.16	+1.13	+1.13	-1.92	-0.40	-0.40	-0.40	-1.16	+0.37	-1.16	+0.37	-1.92	-1.92	+0.37
aa0e9a8a-014...	Vancouver	Westside	+2.41	+1.39	-1.01	-0.29	-0.29	-0.29	+1.14	+1.86	+1.14	-1.01	-1.01	-1.01	-1.01	-1.01	-1.01	+1.86
f3a2e296-2c2...	Spokane	Eastside	+3.78	+1.05	-1.69	-1.69	+0.21	-0.74	+0.21	+1.16	+1.16	+0.21	+1.16	+1.16	+1.16	-1.69	-0.74	-0.74
95e03cbc-320...	Spokane	Eastside	+3.44	+1.15	-0.38	+0.48	+0.48	-2.12	+0.48	+0.48	+1.35	+0.48	-0.38	-1.25	+1.35	-1.25	-0.38	-1.25
fd6853ee-23d...	Spokane	Eastside	+3.81	+1.21	-0.67	+0.15	+0.15	+0.98	+0.98	+0.98	+0.15	-2.33	+0.98	+0.98	+0.98	-2.33	+0.98	+0.98
47fd79c1-db9...	Spokane	Eastside	+4.30	+0.67	-1.94	-0.44	-0.44	-0.44	+1.05	+1.05	+1.05	-1.94	-0.44	-0.44	+1.05	+1.05	+1.05	-0.44
455a6b32-e28...	Spokane	Eastside	+3.52	+1.01	-1.50	+0.47	+1.46	-0.51	+0.47	+1.46	+0.47	-1.50	+0.47	-0.51	+0.47	-0.51	+1.46	-0.51

ID (partial)	Meeting	Region	Mean	SD	Fire Invest	CRA	SOC	NERIS	WUI Risk	Wildfire Resp	WUI Mitig	Accredit	RT Perf Data	Incident Out	Rating Trans	Svc Ben Chg	Reg Svc Cred	Rural/S mall
145d0a51-cb8...	Spokane	Eastside	+3.81	+0.83	-0.98	+0.22	+0.22	+0.22	+0.22	+0.22	+0.22	+0.22	+0.22	+0.22	+1.42	-0.98	+1.42	+1.42
69a96fd1-61c...	Spokane	Eastside	+4.93	+0.27	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28	+0.28
60c20cc4-599...	Spokane	Eastside	+4.11	+0.80	-0.14	+1.11	+1.11	-1.39	-0.14	-0.14	-0.14	+1.11	-0.14	-0.14	+1.11	-0.14	-0.14	-1.39
6a9a6ce4-083...	Spokane	Eastside	+4.48	+0.75	-1.97	+0.69	+0.69	+0.69	+0.69	+0.69	-0.64	-0.64	+0.69	-0.64	+0.69	-1.97	-0.64	-1.97
e6144f9a-8d7...	Spokane	Eastside	+3.85	+1.03	+0.14	+0.14	+0.14	-1.80	+0.14	+0.14	+1.12	-1.80	-0.83	+0.14	+1.12	+1.12	+1.12	+0.14
b305c1eb-609...	Spokane	Eastside	+3.52	+0.75	-2.02	+0.64	-0.69	-0.69	+0.64	+0.64	+1.97	-0.69	-0.69	+0.64	+0.64	+0.64	-0.69	-0.69
f546fa93-b2a...	Spokane	Eastside	+2.93	+0.92	+1.17	+1.17	-1.01	+0.08	+0.08	-1.01	+0.08	+2.26	-1.01	+0.08	-1.01	+0.08	-1.01	-1.01
47687f84-893...	Spokane	Eastside	+4.22	+1.09	+0.72	+0.72	+0.72	-0.20	-0.20	-0.20	-0.20	+0.72	+0.72	+0.72	+0.72	+0.72	+0.72	-3.89
5633e463-723...	Spokane	Eastside	+4.07	+0.73	-0.10	-0.10	-0.10	-1.47	-0.10	+1.27	+1.27	-1.47	-0.10	-0.10	+1.27	-1.47	-1.47	-0.10
5b48e553-b2d...	Spokane	Eastside	+3.85	+1.17	-1.59	+0.13	+0.13	-0.73	+0.98	+0.98	+0.13	-1.59	+0.13	+0.98	+0.98	+0.98	+0.98	+0.98
c8bcbafe-56c...	Spokane	Eastside	+2.89	+1.01	-1.87	-0.88	-0.88	-0.88	+0.11	+1.10	+0.11	-0.88	-0.88	+1.10	+1.10	-0.88	-0.88	+2.08
f39846a9-fe7...	Spokane	Eastside	+3.33	+0.88	-1.52	-0.38	-0.38	-0.38	+0.76	+0.76	+0.76	-1.52	+0.76	+0.76	+1.90	-0.38	-0.38	+1.90
13c9c454-2ae...	Spokane	Eastside	+2.78	+1.65	+0.13	-1.08	-1.08	-1.08	-0.47	+1.35	-0.47	-1.08	-1.08	+1.35	+0.13	-1.08	-1.08	+1.35
c9077dfc-428...	Richland	Eastside	+3.15	+0.91	-0.16	-0.16	+0.94	-0.16	-0.16	+0.94	-1.27	-1.27	-0.16	-0.16	+2.04	-2.37	-2.37	+0.94
7594dfb-3f6...	Richland	Eastside	+3.78	+1.09	-2.56	+1.13	+1.13	-1.64	+0.20	+1.13	+1.13	+0.20	+1.13	+1.13	+0.20	-1.64	+0.20	-0.72
338a0fcb-9d7...	Richland	Eastside	+3.48	+0.89	-1.66	-0.54	+0.58	-0.54	-1.66	+0.58	+0.58	+0.58	-0.54	+1.70	+1.70	-0.54	-0.54	+1.70
61daf9f4-e33...	Richland	Eastside	+4.07	+1.14	-1.82	+0.81	+0.81	+0.81	+0.81	-0.06	+0.81	-1.82	+0.81	+0.81	+0.81	-0.94	+0.81	+0.81
c4e1d00c-41e...	Richland	Eastside	+3.96	+0.98	-0.98	+1.06	+1.06	+1.06	-0.98	+0.04	+0.04	+0.04	+0.04	+1.06	+0.04	-0.98	+0.04	+0.04
08430312-11f...	Richland	Eastside	+2.96	+1.37	-1.43	+0.03	+0.03	+0.03	-1.43	+1.48	-0.70	-1.43	+0.03	-1.43	+0.76	-0.70	+0.76	+1.48
2c964e66-76e...	Richland	Eastside	+3.56	+1.19	+0.37	-0.47	+0.37	-1.31	-0.47	+0.37	-0.47	-2.15	-0.47	-0.47	+1.22	-2.15	+0.37	+1.22
0ae23a6a-230...	Richland	Eastside	+3.93	+0.87	-1.06	+0.08	+0.08	+1.23	+0.08	+1.23	+0.08	-1.06	-2.20	-2.20	+0.08	-1.06	+0.08	+1.23
663982b1-e14...	Richland	Eastside	+3.07	+1.27	-1.63	-0.06	-0.06	-1.63	-0.06	+1.52	+0.73	-1.63	-0.06	-1.63	+1.52	-1.63	+0.73	-0.06
d8bd4d54-33a...	Richland	Eastside	+3.44	+1.01	-1.43	+0.55	-0.44	+0.55	+0.55	+0.55	+0.55	-2.41	+1.54	-0.44	+1.54	-2.41	+0.55	+0.55
deb3ec7f-1c0...	Richland	Eastside	+3.63	+0.79	-0.80	+0.47	+0.47	+0.47	+0.47	+0.47	-0.80	-2.06	+0.47	-0.80	+1.73	-0.80	+1.73	+1.73
1427dc52-030...	Richland	Eastside	+3.63	+1.24	-0.51	+1.10	+1.10	-2.11	+1.10	+1.10	+1.10	-2.11	+0.30	+0.30	-1.31	-1.31	-0.51	-0.51

## SECTION D — Raw Survey Data (Individual Scores by Criterion)

Source: rawdata sheet · 59 respondents · Scores 1–5 per criterion · Excludes comment columns for readability

### D1 • Raw Scores: Criteria 1–14

Heat map: ■ dark blue = 5 (highest) · ■ mid blue = 4 · ■ light blue = 3 · ■ orange = 2 · ■ red = 1 (lowest)

ID (partial)	Resp Time Perf	ERF	Training & Cert	Apparatus & Equip	Station Dist	SOPs	Water Sys Cap	Alt Water Supply	Call Receipt	CAD Integration	Radio Comms	Fire Prevention	Pub Fire Ed	Fire Investigation
8a6f67f1-f63...	4	5	4	4	4	4	3	4	5	4	4	4	3	3
ed754077-7ed...	4	5	3	2	5	3	1	4	1	4	4	1	1	1
8a1e8f9f-300...	5	5	2	2	5	5	2	2	5	5	5	5	5	5
60e17e91-5b5...	5	5	2	2	2	2	2	2	2	2	4	1	1	2
115b9dd7-baf...	5	5	3	3	4	3	4	3	4	3	5	2	2	2
796602f7-0f8...	5	4	5	3	4	5	4	4	5	5	5	4	4	3
6bb0f128-4fc...	5	4	5	5	4	3	4	3	5	5	4	4	3	3
8114d201-8c7...	4	4	5	4	3	4	3	4	4	4	3	3	4	3
d61a78e7-95a...	5	5	4	4	4	3	5	4	5	5	5	4	3	3
cd42deb6-2db...	4	3	2	3	4	2	3	1	2	4	3	3	2	2
1912d274-43a...	4	5	4	3	4	4	3	4	3	3	3	5	3	3
2eb08f2b-5c3...	3	5	3	3	2	4	3	3	3	3	3	4	4	3
96370413-9bf...	4	5	4	3	4	3	3	4	3	4	3	3	3	2
0b800198-7c7...	4	5	4	4	4	3	4	3	4	3	4	3	3	3
0a704fc9-28a...	4	4	4	4	4	5	4	4	2	4	5	5	5	4
d64b5055-485...	5	3	4	4	5	3	4	5	5	5	5	4	3	3
2220ad00-362...	3	4	3	3	3	4	3	4	3	2	3	4	3	3
74d93fef-268...	5	4	5	4	4	5	4	5	4	5	4	4	4	4
589081c5-e9f...	4	4	5	5	4	3	4	5	3	3	5	4	4	3
84e1fe9a-24d...	4	5	4	3	4	3	5	4	2	2	3	4	4	3
ec4c7cb7-878...	4	4	3	4	3	3	3	3	4	2	4	4	3	3
902c58b8-9eb...	5	5	4	4	4	4	4	5	5	4	5	3	3	3
4170829d-74a...	4	5	4	5	5	4	5	3	3	4	5	5	3	4
5b7acc46-490...	5	5	4	3	5	4	3	4	3	3	3	4	4	2
13192f1d-b57...	4	5	5	5	4	4	5	3	4	5	5	5	5	4
cf5850ff-2c1...	4	3	3	3	4	4	4	5	4	3	5	4	4	3
600cacda-1cb...	3	4	3	4	3	3	4	4	3	4	3	4	3	3
5aedf421-68d...	5	5	5	4	4	3	3	4	4	4	4	5	5	2

ID (partial)	Resp Time Perf	ERF	Training & Cert	Apparatus & Equip	Station Dist	SOPs	Water Sys Cap	Alt Water Supply	Call Receipt	CAD Integration	Radio Comms	Fire Prevention	Pub Fire Ed	Fire Investigation
aa0e9a8a-014...	4	4	4	1	2	3	1	2	3	1	4	2	3	1
f3a2e296-2c2...	3	4	4	3	3	3	5	5	5	5	4	3	3	2
95e03cbc-320...	4	4	4	1	3	3	3	3	5	5	5	4	3	3
fd6853ee-23d...	4	4	3	3	3	5	3	3	5	4	4	3	2	3
47fd79c1-db9...	4	5	5	3	4	4	4	4	5	5	5	4	4	3
455a6b32-e28...	3	4	3	5	5	3	3	4	2	4	4	2	2	2
145d0a51-cb8...	5	5	3	3	5	2	3	3	4	3	4	3	3	3
69a96fd1-61c...	5	5	5	5	5	5	5	5	5	5	5	4	4	5
60c20cc4-599...	3	4	4	4	5	3	4	2	5	5	5	5	4	4
6a9a6ce4-083...	5	5	5	5	5	5	4	3	5	5	5	5	4	3
e6144f9a-8d7...	1	4	4	3	4	4	3	3	5	5	5	4	4	4
b305c1eb-609...	3	5	4	3	3	3	3	5	4	3	3	4	3	2
f546fa93-b2a...	1	2	3	3	3	4	4	2	4	3	3	4	3	4
47687f84-893...	4	5	4	3	3	5	3	4	4	4	4	5	5	5
5633e463-723...	4	4	3	4	4	4	3	5	5	5	5	4	5	4
5b48e553-b2d...	5	5	4	3	3	4	4	4	3	1	5	3	2	2
c8bcbbaf-56c...	2	3	3	3	3	5	3	4	3	3	4	2	2	1
f39846a9-fe7...	4	4	3	4	3	4	2	4	3	3	3	2	2	2
13c9c454-2ae...	5	1	2	2	3	1	1	3	5	5	1	3	3	3
c9077dfc-428...	3	3	4	3	4	3	3	3	4	4	4	3	3	3
7594dfb-3f6...	5	4	3	4	4	3	4	3	3	3	5	4	3	1
338a0fcb-9d7...	3	2	5	3	4	3	4	4	3	3	4	3	3	2
61daf9f4-e33...	3	3	5	2	3	5	3	4	5	3	5	3	5	2
c4e1d00c-41e...	5	4	4	4	5	2	3	1	4	4	5	4	5	3
08430312-11f...	3	4	5	4	4	2	1	4	4	4	4	2	1	1
2c964e66-76e...	5	5	5	4	5	3	4	5	3	3	3	2	4	4
0ae23a6a-230...	5	5	4	5	4	4	4	4	5	4	4	3	3	3
663982b1-e14...	3	4	4	3	3	5	3	2	3	3	3	5	4	1
d8bd4d54-33a...	5	3	4	3	4	3	3	3	3	4	4	3	3	2
deb3ec7f-1c0...	4	4	5	4	3	3	3	4	3	3	3	3	3	3
1427dc52-030...	5	5	4	4	2	4	4	3	4	4	5	3	3	3

## D2 - Raw Scores: Criteria 15–27

Heat map: ■ dark blue = 5 (highest) · ■ mid blue = 4 · ■ light blue = 3 · ■ orange = 2 · ■ red = 1 (lowest)

ID (partial)	Community Risk Assess	Standards of Cover	NERIS Particip	WUI Risk Assess	Wildfire Resp Cap	Comm WUI Mitig	Fire Dept Accred	RT Perf Data	Incident Outcome	Rating Trans	Svc Ben Charges	Reg Svc Delivery	Rural/Small Stds
8a6f67f1-f63...	4	4	4	4	4	3	3	4	4	4	3	4	4
ed754077-7ed...	1	1	1	1	1	1	1	3	2	4	1	4	4
8a1e8f9f-300...	5	5	1	4	5	5	5	5	5	5	5	5	3
60e17e91-5b5...	4	5	5	3	3	3	5	4	4	5	5	5	3
115b9dd7-baf...	3	3	2	2	4	4	1	2	2	4	4	4	3
796602f7-0f8...	5	5	5	4	4	4	3	5	5	5	4	5	5
6bb0f128-4fc...	4	3	2	5	4	3	3	4	2	3	1	1	3
8114d201-8c7...	4	3	3	3	3	4	2	3	5	5	2	5	4
d61a78e7-95a...	5	5	3	2	2	3	5	5	5	5	4	5	3
cd42deb6-2db...	4	3	3	2	2	3	2	3	4	5	3	2	1
1912d274-43a...	4	4	4	3	4	3	4	4	5	5	3	4	4
2eb08f2b-5c3...	5	5	3	4	4	4	5	5	5	4	2	3	2
96370413-9bf...	4	4	3	2	3	3	3	4	4	5	3	4	4
0b800198-7c7...	4	4	4	3	3	3	1	4	4	3	3	4	4
0a704fc9-28a...	5	4	4	4	4	4	2	4	4	5	4	4	4
d64b5055-485...	4	4	3	5	5	5	3	4	5	3	3	5	5
2220ad00-362...	4	4	2	3	3	3	3	3	4	2	2	3	3
74d93fef-268...	4	4	5	5	5	5	4	5	4	5	5	5	5
589081c5-e9f...	5	5	5	4	4	3	4	5	3	5	3	5	4
84e1fe9a-24d...	3	3	3	2	4	4	2	3	1	5	3		4
ec4c7cb7-878...	2	3	3	2	3	2	3	4	4	5	3	3	3
902c58b8-9eb...	4	5	4	4	4	4	4	5	4	5	4	4	4
4170829d-74a...	5	4	5	4	4	4	4	4	5	5	3	3	3
5b7acc46-490...	5	5	5	5	3	5	3	5	5	5	2	2	5
13192f1d-b57...	5	5	4	3	3	3	4	4	4	5	4	4	4
cf5850ff-2c1...	5	4	4	5	5	5	3	4	4	5	5	5	5
600cacda-1cb...	4	3	2	3	4	4	2	4	2	5	1	2	3
5aedf421-68d...	5	5	1	3	3	3	2	4	2	4	1	1	4
aa0e9a8a-014...	2	2	2	4	5	4	1	1	1	1	1	1	5
f3a2e296-2c2...	2	4	3	4	5	5	4	5	5	5	2	3	3
95e03cbc-320...	4	4	1	4	4	5	4	3	2	5	2	3	2
fd6853ee-23d...	4	4	5	5	5	4	1	5	5	5	1	5	5
47fd79c1-db9...	4	4	4	5	5	5	3	4	4	5	5	5	4

ID (partial)	Community Risk Assess	Standards of Cover	NERIS Particip	WUI Risk Assess	Wildfire Resp Cap	Comm WUI Mitig	Fire Dept Accred	RT Perf Data	Incident Outcome	Rating Trans	Svc Ben Charges	Reg Svc Delivery	Rural/Small Stds
455a6b32-e28...	4	5	3	4	5	4	2	4	3	4	3	5	3
145d0a51-cb8...	4	4	4	4	4	4	4	4	4	5	3	5	5
69a96fd1-61c...	5	5	5	5	5	5	5	5	5	5	5	5	5
60c20cc4-599...	5	5	3	4	4	4	5	4	4	5	4	4	3
6a9a6ce4-083...	5	5	5	5	5	4	4	5	4	5	3	4	3
e6144f9a-8d7...	4	4	2	4	4	5	2	3	4	5	5	5	4
b305c1eb-609...	4	3	3	4	4	5	3	3	4	4	4	3	3
f546fa93-b2a...	4	2	3	3	2	3	5	2	3	2	3	2	2
47687f84-893...	5	5	4	4	4	4	5	5	5	5	5	5	
5633e463-723...	4	4	3	4	5	5	3	4	4	5	3	3	4
5b48e553-b2d...	4	4	3	5	5	4	2	4	5	5	5	5	5
c8bcbafd-56c...	2	2	2	3	4	3	2	2	4	4	2	2	5
f39846a9-fe7...	3	3	3	4	4	4	2	4	4	5	3	3	5
13c9c454-2ae...	5	5	5	4	1	4	5	5	1	3	5	5	1
c9077dfc-428...	3	4	3	3	4	2	2	3	3	5	1	1	4
7594fdb-3f6...	5	5	2	4	5	5	4	5	5	4	2	4	3
338a0fcb-9d7...	3	4	3	2	4	4	4	3	5	5	3	3	5
61daf9f4-e33...	5	5	5	5	4	5	2	5	5	5	3	5	5
c4e1d00c-41e...	5	5	5	3	4	4	4	4	5	4	3	4	4
08430312-11f...	3	3	3	1	5	2	1	3	1	4	2	4	5
2c984e66-76e...	3	4	2	3	4	3	1	3	3	5	1	4	5
0ae23a6a-230...	4	4	5	4	5	4	3	2	2	4	3	4	5
663982b1-e14...	3	3	1	3	5	4	1	3	1	5	1	4	3
d8bd4d54-33a...	4	3	4	4	4	4	1	5	3	5	1	4	4
deb3ec7f-1c0...	4	4	4	4	4	3	2	4	3	5	3	5	5
1427dc52-030...	5	5	1	5	5	5	1	4	4	2	2	3	3



# **WASHINGTON STATE PROPERTY PROTECTION CLASSIFICATION METHODS**

## **CURRENT STATE ASSESSMENT AND STATUS REPORT**



**LM2 & Associates**  
Expertise Innovation Solutions

# WASHINGTON STATE PROPERTY PROTECTION CLASSIFICATION METHODS

## CURRENT STATE ASSESSMENT AND STATUS REPORT

This document presents the results of a current state assessment conducted by LM2 & Associates on behalf of the Washington State Office of the Insurance Commissioner (OIC) regarding fire property protection classification (PPC) methods used for insurance purposes. The assessment provides a comprehensive review of the existing PPC methodology in Washington to establish a clear, factual understanding of how classifications are developed, maintained, and applied. This document also includes a status report and next steps for improving fire PPC methods in the future.

This review is based on detailed examination of methodology and supporting documentation provided by OIC and WSRB, supplemented by direct discussions with WSRB staff and engagement with fire service stakeholders in Washington State.

### Key Findings — Summary

- The WSRB methodology is a structured, points-based system that evaluates fire protection capability and assigns Protection Classes (PC 1–10) using a standardized grading schedule.
- WSRB uses a two-step approach: (1) a community/service-area grading that reflects overall fire protection capacity, and (2) separate property classification rules that can adjust an individual property’s class based on distance to fire stations and available water supply (e.g., beyond defined distance ranges).
- Classifications are derived from a grading schedule that allocates points across four weighted components: fire department capabilities (40%), water supply (35%), emergency communications (9%), and fire safety control (16%).
- Scoring is primarily driven by documented criteria (e.g., inspection/testing intervals, certification/training, staffing, apparatus, water supply features, and distance measures). In some areas, WSRB also provides performance-

based alternatives that use incident response time data (added in 2019 through Fire Chiefs/WSRB collaboration), though these options are not necessarily applied in every community review.

- Component scores are combined into a total score and then mapped to defined class cutoffs, so a small scoring change can sometimes shift a community from one class to another.
- WSRB updates classifications through surveys and regrading, and there are ways for communities to request interim updates. In practice, how quickly a change is reflected can still vary depending on the community and the type of update involved.

## 1. Background and Context

Fire property protection classifications (PPCs) are used by insurers as one input in assessing property risk from fire and determining insurance premiums. In Washington State, insurers primarily rely on protection classifications developed and maintained by the Washington Surveying and Rating Bureau (WSRB), a not-for-profit, public service organization. The WSRB protection classifications are assigned at a defined community or service-area level and are intended to represent the overall level of fire protection available to insured properties.

## 2. Overview of the Current WSRB Fire Property Protection Classification Methodology

WSRB administers a structured, points-based fire property protection classification system that is used to evaluate community-level fire protection capability across Washington State. The framework is derived from longstanding insurance industry practices and is conceptually similar to the ISO Public Protection Classification system used in most other states. However, the WSRB system is administered independently and reflects Washington-specific institutional, operational, and governance contexts.

Fire Protection Classes range from Class 1, representing the highest level of recognized fire protection, to Class 10, representing minimal or no recognized protection. Classifications are assigned at the community or defined service-area

level and apply uniformly within those service areas. The methodology does not assign classifications at the parcel or individual structure level.

WSRB's approach is best understood as a two-step process. First, WSRB uses the Community Protection Class Grading Schedule to evaluate overall fire protection capacity for a defined community or service area and assigns a Community Protection Class. Second, the Public Protection Classification Manual applies distance-based rules to determine the Protection Class for an individual property based on factors such as distance from fire stations and water supply access. This means properties within the same community can receive different Protection Classes based on those distance/water rules, even when the community grade is the same. An individual property can only receive a class equal to or lower than the community's score.

## **2.1 Grading Schedule**

WSRB uses a grading schedule to evaluate fire protection capability and assign a final Fire Protection Class to a community. The grading schedule defines the categories, components, and scoring thresholds used in the classification process. Points are allocated across major domains of fire protection readiness and capability, allowing for standardized evaluation across jurisdictions while accommodating differences in local fire service organization, infrastructure, and resources.

The methodology evaluates fire protection through four primary components: fire department capabilities, water supply, emergency communications, and fire safety control. Fire department capabilities represent the largest share of the overall score (40%) and reflect operational capacity and readiness based on factors such as apparatus, staffing levels, training, automatic aid arrangements, and travel distances. Water supply is also heavily weighted (35% of score) and focuses on the availability and reliability of suppression water, including hydrant coverage, fire flow, and alternative sources. Emergency communications (9% of score) evaluates dispatch and communications functions, including facilities, staffing, system redundancy, and computer-aided dispatch capabilities. Fire safety control (16% of score) addresses prevention-oriented activities such as codes and standards enforcement, inspections, maintenance practices, investigations, and public fire education. Across these components, scoring primarily reflects documented compliance with defined criteria rather than real-time performance or outcomes.

## 2.2 Application of the Grading Schedule in Practice

In practice, grading schedules are applied through a structured process that relies on survey responses and supporting documentation submitted by fire departments, water utilities, emergency communications centers, and fire marshals. Submitted information is reviewed against established scoring criteria for each component. Credit is assigned based on whether the documentation and supporting data show that the criteria are met. For selected items, WSRB also allows a performance-based option that uses incident response time data rather than purely checklist-style documentation. Where required elements are only partially met or cannot be clearly documented, credit may be reduced or not applied.

The four component scores are combined to produce an overall numeric score, which corresponds to a discrete Fire Protection Class based on defined score ranges. Because classifications are assigned using thresholds, relatively small differences in component scoring can sometimes result in a shift from one class to another. While the scoring approach seems to be applied consistently across communities, the detailed point values and internal scoring logic are not public and therefore cannot be fully assessed.

Documentation is reviewed to determine whether required elements are fully met, partially met, or not met, with emphasis on alignment with prescribed standards and relevance to applicable scoring criteria. When documentation is unclear or incomplete, additional information may be requested. Changes to a community's classification are reflected only after completion of a formal regrading process with limited feedback to fire departments.

Several recurring factors influence classification outcomes. Inspection and testing activities must occur at prescribed intervals to receive full credit, regardless of overall system capacity. Certification and credential requirements affect how staffing is counted for scoring purposes. Distance-based thresholds are applied uniformly and can have a significant effect on final classifications, particularly for communities near established cutoff points. In addition, because classifications are updated through scheduled surveys and formal regrading processes, there may be a delay between operational changes at the local level and when those changes are reflected in a community's Fire Protection Class.

### 3. Underlying Assumptions Embedded in the WSRB Methodology

The WSRB fire property protection classification methodology relies on a set of underlying assumptions that allow a single, statewide framework to be applied across a wide range of community types and fire service models. These assumptions are reflected in the grading schedules, surveys, and documentation requirements reviewed as part of this assessment, as well as in discussions with WSRB staff. While necessary to support consistency and comparability, these assumptions influence how classification outcomes are produced and how they should be interpreted.

One key assumption is that staffing measures used in the survey process are a reasonable proxy for typical response capacity. For career departments, this information is largely tied to documented on-duty staffing. For volunteer and combination departments, WSRB documentation indicates staffing credit is based on average firefighter response to incidents rather than a simple roster count. Even so, staffing can still vary by time of day, season, and incident conditions, and those short-term swings may not be fully reflected in an average-based measure.

The WSRB methodology recognizes documented automatic aid arrangements as part of local fire protection capacity. Response support that relies on request-based mutual aid is not assumed to be consistently available and is not incorporated in the same manner. As a result, variability in response reliability related to distance, availability, or operational conditions is not explicitly reflected in classification outcomes.

Another assumption relates to how water supply is evaluated. The grading schedule places heavy emphasis on water supply and relies on prescribed inspection/testing practices and documentation to support credit. WSRB documentation also includes detailed credits for alternative water supply operations (e.g., tenders, relay pumping, and related operational elements) in areas without hydrants. Even with these provisions, results can still be sensitive to how water systems and operations are documented and to how closely local conditions fit the schedule's defined criteria.

The methodology assumes that fire protection capability is generally uniform within defined community or service-area service areas. Fire Protection Classes are assigned at the community level and applied uniformly across that area. In larger or

geographically diverse jurisdictions, this assumption may mask variation in response capability, water availability, or access conditions within the same classification area.

Finally, the methodology assumes that assessing fire protection capacity at the community/service-area level is appropriate across different fire environments. WSRB documentation indicates WUI preparedness can be considered (for example, wildland apparatus and NWCG-related training/coordination elements). However, the methodology does not evaluate parcel-level wildfire exposure or property-specific wildfire risk factors such as fuels/vegetation, topography, or defensible space. This reflects a focus on fire protection capability rather than hazard-driven risk modeling.

Taken together, these assumptions support a standardized and administratively manageable classification system. At the same time, they shape and limit the extent to which classification outcomes reflect local operational nuance, spatial variability, and changes over time. Recognizing these assumptions is important for interpreting Fire Protection Classes appropriately and provides context for the limitations discussed in the next section.

#### **4. Limitations of the Current WSRB Methodology**

This section identifies parts of the current WSRB approach that matter if Washington state decides to modernize or supplement the way fire PPCs are developed and used. These statements are not critiques of WSRB's execution; they are observations about what the current method does well, what it does not measure, and where additional data or analytical approaches may be needed.

##### **Community-Level Classification**

WSRB assigns Fire Protection Classes at the community or service-area level and the classes are applied uniformly within those service areas. This approach does not account for variation in fire protection availability within larger or geographically diverse service areas. As a result, differences in response capability, water availability, or access conditions within the same community may not be reflected in the assigned classification.

## Survey-Based Update Cycles

The methodology relies on surveys and regrading activity, and WSRB documentation indicates mechanisms for interim updates and community-initiated regrades. Even with those mechanisms, the timing of updates can vary by community and by the type of change being reported, which may still create a lag between operational changes and when those changes are reflected in an assigned class.

## Transparency and Reproducibility

WSRB's methodology documentation is more detailed than a typical high-level summary (e.g., component weightings, applicable standards, and item-by-item evaluation criteria). However, this documentation is not readily accessible to the public, and the pathway for public access is unclear. In addition, certain elements remain non-transparent to external reviewers, including the exact point values for sub-items and the Building Code Effectiveness Grading Schedule (BCEGS) methodology.

## Embedded Operational Assumptions

Some assumptions within the methodology reflect traditional fire service models. These assumptions may not fully capture current realities such as variability in volunteer availability, increased reliance on regionalized or cross-jurisdictional response models, operational differences associated with wildland-urban interface conditions, or modernization through use of technology.

## Class Cutoff Effects

Protection Classes are tied to defined score cutoffs. That means a small scoring change, sometimes driven by a single item or documentation update, can move a community from one class to the next. From a policy and consumer-impact perspective, that 'step change' can look bigger than the underlying operational change.

## Data Quality and Consistency

The methodology relies on data from multiple sources, including fire departments, utilities, and communications centers, with varying levels of standardization and

documentation practices. Some information is self-reported, and completeness or accuracy may vary across jurisdictions, which can influence scoring outcomes.

### **Limited Use of Incident or Outcome Data**

Classifications are based primarily on indicators of capacity and readiness rather than direct analysis of historical fire incidents, response outcomes, or loss experience. As a result, classification outcomes do not directly reflect observed fire performance or loss history.

### **Wildland–Urban Interface Considerations**

WSRB documentation includes evaluation of WUI preparedness within the community grading process (for example, wildland apparatus and NWCG-related training/coordination elements). What it does not do is assess parcel-level wildfire exposure or property-specific wildfire risk drivers (fuels/vegetation, topography, structure exposure, defensible space, etc.). This is a key distinction: the current method measures fire department capability/preparedness, not wildfire or conflagration risk at the property level.

### **Property-Level Differentiation and Risk Assessment**

WSRB’s community grading produces a Community Protection Class, and separate property classification rules can adjust an individual property’s class based on distance to fire stations and available water supply. Beyond those distance/water rules, the methodology does not evaluate property-specific characteristics such as building construction, mitigation measures, defensible space, or localized environmental conditions, and it does not conduct a broader fire risk assessment.

As a result, Protection Classes should be read as indicators of fire department protection capacity (currently under evaluation given legacy criteria being used). At the property level, fire department capacity, as adjusted for distance/water access, is not a complete measure of fire risk or loss potential for a specific structure or parcel.

### **Consumer Understanding**

Fire Protection Class is one of several factors that influence insurance premiums. Because of the way classifications interact with insurer-specific rating factors, changes in Fire Protection Class may be difficult to clearly explain to consumers,

particularly where the relationship between class changes and premium impacts is indirect.

### **Local Fire Service Perspectives**

Initial discussions with fire service stakeholders in Washington consistently reported difficulty anticipating how specific operational or capital improvements would affect classification outcomes. Participants noted that factors such as distance thresholds, staffing equivalency formulas, and documentation requirements often had a greater influence on classification results than local deployment strategies, mutual aid effectiveness, or time-of-day staffing realities. The lack of usable feedback from raters was also noted.

## **5. Status Report and Next Steps**

### **5.1 Status of Current-State Assessment**

LM2 has completed a comprehensive review of the current fire property protection classification methodology used in Washington State. This work included detailed review of documentation provided by the OIC and WSRB, as well as discussions with WSRB staff to clarify how the methodology is applied in practice. In addition, LM2 engaged with fire service stakeholders across Washington to better understand how the methodology works from an operational and local perspective.

### **Key Takeaways from the Current State**

Overall, the WSRB methodology is a standardized, community-level approach to measuring fire protection capacity, relying primarily on defined criteria and documentation, with limited performance-based options in certain areas. Property classifications are assigned based on location but remain capped by the community's overall protection class score. The methodology does not assess property-level fire risk or incorporate structure-specific or parcel-level wildfire factors.

Understanding these characteristics is essential for interpreting Fire Protection Classes appropriately and for identifying areas that may warrant further analysis.

### **WSRB Methodology Evolution**

Documentation reviewed for this assessment shows that WSRB has updated the grading schedule over time in response to stakeholder input, including changes

adopted in 2013 and 2019 and reforms under consideration for 2026. Examples include recognition of firefighter/officer certification credits (2013), reserve apparatus sharing agreements (2019), performance-based response time evaluation options (2019), and a proposed “W” suffix approach intended to address distance-related impacts for certain rural properties (2026). This track record is relevant as OIC considers options to modernize or supplement the current approach.

## 5.2 Next Steps

Next steps planned for the next phase include:

- Evaluating property-level datasets (including GIS layers) to better understand how community grades and distance/water property rules relate to parcel-level conditions and observed market impacts.
- Continuing detailed working sessions with WSRB to confirm methodology interpretations, clarify scoring/application questions, and document update/regrade pathways.
- Holding in-person meetings with fire service stakeholders across Washington State to gather place-based input on rural operations, water supply strategies (including tender-based systems), and WUI preparedness needs.
- Integrating additional datasets such as wildfire hazard indicators and relevant incident/response information to support a more complete, risk-informed view alongside the existing capacity-focused framework.

## Conclusion

As data access agreements are finalized (WSRB NDA) and commercial property level data are available to add to the model, this status report will be updated to reflect additional insights into WSRB methodology.



**LM2 & Associates**

Expertise Innovation Solutions

# **WSRB METHODS: PROBABILITY OF ADVERSE IMPACT ON INSURANCE PREMIUMS**

***Analysis of 2019 Classification System and  
Proposed March 2026 Reforms***

# WSRB METHODS: PROBABILITY OF ADVERSE IMPACT ON INSURANCE PREMIUMS

## *Analysis of 2019 Classification System and Proposed March 2026 Reforms*

### Executive Summary

Based on analysis of Washington surveying and rating bureau (WSRB) grading schedules and classification manuals, this report assesses the probability that WSRB's rating methodology creates adverse impacts on certain consumer populations, particularly rural and lower-income communities. The analysis examines both the 2019 classification system and the WSRB *proposed* March 2026 alternative classification manual reforms.

### KEY FINDINGS:

- Under the 2019 classification system, there was HIGH probability of adverse impact on rural homeowners, particularly those 5-7 miles from fire stations
- The proposed March 2026 Alternative Classification Manual introduces significant reforms that substantially reduce disparate impact for properties in well-graded communities (Protection Class 1-5) located 5-7 miles from fire stations
- The reforms provide a potential improvement of 4-8 protection classes for affected properties through a new "W" suffix classification system
- However, the reforms primarily benefit suburban-fringe and relatively well-resourced rural areas while providing minimal benefit to the most remote and under-resourced populations
- HIGH probability of adverse impact persists for properties beyond 7 miles from fire stations, properties without water supply access, and properties in poorly graded communities

## Important Clarification: Community Grades Vs. Property Classifications

### WSRB Assigns Two Distinct Types Of Ratings:

- Community Protection Class Grade (1-10): Overall assessment of a community's fire defenses based on water supply, a few high-level fire department capabilities, emergency communications, and fire safety control
- Public Protection Class (PPC): Individual property rating *derived from* the community grade using distance-based rules and other factors

This analysis focuses on how these classifications create disparate impacts, with particular attention to how individual property PPCs are determined and how they may evolve from the 2019 system to the proposed March 2026 reforms.

## March 2026 Classification Reform: Addressing Geographic Distance Penalties

### The New "W" Suffix Classification System

In March 2026, WSRB plans to introduce an Alternative Public Protection Classification Manual that fundamentally changes the treatment of properties located 5-7 miles from fire stations. This represents a significant reform to address disparate impact concerns in WSRB's classification methodology.

### Under the 2019 System:

Properties located 5-7 road miles from a Class A fire station with water supply access (hydrant, mobile water supply credit, or tender credit) received a flat Protection Class 9 rating regardless of their community's overall fire protection grade. This created substantial penalties for properties in well-graded communities that happened to be at extended distances from fire stations.

Example: A property in a Protection Class 2 community (excellent fire protection) located 6 miles from the fire station with a nearby fire hydrant would receive PC 9—seven classes worse than properties within 5 miles of the same station.

### Under the March 2026 Alternative Manual:

Properties 5-7 miles from a Class A fire station with water supply access now receive their community's Protection Class with a "W" suffix appended (For reference, see WSRB Table A, Column F for dwellings; Table B, Column C for commercial properties replicated in **Appendix A** of this document).

Examples:

- PC 1 community → 1W (not PC 9)
- PC 2 community → 2W (not PC 9)
- PC 3 community → 3W (not PC 9)
- PC 5 community → 5W (not PC 9)
- PC 8 community → 8W (not PC 9)

The "W" suffix likely indicates "Water Supply Available," recognizing that while response distance is extended (5-7 miles), adequate water supply infrastructure exists, and fire protection capability is reduced but not eliminated.

### **Magnitude of Improvement**

The proposed March 2026 reforms provide dramatic improvements for properties in well-graded communities:

- PC 1 community: PC 9 → PC 1W (8 classes better)
- PC 2 community: PC 9 → PC 2W (7 classes better)
- PC 3 community: PC 9 → PC 3W (6 classes better)
- PC 4 community: PC 9 → PC 4W (5 classes better)
- PC 5 community: PC 9 → PC 5W (4 classes better)

This improvement is likely to substantially lower fire insurance premiums, though the actual premium impact varies by insurer as Protection Class is only one factor in rate determination.

### **Who Benefits From the Proposed March 2026 Reforms**

The proposed reforms significantly reduce adverse impact for:

#### **BENEFITING POPULATIONS:**

- Suburban-fringe properties in growing communities with Protection Class 1-4 ratings

- Rural properties adjacent to well-graded urban areas with extended water infrastructure
- Properties in well-resourced rural communities (PC 3-5) with good fire protection but extended distances from fire stations
- Exurban developments with hydrant systems or mobile water/tender service located 5-7 miles from stations
- Properties in fire protection districts that serve areas beyond typical urban boundaries but maintain high service standards

Estimated Impact: These reforms could benefit 10-30% of properties that previously received flat PC 9 penalties under the 2019 system, particularly in rapidly growing regions where development has extended beyond the 5-mile fire station radius.

### **POPULATIONS NOT BENEFITING:**

#### **The reforms provide minimal or no benefit to:**

- Remote rural properties beyond 7 miles from Class A fire stations (still receive PC 9 or PC 9A)
- Properties without water supply access beyond 5 miles from fire stations
- Properties in communities with Protection Class 6-10 ratings (the "W" suffix provides only 1-4 class improvement)
- The most under-resourced rural areas lacking both fire protection infrastructure and water systems
- Properties in communities with volunteer fire departments that struggle to meet minimum staffing and equipment requirements

These populations continue to face HIGH probability of adverse impact under both the 2019 and 2026 systems.

## **Structural Features Creating Adverse Impact (2019 And 2026 Systems)**

### **Remaining Geographic Distance Thresholds**

Even with the March 2026 reforms, significant distance-based penalties persist:

#### **Properties Beyond 7 Miles:**

- Dwelling properties beyond 7 miles from Class A fire stations receive PC 9 (with water) or PC 9A (all other conditions)
- Commercial properties beyond 7 miles receive PC 9 or PC 10 depending on water supply and Class B station proximity
- No "W" suffix benefit applies beyond the 7-mile threshold

**Properties 2-5 Miles Without Water:**

- Under both 2019 and proposed 2026 systems, properties 2-5 miles from fire stations without water supply access receive PC 7 (dwellings) or PC 9 (commercial)
- Properties beyond 5 miles without water receive PC 8A (dwellings 2-5 miles) or worse

**The 1,000-Foot Hydrant Threshold:**

- Properties beyond 1,000 feet from fire hydrants face systematic penalties unless community has Mobile Water Supply Credit or Tender Credit
- This threshold disproportionately affects rural properties even when fire stations are nearby

These thresholds continue to create disparate impacts on rural and lower-income communities under the proposed 2026 system, though the impacts are less severe than under the 2019 rules for properties in the 5-7 mile band.

**WATER SUPPLY ALTERNATIVES AND THEIR SIGNIFICANCE**

The WSRB system includes important credit mechanisms that partially mitigate hydrant deficiencies:

**Mobile Water Supply Credit:**

- Applies to dwellings and commercial properties without hydrants within 1,000 feet
- Provides substantial credit (typically 2-3 class improvement under 2019 system)
- Example under 2019 system: Property in PC 2 community without nearby hydrant but with mobile water supply credit receives PC 3 (not PC 5)

- Under the proposed 2026 system: Enables "W" suffix classification for properties 5-7 miles from fire stations
- Requires ability to supply water for longer duration than basic tender operations

**Tender (Tanker) Credit:**

- Applies to dwellings without hydrants within 1,000 feet
- Provides moderate credit (typically 1-2 class improvement under 2019 system)
- Example under 2019 system: Property in PC 3 community without nearby hydrant but with tender credit receives PC 5 (not PC 7)
- Under the proposed 2026 system: Also enables "W" suffix classification for properties 5-7 miles from fire stations
- Based on fire department's documented tender operation capabilities

**Fire Department Provided Water:**

- Departments can create "recognized water supply" through tender operations
- Must deliver minimum 250 gpm within 5 minutes of arrival
- Must maintain flow for required duration
- This means rural departments with proper equipment and training can partially offset hydrant deficiencies

**Significance for the Proposed March 2026 Reforms:**

The new "W" suffix classification is ONLY available to properties with water supply access (hydrant, mobile water credit, or tender credit). This means the reforms specifically reward communities that have invested in alternative water supply capabilities, while properties lacking any water supply infrastructure receive no benefit from the proposed 2026 changes.

Many rural fire departments may not be receiving these credits despite having tender/tanker capabilities, or communities may not be aware these credits exist and could be pursued through proper documentation to WSRB.

**AUTOMATIC AID AGREEMENT PROVISIONS**

The WSRB manual includes substantial provisions for automatic aid that can significantly improve rural ratings under both 2019 and the proposed 2026 systems:

**Credit available when neighboring jurisdiction provides automatic response:**

- Common dispatch center: 20% credit
- Inter-department training (quarterly half-day drills): up to 45% credit
- Common standard operating procedures: 20% credit
- Common equipment standards: 15% credit

**Geographic Scope:**

- For automatic aid within 5 road miles: Up to 100% credit possible
- For automatic aid 5-15 road miles: Up to 33% credit possible

**Impact:** Rural communities adjacent to better-resourced jurisdictions may have significantly better protection than their standalone ratings suggest—IF formal automatic aid agreements are in place and properly documented to WSRB. However, this mechanism requires inter-agency cooperation, formalized agreements, and ongoing training coordination that may be difficult for smaller jurisdictions to maintain.

## **WEIGHTING OF RATING COMPONENTS**

The community grade calculation weights factors as follows (Table 1, Grading Schedule):

- Water Supply: 35%
- Fire Department: 40%
- Emergency Communications: 9%
- Fire Safety Control: 16%

**Fire Department scoring includes:**

- Number and distribution of companies
- Staffing levels
- Equipment and apparatus
- Training programs

- Response capabilities

#### **Volunteer Fire Department Considerations:**

- On-duty firefighters: 6 required per engine/ladder company for full credit
- Volunteer/on-call firefighters: Counted at 3:1 ratio (3 volunteers = 1 on-duty equivalent)
- Maximum credit from volunteers: 50% of required strength
- Based on documented average response, not theoretical availability

These methods create systematic disadvantage for communities with volunteer departments, not primarily due to "response delays" but due to the equivalency ratio and credit caps built into the methodology. This affects both the 2019 and the proposed 2026 systems equally, as the proposed March 2026 reforms do not change the underlying community grading methodology.

### **MINIMUM PROTECTION CLASS CRITERIA**

The manual establishes minimum criteria for PC 8 and PC 9 for communities without hydrant systems:

#### **PC 9 Minimum Requirements:**

- 4 firefighters within 5 road miles of station
- 2 hours of structural firefighting training every 2 months
- Heated apparatus building
- Fire reporting and dispatch system
- Initial attack apparatus (250 gpm minimum pump)
- Specified equipment inventory

#### **PC 8 Minimum Requirements:**

- 6 firefighters within 5 road miles of station
- 2 hours of structural firefighting training per month
- Same apparatus and facility requirements
- Pumper meeting NFPA 1901 standards (750 gpm minimum)
- More extensive equipment requirements

Rural communities meeting these minimum standards can achieve PC 8 or PC 9 regardless of hydrant availability. The assertion that rural areas without hydrants automatically receive PC 10 may be incorrect under both systems. However, many rural areas may not be aware of these minimum thresholds or how to document compliance to WSRB.

## INDIVIDUAL PROPERTY MITIGATION OPPORTUNITIES

### The Required Fire Flow calculations include credits for:

- Automatic sprinkler systems (NFPA 13): up to 75% reduction in required fire flow
- Residential sprinkler systems (NFPA 13R): up to 25% reduction
- Residential sprinkler systems (NFPA 13D): base fire flow reduced to 500 gpm
- Construction class (fire-resistive construction requires less fire flow than wood frame)

Individual property owners can potentially improve their specific ratings through building improvements, though this pathway is not well-publicized and primarily benefits those with resources to invest in such improvements. These provisions apply under both the 2019 and the proposed 2026 classification systems.

## Evidence Of Disparate Impact

### Direct Premium Impact

Most (though not all) insurance companies in Washington use WSRB PC data as "one essential input" for setting fire insurance premiums. Better PC ratings generally correlate with lower premiums, though the magnitude varies by insurer. Some companies (like State Farm nationally) don't use PPC ratings at all. PC is only one factor among many affecting total premiums, and fire coverage is only part of comprehensive property insurance policies.

However, for insurers that do use WSRB ratings, the Protection Class designation has material impact on premium calculations. A multi-class improvement (such as from PC 9 to PC 2W under the proposed March 2026 reforms) likely translates to substantial premium reductions, potentially hundreds of dollars annually for dwelling properties.

## Population Affected

Approximately half of Washington's ~700 grading entities are rated Class 7 or worse at the community level. Rural properties systematically receive worse individual PPCs than urban properties. Properties in communities with volunteer fire departments face structural disadvantages in rating calculations (3:1 equivalency, 50% cap on volunteer credit). Communities with lower tax bases have fewer resources to improve infrastructure, creating feedback loops.

Under the 2019 system, properties 5-7 miles from fire stations in even the best-graded communities (PC 1-2) received PC 9, creating severe premium penalties for residents of suburban-fringe and rural areas regardless of overall community fire protection quality.

Under the proposed March 2026 reforms, this specific penalty is substantially reduced for properties with water supply access, but significant geographic penalties persist for properties beyond 7 miles and for all properties in poorly graded communities.

## Systemic Disadvantages Creating Feedback Loops

**The methodology creates reinforcing cycles where:**

1. Rural areas receive lower ratings due to infrastructure and staffing limitations
2. Lower ratings lead to higher insurance premiums for residents
3. Higher premiums and lower property values reduce tax bases
4. Reduced tax bases limit ability to fund fire protection improvements
5. Limited improvements perpetuate lower ratings

**Additional factors:**

- Lower-income communities face greater difficulty recruiting and retaining volunteer firefighters

- Grant funding for fire equipment often requires matching funds unavailable to small jurisdictions
- Training and certification costs can create barriers for volunteer departments
- Distance from training facilities increases participation challenges
- Communities struggle to document compliance with credit mechanisms (mobile water supply, tender operations, automatic aid agreements)

The proposed March 2026 reforms do not address these structural challenges. Communities that were well-resourced enough to maintain good Protection Class ratings (PC 1-5) benefit from the "W" suffix classification, while communities struggling with the challenges above continue to face severe penalties.

## Probability Assessment

### Under 2019 Classification System

If the 2019 classification system remains in use for certain properties or jurisdictions:

#### **HIGH PROBABILITY of creating adverse premium impacts for:**

- Rural homeowners 5-7 miles from Class A fire stations (flat PC 9 penalty regardless of community grade)
- All rural homeowners beyond 5 miles from fire stations
- Properties in communities with volunteer fire departments (due to 3:1 equivalency and 50% credit cap)
- Lower-income communities with limited tax bases and infrastructure
- Properties without access to water supply infrastructure

#### **MODERATE-TO-HIGH PROBABILITY that these impacts constitute measurable disparate impact:**

- The methodology uses seemingly neutral criteria (distance, infrastructure, staffing)
- Impacts systematically correlate with geography and community wealth

- Impacts likely correlate with protected characteristics (income, potentially race/ethnicity in certain areas)
- Alternative methodologies or expanded credits might achieve similar risk assessment with less disparate impact

### **Under the Proposed March 2026 Alternative Classification Manual**

**For properties classified under the proposed March 2026 reforms:**

**LOW-TO-MODERATE PROBABILITY of adverse premium impacts for:**

- Properties in well-graded communities (PC 1-5) located 5-7 miles from Class A fire stations WITH water supply access (receive community grade + W suffix instead of flat PC 9)
- Suburban-fringe properties in growing regions
- Rural properties in well-resourced communities

**HIGH PROBABILITY of adverse premium impacts persists for:**

- Properties beyond 7 miles from Class A fire stations (still PC 9 or 9A)
- Properties 5-7 miles from fire stations WITHOUT water supply access
- Properties in poorly graded communities (PC 6-10) where W suffix provides minimal benefit
- Properties in the most remote and under-resourced rural areas
- Properties in communities unable to document compliance with credit mechanisms

### **Overall Assessment**

The proposed March 2026 reforms represent significant progress in reducing geographic discrimination for a substantial subset of rural properties. However, the reforms are notably structured to benefit relatively well-resourced rural areas (those in PC 1-5 communities with water infrastructure) while providing little or no benefit to the most disadvantaged populations.

**This creates a bifurcation in disparate impact probability:**

- **REDUCED IMPACT:** Suburban-fringe and relatively well-resourced rural areas (estimated 10-30% of previously affected properties)
- **PERSISTENT HIGH IMPACT:** Remote rural areas, under-resourced communities, properties beyond 7 miles, properties without water infrastructure (estimated 70-90% of previously affected properties)

The question shifts from "Does disparate impact exist?" to "Has the proposed March 2026 reform adequately addressed it?" The answer appears to be: Partially, and primarily for populations that were already relatively well-positioned.

## Critical Implementation Questions

### The proposed March 2026 Alternative Classification Manual Raises Important Questions About Implementation And Scope:

#### EFFECTIVE DATE AND TRANSITION

- When does the Alternative Manual take effect? (Manual is dated "March 1, 2026 Edition"; as of February 2026, implementation timeline unclear)
- Are existing properties automatically reclassified under the new system?
- Is reclassification triggered by routine re-evaluation, policy renewal, or policyholder request?
- Does the "alternative" designation mean communities can choose between systems?

#### INSURER RESPONSE

- How quickly are insurers adjusting premiums for improved classifications?
- Is premium reduction automatic or does it require policyholder action?
- Do all WSRB-subscribing insurers recognize the W suffix classifications?
- What is the actual premium differential between PC 9 and PC 2W, PC 3W, etc.?

#### SCOPE AND PERMANENCE

- Does the Alternative Manual apply to all properties or only new evaluations after March 2026?
- Are properties rated before March 2026 grandfathered under the 2019 system?

- Is this a permanent classification change or a pilot program?
- Will WSRB continue to publish ratings under both systems?

## **DATA AND EQUITY ANALYSIS**

- What percentage of Washington properties benefit from the March 2026 reforms?
- What is the demographic and socioeconomic distribution of properties receiving W suffix classifications versus those still receiving PC 9/9A?
- Are reform benefits concentrated in specific geographic regions?
- Have loss experience data been analyzed to justify the W suffix classifications actuarially?

These questions affect whether the adverse impact analysis describes current conditions, prospective improvements, or recent reforms with uncertain implementation status.

## **Key Questions for Further Investigation**

**In Evaluating The WSRB PPC System For Potential Adverse Impacts, Critical Questions Include:**

### **METHODOLOGY AND PROPORTIONALITY**

1. Do the distance-based thresholds (5 miles, 7 miles for fire stations; 1,000 feet for hydrants) appropriately reflect modern firefighting capabilities, response times, and effectiveness?
2. Does the 3:1 volunteer-to-career firefighter equivalency ratio accurately reflect actual fire suppression performance differences?
3. Have fire service technologies and practices evolved in ways not captured by current methodology?
4. What actuarial basis supports the W suffix classifications? Do loss experience data demonstrate that PC 2W properties have loss experience similar to PC 2 properties?

## **DATA AND EQUITY ANALYSIS**

5. What is the demographic and socioeconomic distribution of community grades and individual PPCs across Washington communities?
6. Are there data showing the current premium differentials between PC classes accurately reflect loss experience differences?
7. What percentage of rural fire departments are aware of and pursuing available credits (mobile water supply, tender credits, automatic aid agreements)?
8. What barriers prevent rural departments from achieving higher classifications despite meeting functional capabilities?
9. Who has access to granular data on property classifications, demographics, and premium impacts? (WSRB, insurers, state regulators?)

## **ALTERNATIVE APPROACHES AND REFORMS**

10. Could expanded tender/mobile water supply credits better recognize rural fire protection capabilities while maintaining actuarial soundness?
11. Should automatic aid agreement credits be more readily available or automatically evaluated for adjacent jurisdictions?
12. Could fire department performance-based metrics (actual response times, effective response force assembly, training hours, equipment deployment) supplement or replace some infrastructure-based metrics?
13. Would publishing detailed guidance on achieving specific protection classes help reduce information barriers facing rural communities?
14. Should the 7-mile threshold be extended further for properties with water supply access?

## **MODERNIZATION AND ONGOING REFORM**

15. How can the methodology better recognize modern communication and firefighting technologies and mutual aid systems?
16. Should the methodology include formal consideration of community resources and capacity in setting achievable standards?

17. Would periodic review of distance thresholds and weighting factors based on actual loss experience improve fairness and accuracy?

18. Are there successful models from other states that better balance actuarial accuracy with equity considerations?

## **REGULATORY AND POLICY CONSIDERATIONS**

19. What role should state insurance regulators play in reviewing rating methodologies for potential disparate impacts?

20. Should WSRB be required to conduct periodic equity impact analyses of its rating system?

21. What technical assistance or resources could help rural communities improve their ratings?

22. Should the state establish grants or matching funds to help under-resourced communities achieve minimum protection class standards?

## **Conclusion**

The WSRB methodology is more nuanced than commonly understood, with provisions for tender credits, mobile water supply credits, automatic aid agreements, and minimum protection class standards that can benefit rural areas. The proposed March 2026 alternative classification manual introduces significant reforms through the W suffix classification system that substantially reduce disparate impact for properties in well-graded communities located 5-7 miles from fire stations. However, significant structural features remain that systematically disadvantage rural and lower-income communities:

### **PERSISTENT ISSUES:**

- Geographic distance thresholds beyond 7 miles that create severe penalties regardless of water supply
- Properties 5-7 miles from stations without water supply access receive no benefit from the proposed 2026 reforms

- Volunteer firefighter equivalency ratios (3:1) and credit caps (50%) that structurally disadvantage volunteer departments
- Infrastructure-based weighting that favors communities with greater resources
- Credit mechanisms that may not be widely known or accessible to smaller jurisdictions
- Feedback loops that make it difficult for lower-rated communities to improve

**PROPOSED MARCH 2026 REFORM ASSESSMENT:**

The reforms represent significant progress but are notably structured to primarily benefit suburban-fringe and relatively well-resourced rural areas (those in PC 1-5 communities with water infrastructure), while providing minimal or no benefit to the most remote and under-resourced populations.

**This creates two distinct adverse impact profiles:**

**REDUCED IMPACT** (estimated 10-30% of previously affected rural properties):

- Properties in PC 1-5 communities
- Located 5-7 miles from fire stations
- With water supply access (hydrant, mobile water credit, or tender credit)
- Primarily suburban-fringe and well-resourced rural areas
- NOW receiving community grade + W suffix instead of flat PC 9

**PERSISTENT HIGH IMPACT** (estimated 70-90% of previously affected rural properties):

- Properties beyond 7 miles from fire stations
- Properties without water supply access
- Properties in PC 6-10 communities
- The most remote and under-resourced rural areas
- STILL receiving PC 9, 9A, or worse

The probability of adverse impact remains HIGH for identifiable populations, though the specific populations most affected have shifted with the March 2026 reforms. Whether these impacts constitute legally actionable disparate impact depends on factors requiring further investigation, including:

- Actuarial justification for remaining penalties
- Availability of less discriminatory alternatives

- State regulatory standards for insurance rating equity
- Demographic analysis of who benefits versus who remains disadvantaged
- Assessment of whether reforms represent meaningful progress or minimal compliance

**A comprehensive equity analysis would require:**

1. Demographic and socioeconomic mapping of properties receiving W suffix classifications versus those still receiving PC 9/9A
2. Analysis of loss experience data by protection class, including W suffix classifications
3. Evaluation of alternative methodologies that might achieve similar risk differentiation with less geographic concentration of penalties
4. Assessment of barriers to accessing available credits and whether those barriers disproportionately affect protected classes
5. Review of modernization opportunities in light of evolving fire service capabilities and technologies

Such analysis could inform potential further reforms to reduce remaining disparate impacts while maintaining actuarially sound risk assessment. The proposed March 2026 reforms demonstrate that WSRB can make significant structural changes to address equity concerns; the question is whether additional reforms are warranted to address persistent disparate impacts on the most disadvantaged rural populations.

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## Appendix A

### Proposed March 2026 Reforms

Table A applies to Dwelling and Farm Dwelling Property.

**TABLE A**

#### Dwelling and Farm Dwelling Property

Grade of Community:	PPC of Dwelling Property							
	A	B	C	D	E	F	G	H
1	1	2	5	7	8A	1W	9	9A
2	2	3	5	7	8A	2W	9	9A
3	3	4	5	7	8A	3W	9	9A
4	4	5	5	7	8A	4W	9	9A
5	5	6	6	7	8A	5W	9	9A
6	6	7	7	8A	8A	6W	9	9A
7	7	8	8	8A	8A	7W	9	9A
8	8	8	8	8A	8A	8W	9	9A
9	9	9	9	9	9	9	9	9A
10	10							

- A. A standard fire hydrant is within 1,000 feet of property, and a recognized responding Class A fire station is within 5 road miles of property.
- B. Community receives Mobile Water Supply Credit, no standard fire hydrant is within 1,000 feet of property, and a recognized responding Class A fire station is within 5 road miles of property.
- C. Community receives Tender (Tanker) Credit, no standard fire hydrant is within 1,000 feet of property, and a recognized responding Class A fire station is within 5 road miles of property.
- D. No Mobile Water Supply Credit, no Tender Credit, no standard fire hydrant within 1,000 feet of property, and a recognized responding Class A fire station is within 2 road miles of property.
- E. No Mobile Water Supply Credit, no Tender Credit, no standard fire hydrant within 1,000 feet of property, and a recognized responding Class A fire station is between 2 and 5 road miles of property.

- F. A standard fire hydrant is within 1,000 feet of property or community receives Mobile Water Supply Credit or Tender Credit, and a recognized responding Class A fire station is over 5 road miles but within 7 road miles of property.
- G. No Mobile Water Supply Credit, no Tender Credit, no standard fire hydrant within 1,000 feet of property, and property is more than 5 road miles from a recognized responding Class A fire station and not more than 5 road miles from a recognized responding Class B fire station.
- H. Applies to all other dwelling property located within the legal boundaries of a community graded better than 10.

**Table B applies to class ratable Commercial Property, Farm Outbuildings, or Dwelling. Property written with Commercial Risks or as part of a Commercial Property.**

**TABLE B**

**Class Ratable Commercial Property, Farm Outbuildings, or Dwelling  
Property written with Commercial Risks or as part of a Commercial  
Property**

Grade of Community:	PPC of Class-Rated Commercial Property				
	A	B	C	D	E
1	1	8	1W	9	10
2	2	8	2W	9	10
3	3	8	3W	9	10
4	4	8	4W	9	10
5	5	8	5W	9	10
6	6	8	6W	9	10
7	7	8	7W	9	10
8	8	8	8W	9	10
9	9	9	9	9	10
10	10				

- A. A standard fire hydrant is within 1,000 feet of property, and a recognized responding Class A fire station is within 5 road miles of property.
- B. Community receives Mobile Water Supply Credit, no standard fire hydrant is within 1,000 feet of property, and a recognized responding Class A fire station is

within 5 road miles of property.

- C. A standard fire hydrant is within 1,000 feet of property or community receives Mobile Water Supply Credit, and a recognized responding Class A fire station is over 5 road miles but within 7 road miles of property.
- D. No standard fire hydrant is within 1,000 feet of property, no Mobile Water Supply Credit, and a recognized responding Class A fire station is within 5 road miles of property Or property is more than 5 road miles from a recognized responding Class A fire station and not more than 5 road miles from a recognized responding Class B fire station.
- E. Applies to all other class-ratable property located within the legal boundaries of a graded community.



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# PPC Data Inventory

*Available Data Sources for Enhanced  
Property Protection Classification*

# PPC DATA INVENTORY

*Available Data Sources for Enhanced Property Protection Classification*

## Executive Summary

This Data Requirements Inventory catalogs data sources currently available to support enhanced property protection classification development for Washington State. The inventory focuses on accessible geospatial data, fire service information, and wildfire risk assessment resources that may inform methodology development.

## Current Data Landscape:

Washington State benefits from comprehensive data resources across multiple categories:

- **Parcel and Property Data:** Statewide parcel frameworks with ownership and valuation attributes, plus federal WUI structure characterization
- **Wildfire Risk Data:** Federal hazard assessment products (FEMA, LANDFIRE, NIFC), state fire occurrence records, and emerging Department of Natural Resources (DNR) statewide wildfire risk mapping
- **Fire Protection Infrastructure:** WSRB fire protection district boundaries, emergency response areas, and fire station locations from multiple sources
- **Fire Department Capacity:** WSRB comprehensive community grading data (NDA pending), plus limited public National Emergency Response Information System (NERIS) data
- **Geospatial Infrastructure:** Road networks, topographic data, and administrative boundaries supporting spatial analysis

## Data Access Status:

Most foundational geospatial data is publicly accessible. Two critical data sources require access agreements currently in development:

- **WSRB comprehensive community grading data and GIS layers** (NDA in progress, expected February 2026): Currently, the single most authoritative source for fire department capacity, water supply infrastructure, and community fire protection assessment.
- **Commercial parcel data products** (evaluation in progress): Potential source for standardized structure characteristics statewide

## Path Forward:

The data sources documented in this inventory provide a strong foundation for enhanced property protection classification development. New methodology design can proceed, informed by actual data availability, and gap analysis can identify specific collection requirements once enhancement approach is defined.

## 1. PARCEL AND PROPERTY DATA

### 1.1 Washington State Geospatial Portal

#### Washington Statewide Tax Parcel Data (Updated September 2025)

- **Geometry:** Parcel polygons
- **Attributes:**
  - Property addresses (situs)
  - WA Department of Revenue land use codes
  - Land value and building value
  - Links to county assessor websites
- **Update Frequency:** Annually, rolling updates
- **Coverage:** The Washington State Parcels Project provides a statewide data set of tax parcel attributes covering counties that currently have digital tax parcels
- **Use Case:** Parcel framework, assessed valuations

#### Emergency Response Boundaries (Updated July 2024)

- **Geometry:** Polygon boundaries
- **Coverage:** Statewide emergency service areas extracted from WA E911 system
- **Use Case:** Emergency service jurisdiction delineation, response area mapping

### 1.2 FEMA Geospatial Resource Center - WUI Products

#### WUI Structures V2 (Updated November 2025)

- **Geometry:** Polygon features representing building footprints
- **Attributes:**
  - Structure separation distance
  - Structure separation density

- Structures per acre (count and density)
- Wildland proximity metrics
- Ember zone rating
- Disadvantage score and ranking
- **Coverage:** National, including Washington State
- **Use Case:** Existing structure exposure to wildfire risk, WUI delineation, structure density analysis

### USA Wildlands and WUI Vector Tiles V2 (Updated June 2025)

- **Geometry:** Polygon features
- **Attributes:**
  - Wildlands area classification
  - Ignition zone delineation
  - Ember zone extent
- **Coverage:** National, including Washington State
- **Use Case:** Regional WUI boundaries, wildland fuel proximity mapping

## 2. WILDFIRE RISK AND HAZARD DATA

### 2.1 FEMA National Risk Index for Natural Hazards

#### National Risk Index Census Tracts (Version 1.20, December 2025)

- **Geometry:** Census tract polygons
- **Wildfire Risk Attributes:**
  - Risk Index Score (composite measure combining hazard, exposure, and community resilience)
  - Expected Annual Loss (economic impact)
  - Exposure (population and property value at risk)
  - Annualized Frequency (historical occurrence rate)
- **Update Frequency:** Periodic, generally every 1-2 years
- **Coverage:** All US census tracts
- **Use Case:** Community-level wildfire risk baseline, comparative analysis across jurisdictions

### 2.2 FEMA WUI Products

See Section 1.2 for FEMA WUI Structures V2 and USA Wildlands and WUI Vector Tiles V2

## 2.3 LANDFIRE

### LANDFIRE Spatial Products (Multiple update cycles)

- **Available Datasets:**
  - Existing Vegetation Type, Height, and Cover
  - Environmental Site Potential
  - Biophysical Settings
  - Fire Regime Groups
  - Fuel Models (13 Scott and Burgan Fire Behavior Fuel Models, 40 Anderson Fire Behavior Fuel Models)
  - Canopy Base Height, Bulk Density, Cover, Height
  - Topographic data products
  - Fire Behavior characteristics
- **Spatial Resolution:** 30 meters
- **Coverage:** National, including Washington State
- **Access:** Public download via LANDFIRE Data Distribution Site
- **Update Frequency:** Major updates every few years with disturbance updates more frequently
- **Use Case:** Vegetation and fuel characterization, fire behavior modeling, landscape-level wildfire hazard assessment

## 2.4 Federal Wildfire Occurrence Data

### National Interagency Fire Center - InFORM

- **Fire Occurrence Data Records** (1992 - Present, Real-time)
- **Geometry:** Point features (fire locations)
- **Attributes:** Wildfire incident records including location, date, size, cause, suppression information
- **Update Frequency:** Real-time reporting
- **Coverage:** Federal agency protected lands and cooperative agreement areas nationally
- **Use Case:** Historical fire occurrence analysis, fire frequency modeling, ignition pattern analysis

## 2.5 Washington State Wildfire Data

### WA Department of Natural Resources - DNR Fire Statistics (2008 - Present, Updated December 2025)

- **Geometry:** Point features

- **Attributes:** Wildfire information on DNR-protected lands including:
  - Fire location
  - Fire size (acres)
  - Cause determination
  - Suppression actions and resources
  - Containment timeline
- **Purpose:** Track wildfire information, assess risks, plan prevention activities
- **Coverage:** Lands protected by WA DNR
- **Use Case:** State-specific fire history, risk assessment validation, regional fire occurrence patterns

### WA Department of Natural Resources - Wildland Urban Interface (WUI) 2009

- **Geometry:** Raster dataset
- **Attributes:** WUI classification depicting areas where structures and wildland overlap with specific structure densities
- **Data Currency:** 2009
- **Note:** A new Wildfire Hazard and Risk Mapping project is underway (see Section 2.6)
- **Use Case:** Historical WUI boundary reference

### 2.6 WA Department of Natural Resources - Wildfire Hazard and Risk Mapping (In Development)

**Project Status:** In development pursuant to Senate Bill 6120

The Washington Department of Natural Resources is developing a statewide Wildfire Hazard and Risk Map representing a significant enhancement to wildfire risk assessment capabilities for Washington State.

#### Project Information:

- Legislative mandate: Senate Bill 6120
- Project website: <https://www.dnr.wa.gov/wildfire-hazard-risk-mapping>
- Expected timeline: 2026 (to be confirmed)
- Coverage: Statewide

#### Anticipated Content (based on project description):

- State-specific wildfire hazard assessment
- Integration with local land management and fire protection planning
- Parcel-level risk characterization

- Calibration to Washington landscape and fire regime conditions

**Value:** Will complement federal wildfire data sources (LANDFIRE, FEMA NRI) with Washington-specific hazard assessment and local integration.

### 3. FIRE PROTECTION INFRASTRUCTURE AND CAPACITY

#### 3.1 Fire Protection Districts and Service Areas

WSRB Fire Protection Districts via DNR (Updated August 2025)

- **Geometry:** Polygon boundaries
- **Attributes:** Fire Protection District jurisdictions
- **Coverage:** Statewide fire protection district boundaries
- **Use Case:** Service area delineation, jurisdiction boundaries, coverage analysis

#### 3.2 Fire Station Locations

ArcGIS Living Atlas - Fire Stations and EMS Stations

- **Geometry:** Point features
- **Update Frequency:** Weekly
- **Coverage:** National, including Washington State
- **Data Quality Note:** Point locations are often more accurate than other public sources, particularly in rural areas
- **Use Case:** Fire station location verification, rural area accuracy, proximity analysis

NERIS Public Data - Fire Stations

- **Geometry:** Point features
- **Update Frequency:** Daily updates
- **Coverage:** National, including Washington State
- **Attributes:** Basic station information (see Section 3.4 for NERIS attribute completeness)
- **Use Case:** Station location reference, cross-validation with other sources

### 3.3 WSRB Community Grading Data and GIS Layers (NDA in Progress)

**Access Status:** Under development through mutual Non-Disclosure Agreement between WSRB and Washington State Office of the Insurance Commissioner contractor, expected completion February 2026.

#### **Expected Scope Based on Grading Schedule Requirements:**

The WSRB Community Protection Class Grading Schedule documents the criteria evaluated during community field surveys. While full data content and format will be determined upon NDA completion, the grading schedule indicates WSRB maintains comprehensive information in these categories:

#### **Fire Department Assessment:**

- Apparatus inventory and specifications
- Staffing levels and deployment
- Training programs and certifications
- Response capability evaluation
- Automatic aid agreements
- Standard Operating Procedures assessment
- Equipment and hose inventories

#### **Water Supply Evaluation:**

- Hydrant locations and specifications
- Flow test results
- Water system capacity and reliability
- Alternative water supply systems (tenders, dry hydrants)
- Mobile water supply operations ratings

#### **Emergency Communications:**

- Dispatch center capabilities
- CAD system specifications
- Radio system coverage
- Performance metrics

#### **Fire Safety Control:**

- Code enforcement programs
- Inspection activities

- Public education programs
- Investigation capabilities

**Spatial Data:**

- Fire station locations with classifications
- Service area boundaries
- Road networks
- Distance-based classification zones
- Water infrastructure (hydrants, alternative supply locations)

**Strategic Assumption:** WSRB data currently represents the most authoritative and complete source of fire department resources capacity and water supply infrastructure information for Washington State.

**Note:** Specific GIS layers, attribute schemas, and data formats will be clarified upon NDA completion and WSRB data access.

**3.4 NERIS Public Data (Limited Availability)**

The National Emergency Response Information System (NERIS) provides a national schema for fire service data collection. NERIS is currently onboarding fire departments onto the platform including many departments in Washington State. The data availability percentages indicated below are expected to increase as more fire departments onboard the platform.

**NERIS Public Data for Washington State (January 2026):**

**Available Geometries:**

- Fire Departments (Points)
- Fire Stations (Points)
- Department Jurisdictions (Polygons)

**Attribute Completeness Analysis** (based on 415 Washington State fire departments):

**High Completeness Attributes (>80% complete):**

- Basic identification: Name, address, city, state, zip (100%)
- Station count (84.3%)
- Department type classification (90.1%)

- Staffing counts: Career full-time firefighters (94.0%), volunteers (93.7%), career full-time civilians (92.8%)

**Moderate Completeness Attributes (40-80% complete):**

- Unit count (42.7%)

**Low Completeness Attributes (<40% complete):**

- Protocol information (17-18%)
- PSAP characteristics (13-26%)
- Shift information (28%)
- Training/continuing education (37.3%)

**Critical Gaps for Fire Protection Assessment (Not in public schema or <10% complete):**

- Documented automatic and mutual aid relationships
- WUI-specific capabilities
- Response time performance data
- Apparatus specifications beyond counts
- Training and certification tracking
- Radio communications specifications
- Standard operating procedures
- Water supply operations (tender/tanker capabilities)

**Assessment:** NERIS public data provides basic department identification and limited staffing information but currently lacks operational detail. For Washington State fire protection assessment, WSRB data (pending NDA) is expected to provide more comprehensive coverage, however, the quality and accuracy of WSRB data is yet to be assessed.

**Strategic Role:** NERIS implementation quality varies across Washington fire departments. Understanding this variability can inform targeted data collection strategies.

## 4. COMMERCIAL DATA SOURCES (UNDER EVALUATION)

### 4.1 Commercial Parcel Data Providers

**Evaluation Status:** Cost, coverage quality, update frequency, and licensing terms evaluation is in progress.

#### **Typical Commercial Parcel Data Coverage:**

Commercial data providers offer comprehensive structure characteristic data with standardized statewide coverage:

#### **Potential Attributes:**

- Complete structure characteristics (construction type, exterior materials, roof covering, year built, condition)
- Building specifications (square footage, stories, rooms, bathrooms)
- Property valuations (assessed values, market estimates)
- Standardized attribute schemas facilitating statewide integration
- Regular update cycles (quarterly or annual depending on provider)

#### **Evaluation Criteria:**

- Attribute completeness for Washington State
- Update frequency and data currency
- Licensing cost and terms
- Data quality and accuracy
- Integration compatibility with GIS infrastructure
- Coverage consistency across urban and rural areas

**Note:** Specific provider names and product details will be documented upon licensing decision.

## CONCLUSION

This Data Requirements Inventory documents the data sources currently available to support enhanced property protection classification development for Washington State.

#### **Strong Data Foundations:**

Washington State benefits from high-quality data resources across all major categories:

- **Parcel framework** with valuation attributes from state and county sources
- **Comprehensive wildfire hazard and occurrence data** from federal sources (FEMA, LANDFIRE, NIFC) and state sources (DNR)
- **Emerging state-specific wildfire risk mapping** through DNR's Senate Bill 6120 project
- **Fire protection infrastructure data** including publicly available district boundaries and fire station locations
- **WSRB comprehensive community fire protection grading** (most authoritative source for fire department capacity and water supply, NDA pending)
- **Robust geospatial infrastructure** including road networks, topographic data, imagery, and administrative boundaries

#### **Data Access Considerations:**

Most foundational data is publicly accessible. Two critical data sources require access agreements:

1. **WSRB comprehensive data** (NDA expected February 2026): Currently essential for fire department capacity until all Washington State Fire Departments are onboard with the NERIS platform. WSRB also has data on water supply infrastructure, and historic community fire protection assessment.
2. **Commercial parcel data** (evaluation in progress): Potential primary source for standardized structure characteristics statewide

As data access agreements are finalized (WSRB NDA) and commercial data evaluations are completed, this inventory will be updated to reflect actual data availability and accessed data characteristics.



**LM2 & Associates**

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# Proposed Preliminary Target Methodology

**(PPC 2.0)**

# Proposed Preliminary Target Methodology (PPC 2.0) Report

## 1. Purpose and Scope

This report documents the proposed modernized data schema developed by LM2 & Associates under contract with the Washington State Office of the Insurance Commissioner (OIC). The contract called for an evaluation of the Washington Surveying and Rating Bureau (WSRB) Public Protection Classification (PPC) methodology and the development of a preliminary target methodology to guide future modernization. This report constitutes the Preliminary Target Methodology – herein referred to as PPC 2.0 – and is intended to be read alongside the accompanying **PPC 2.0 Data Schema Workbook** [See Target Methodology Report Appendix]. Together, these deliverables define both the structure of the proposed framework and the specific data elements required to support it.

During the project, the team sought access to WSRB’s existing raw data and full PPC score calculation methods in order to calibrate and validate a modernized methodology. Access was not made available by WSRB, and therefore it was not possible to develop a full analytical model to produce a modernized rating system. What this report presents is a design-ready data schema: a documented, defensible specification of the data fields to be collected, and how they should be structured before a validated replacement methodology could be developed. The schema is grounded in nationally recognized fire service performance standards, informed by the interested party engagement process described in the Interested Party Engagement Report, and organized to support the actuarial development work that would follow. The proposed preliminary target methodology is not a deployable scoring algorithm, and no weights are proposed.

This document explains the scientific and standards basis for the proposed schema, describes each module and the data fields within it, addresses the property-level scoring framework, and identifies the work required to develop a fully validated methodology from this foundation.

## 2. Scientific and Standards Foundation

The WSRB PPC methodology and related models used by other states (e.g., ISO Public Protection Classification system), were developed in an era when the dominant model of fire protection evaluation was infrastructure-based: count the apparatus, measure the distances, inspect the hydrants, and assign a score. That model reflected the data available and the analytical tools of its time.

The proposed PPC 2.0 methodology is grounded in nationally recognized fire service standards and modern approaches to performance-based evaluation. The National Fire Protection Association (NFPA) 1750 standard establishes time-based benchmarks for response performance, including call processing, turnout, travel time, and effective response force (ERF). These standards define fire protection capability in terms of actual performance rather than resource inventories. The Center for Public Safety Excellence (CPSE) Standards of Cover model provides a complementary framework focused on community risk assessment, performance objectives, validated historical response performance, and an established plan for continuous improvement. The inclusion of Community Risk Assessment and Standards of Cover within the schema reflects this approach. The National Emergency Response Information System (NERIS) represents an emerging data infrastructure that supports real-time, structured incident data collection. The PPC 2.0 methodology is designed to leverage these data sources where available.

Together, these frameworks reflect a shift from evaluating what equipment a fire department has to evaluating how the fire department performs under real conditions.

### **3. Relationship to Interested Party Engagement Findings**

The PPC 2.0 schema was developed alongside an interested party engagement process conducted across Washington State. These findings directly informed key design decisions.

Interested parties consistently emphasized the need for greater transparency in WSRB's methodology, the ability to understand and test how classifications are determined, and a preference for performance-based evaluation over equipment counts and rigid distance thresholds.

Rural and volunteer departments highlighted challenges with current staffing assumptions and equivalency ratios, which are not always reflective of actual response conditions. The PPC 2.0 schema responds by measuring observed availability and turnout rather than applying theoretical multipliers.

Wildfire risk was also identified as a regionally variable concern, leading to the inclusion of a conditional WUI module that is applied only where relevant.

An additional constraint identified through engagement with the insurance industry is the need to preserve the loss-predictive correlation with the existing 1–10 PPC scale. Insurance representatives noted that any future methodology would need to maintain alignment with this structure to avoid requiring insurers to rebuild rating models. This finding should be reassessed with other insurers and actuaries.

## 4. Overview of the Proposed PPC 2.0 Methodology

The proposed PPC 2.0 methodology is composed of two primary components: a Community Capability Score and a Property-Level Data Layer. The Community Capability Score reflects the overall performance and effectiveness of the fire department serving a given area. It is designed to answer the question: how well does this system perform when a fire occurs? A Property-Level Data Layer captures how risk and operational conditions vary at the structure level, recognizing that two properties within the same community may present very different challenges during a fire incident.

This methodology is detailed in the accompanying data schema workbook, which defines specific data elements to be collected, identifies potential data sources, and outlines how each metric would be incorporated into the proposed scoring framework.

The report and workbook are intended to be used together: the report provides the conceptual and methodological foundation, while the workbook provides the detailed structure needed to support implementation. The structure of the workbook directly reflects the components and scoring approach described in this report.

## 5. Community Capability Score Modules

The Community Capability Score is organized into six core modules, each representing a key dimension of fire protection capability. The modules are:

1. Response performance
2. Staffing, training, and readiness
3. Deployment and coverage
4. Water supply capability
5. Prevention and risk reduction
6. Regional or specialized capability.

Each module is constructed using metrics derived from operational data sources such as computer-aided dispatch (CAD), geographic information systems (GIS), inspection records, and incident reporting systems. Many of these data elements are already routinely collected by fire departments as part of daily operations and are increasingly available through national platforms such as the National Emergency Response Information System (NERIS).

The selection of these metrics is informed by nationally recognized standards and guidance, including those published by the National Fire Protection Association (NFPA), as well as common fire service performance benchmarks. The proposed schema is designed to leverage these existing data sources wherever possible, reducing the need for new data collection while supporting a consistent and scalable approach across jurisdictions.

Within the accompanying data schema workbook, these core modules are further broken down into more detailed components and data groupings to support implementation. These additional groupings reflect how individual metrics are organized, calculated, and sourced, and in some cases multiple detailed components map to a single core module.

The six modules described here represent the primary structure for understanding and communicating fire protection capability, while the expanded structure in the workbook provides the level of detail needed for practical application.

## 5.1 Response Performance Module

The response performance module evaluates whether the fire protection system delivers timely, effective responses under real incident conditions. It is grounded in NFPA 1750 standards.

**90th percentile first unit arrival time:** Measures how quickly the first unit arrives on scene for the slowest 10 percent of incidents - the metric most relevant to actual risk because it captures tail performance rather than average performance.

**Percent of incidents meeting first unit benchmark:** The proportion of structure fire incidents where the first unit arrives within the NFPA 1750 established response time objective for identified structure risk levels, directly measuring compliance with the standard.

**Percent of incidents meeting Effective Response Force (ERF):** The proportion of incidents where sufficient personnel arrive within the required timeframe to perform critical fireground tasks. ERF reliability reflects whether the system as a whole - including staffing, station location, and mutual aid - can assemble the personnel necessary for effective operations. ERF, by structure risk level, is also documented in NFPA 1750.

**Call processing time, 90th percentile:** Time from call receipt to dispatch notification, measured against NFPA 1221 and NFPA 1750 benchmarks. Scored separately from fire department response time to avoid penalizing departments for PSAP performance that is outside their control.

## 5.2 Staffing, Training, and Readiness Module

This module evaluates whether the department has sufficient qualified personnel available to respond and operate effectively. It replaces WSRB's approach of counting personnel against fixed staffing ratios with measures of actual availability, qualification, and coordination capability.

**Average on-duty staffing:** Average number of personnel available for response during a shift. Used as context for interpreting other metrics rather than scored directly.

**Average volunteer/on-call responders per incident:** For volunteer and combination departments, the actual number of volunteer or on-call personnel who arrive on scene, averaged across structure fire incidents. This replaces the theoretical 3-to-1 equivalency ratio with a direct measure of what the volunteer component actually delivers.

**Volunteer turnout rate:** The percentage of dispatched volunteer personnel who actually respond. Measures the reliability of the volunteer roster as a response resource.

**Certification rates (firefighter, officer, driver/operator):** The percentage of department personnel holding nationally recognized certifications (NFPA 1001 for fire fighters and NFPA 1021 for Officers). Certification rates measure workforce qualification rather than hours logged - more defensible across career, combination, and volunteer departments.

**Average training hours per firefighter:** Annual training hours per firefighter, included as a secondary indicator alongside certification rates.

**Multi-company drills and regional coordination:** Number of multi-company training exercises conducted annually and whether those drills include regional partner departments. These capture coordination capability under incident conditions.

### 5.3 Deployment and Coverage Module

This module measures how well fire stations and resources are positioned relative to the population and built environment. It replaces WSRB's station distance rules with structure and population-coverage metrics derived from GIS network analysis.

**Percent structures within 480-second travel time:** The proportion of the jurisdiction's structures within an 8-minute travel time from a staffed fire station, using road network analysis. Corresponds to the first-unit arrival benchmark in NFPA 1750. The shift from road miles to travel time reflects the reality that a station 4 miles away on a congested urban street may be slower than a station 6 miles away on an open rural highway.

**Percent structures within 610-second travel time:** The equivalent metric at the NFPA 1750 benchmark for volunteer and suburban departments.

**Frontline apparatus per 100 square miles:** Normalized resource density metric providing context for coverage analysis.

### 5.4 Water Supply Capability Module

This module captures the availability and reliability of water for fire suppression in both hydrated and non-hydrated areas.

**Hydrant coverage:** The percentage of the service area with hydrant coverage, measured as a GIS-based analysis of structures within the applicable hydrant service distance.

**Non-hydrated area and alternative water supply:** In areas without hydrant coverage, the availability of water tenders and drafting sites per 100 square miles of non-hydrated area

measures whether alternative water supply infrastructure is adequate for the community it serves.

**Percent target hazards with verified adequate fire flow:** The proportion of identified high-risk occupancies where documented fire flow testing confirms that adequate water supply is available. This directly measures whether water supply can meet demand where it matters most. Water supply can come from hydranted or stored water supply designed for the purpose of meeting fire flow.

## 5.5 Prevention and Risk Reduction Module

This module evaluates activities that reduce the likelihood and severity of fires before unwanted fire incidents occur. It includes fields not present in WSRB's current methodology: community risk assessment, outcome-based prevention metrics, and wildfire community protection planning.

**Inspection coverage:** The proportion of required-inspection occupancies that received an inspection in the past year.

**Community Risk Assessment:** Whether the department has a current Community Risk Assessment per NFPA 1300 or CFAI. Indicates whether systematic risk analysis has been conducted to inform response capability needs.

**Standards of Cover:** Whether the department has a current Standards of Cover document and when it was last updated. A current Standards of Cover indicates that the department has defined its risks, established performance objectives, and created accountability for continuous improvement.

**Fires confined to room of origin:** The percentage of structure fires confined to the room of origin at arrival. An outcome-based metric reflecting the combined effect of suppression speed, code enforcement, and fire protection systems.

**Pre-fire plans for target hazards:** The percentage of high-risk occupancies for which the department maintains current pre-fire plans, directly affecting fireground decision-making.

## 5.6 Regional and Specialized Capability Module

This module captures system depth, interoperability, and specialized capabilities not visible in a single-department evaluation.

**Automatic and mutual aid:** Whether formal automatic aid and mutual aid agreements are in place, evaluated on operational quality rather than the existence of signed documents. Automatic aid is evaluated for agreement quality and reliability, not scored independently of the ERF metric.

**Communications coverage:** The percentage of the jurisdiction's structures within radio coverage for responder communications, measured against Project 25 (P25) standards.

**WUI capability (conditional module):** Wildland and WUI capability metrics - NWCG-trained personnel, wildland apparatus, and wildland response agreements - are evaluated only in jurisdictions where measurable WUI exposure is present. Where WUI exposure is not present, these fields are excluded. This ensures departments are assessed against the risks relevant to their actual service area avoiding mismatching resources to actual risk.

## 6. Data Normalization Approach

The PPC 2.0 schema proposes combining a variety of datasets in different formats: percentages, time values, counts, ratios, and categorial or boolean fields. Before these inputs can be combined into a single score, they must be normalized to a common scale. This section describes the proposed normalization approach for each data format.

It is important to distinguish normalization from scoring. Normalization converts raw data values into a comparable 0-100 range so that they can be combined. Scoring requires assigning weights to determine how much each metric contributes to the overall score. Weights are not defined in this report because weight calibration requires a complete dataset combining proposed PPC 2.0 metrics with observed fire loss outcomes across Washington communities. This dataset could not be assembled within this project, as WSRB did not provide access to the community-level operational data that would form the foundation for that analysis. The normalization approach described here is a prerequisite for scoring, not a scoring system itself.

### 6.1 Percentage Metrics

Metrics that are already expressed as percentages (e.g., percent of incidents meeting response benchmarks or percent of structures within a target travel time) would be used directly as scores. For example, a value of 65 percent would correspond to a score of 65.

### 6.2 Time-Based Metrics

Fields where lower values indicate better performance are inverted relative to a defined benchmark range so that faster performance receives a higher score. Benchmark ranges would be established during implementation based on NFPA standards and Washington State community type distributions.

### 6.3 Count and Density Metrics

Metrics based on counts, such as number of staffed apparatus or personnel, would be normalized relative to community context (e.g., number of structures or service area). This approach is intended to ensure that smaller communities are not penalized for having

fewer total resources and instead evaluates whether available resources are appropriate for the size and risk of the community.

## **6.4 Categorical and Presence/Absence Metrics**

Some metrics are recorded as categorical values or presence/absence (boolean) indicators (e.g., sprinkler presence, automatic aid participation, presence of standards of cover). These metrics would be converted into standardized scores using predefined lookup values. For example, full presence or compliance may correspond to a higher score, partial implementation to a moderate score, and absence to a lower or neutral score. Specific lookup values would be defined during implementation.

## **6.5 Aggregation Approach**

Once individual metrics are normalized to a 0–100 scale, they would be combined within each module using statistical models. Module scores would then be combined to produce the overall Community Capability Score. The resulting Community Capability Score on the 0-100 normalized scale would then be converted to the 1-10 PPC scale required for insurance rating purposes through the actuarial validation process described in Section 10. The specific weighting structure is not defined in this report and is intended to be developed through stakeholder input, subject matter expertise, and validation against real-world outcomes.

Not all metrics are expected to contribute equally to the final score. Metrics that directly reflect operational performance (such as response reliability or effective response force) are expected to carry greater weight, while supporting or contextual metrics may be assigned lower weight or used for interpretation rather than scoring.

This proposed approach provides a flexible framework for integrating diverse data types into a single, coherent scoring system while maintaining a clear connection between the underlying data and real-world fireground performance.

## **7. Relationship to Existing WSRB Framework (Crosswalk)**

To support comparison with the current WSRB PPC methodology, the accompanying data schema workbook includes a crosswalk between existing WSRB grading schedule components and the proposed PPC 2.0 framework.

The crosswalk identifies how key elements of the current WSRB methodology relate to the modules and metrics defined in PPC 2.0. In some cases, WSRB components map directly to proposed metrics; in others, they are represented through performance-based measures rather than documentation-based inputs.

This comparison is intended to provide transparency into how the proposed framework builds on existing evaluation concepts while shifting toward a more performance-based approach. It also allows stakeholders to understand how current data collection efforts may align with, or differ from, the proposed schema.

The crosswalk is not intended to produce a direct conversion between WSRB PPC ratings and PPC 2.0 scores. Rather, it serves as a reference to support evaluation, discussion, and potential transition between methodologies.

## 8. Property-Level Data Schema

The Property-Level Data Schema captures how risk and operational complexity vary at the structure level. It supports a property-level score combining three components: the community capability score as a ceiling, parcel-level proximity and accessibility, and structural risk attributes. The latter two are described at the end of this section.

Property-level factors can vary significantly within the same community and can have a meaningful impact on fireground operations. By incorporating property-level data, the model is able to differentiate between structures that may receive similar fire department service but present different levels of risk.

The property-level data included in this framework is not intended to be entirely collected directly by fire departments. The rating agency would obtain parcel-level and building attribute data from a commercial property data provider. This approach reflects current industry practice and allows the model to leverage existing, standardized datasets rather than requiring new data collection efforts.

These datasets typically include standardized information on building characteristics, construction, occupancy, and other relevant attributes that can be integrated with fire protection data. Leveraging an existing commercial dataset ensures consistency across jurisdictions and avoids placing additional data collection burden on local agencies. This approach aligns with current industry practices, where insurers and rating organizations routinely rely on third-party property datasets to support risk analysis and underwriting.

### 8.1 Proximity and Accessibility

Two GIS-derived fields capture the parcel-level proximity factors that WSRB currently addresses through road-mile rules. Unlike WSRB's binary distance cutoffs, these fields are continuous and can support graduated scoring.

- Travel time from nearest staffed station to the specific parcel - derived from GIS network analysis using the same methodology as the community coverage metrics, applied at the parcel level rather than aggregated across the population or community.

- Distance to nearest hydrant from the parcel - derived from parcel centroid and hydrant layer.

Additional access factors - alternative water source proximity, access type, and driveway or access length - are included for high-risk or rural properties where these factors materially affect suppression operations.

## 8.2 Structural Risk Attributes

Structural risk attributes are drawn from a standardized parcel-level building dataset. The recommended source is a commercial property data provider, ensuring consistency across jurisdictions without placing additional data collection burden on local fire agencies.

Key structural fields include construction type, exterior wall material, roof cover, building age, condition, quality, stories, and floor area. Sprinkler presence and fire flow adequacy require data from department pre-fire plans, inspection records, and water utility flow test documentation.

## 9. Transparency and Practical Application

A key benefit of the proposed PPC 2.0 framework is increased transparency in how fire protection capability is evaluated. Because the model is based on clearly defined metrics and standardized scoring, agencies can understand how individual factors contribute to their overall score. This allows departments to identify specific areas of strength and areas where improvement may be needed.

The structure of the framework is also intended to support practical use by agencies outside of formal evaluation cycles. Because the model relies on data that departments already collect, agencies could apply the methodology to their own data to better understand how changes in staffing, station placement, or response performance may influence their overall score.

This approach supports more proactive planning and allows agencies to evaluate potential improvements using their own data, rather than relying solely on periodic, external reviews.

This approach also recognizes that fire protection capability doesn't exist in a vacuum. There are already a number of efforts across the state focused on risk reduction, such as work led by the Washington State Department of Natural Resources (DNR) and other community risk reduction programs.

The intent of this framework is not to replace or duplicate those efforts, but to complement them. Where relevant, those datasets and initiatives can be incorporated into the model in a way that makes them more usable for fire departments. This helps create a more

practical, connected view of fire protection capability and supports departments in using the data they already have to understand and improve their systems.

## **10. Implementation Pathway and Future Work**

This schema is a design-ready specification. Converting it into a deployed, validated replacement methodology would require the following sequence of work.

### **10.1 Modernize Data Collection and Integration**

The PPC 2.0 framework reflects a proposed shift in how data is collected and maintained. The current WSRB methodology relies heavily on manual processes, including email submissions, document uploads such as PDFs, and manual data entry during periodic evaluations. This can be time-intensive, prone to human error, and limited in its ability to reflect current system performance between evaluation cycles.

The proposed schema is designed to leverage data that already exists within fire department systems or can be reasonably derived. Core metrics such as response times, staffing levels, and incident outcomes are routinely captured in systems like CAD, records management systems, and inspection databases. This methodology is designed so that these existing data sources can be used directly or with minimal transformation.

Where feasible, the framework supports automated or semi-automated data integration, including direct use of system exports, integration with GIS-based datasets, and potential use of application programming interfaces (APIs) to streamline data exchange. In areas where data gaps exist, standardized digital data collection forms could be developed to replace manual or document-based processes.

This approach is intended to reduce reliance on one-time manual data collection and instead support a more continuous and maintainable process. It also improves consistency and reduces the likelihood of errors associated with manual entry or document-based reporting. As a proposed methodology, this framework is intended to complement the data schema and illustrate how a more modern, system-integrated approach could be implemented over time.

It is also worth noting that NERIS implementation across Washington fire departments is a critical data infrastructure requirement. As departments transition from NFIRS to NERIS, the response performance metrics in the schema become directly computable from incident data. OIC and the Washington State Fire Marshal's Office could support and accelerate NERIS adoption as part of the modernization effort.

### **10.2 Actuarial Validation and Weight Calibration**

The most technically demanding component of full implementation is actuarial validation. The PPC 2.0 schema specifies what to measure but determining how much each metric

contributes to the overall score requires demonstrating that the proposed metrics correlate with actual fire loss outcomes in Washington State.

This work would require access to historical fire loss data by community and property. With that data, statistical analysis could establish the relationship between each proposed metric and observed loss outcomes. The validation process should also confirm that any new scoring algorithm preserves the loss- predictive meaning of each score level on the 1-10 scale, as strongly suggested by the insurance industry in Section 3.

### **10.3 Stakeholder Review and Pilot Testing**

The data schema should be reviewed by fire department representatives, WSRB, and insurance industry actuaries before finalization. Normalization thresholds and conditional module criteria would benefit from structured technical review informed by NFPA standards and Washington-specific operating conditions.

Before deployment, the methodology should be piloted against a representative sample of Washington fire departments - including urban career agencies, suburban combination departments, rural volunteer districts, and agencies with significant WUI exposure. Pilot testing would validate that data collection tools produce consistent results and that the resulting scores are credible to the departments being evaluated.

## **11. Limitations**

While this framework represents a different approach from the existing WSRB methodology, it is grounded in contemporary fire service performance standards, and is intended to evolve over time. The following limitations exist:

- No weights are defined. The schema specifies what to measure and how to normalize the data but does not assign weights to individual metrics or modules. Weight calibration requires actuarial validation against historical fire loss data and should not be approximated without that foundation.
- Actuarial continuity has not been validated. While the schema is designed to preserve the loss- predictive meaning of the 1-10 scale, this has not been demonstrated empirically. Deploying the schema as a scoring system without actuarial validation could disrupt insurance industry rating models.
- Some data fields have coverage gaps. NERIS adoption is not yet universal in Washington State as fire departments continue to onboard the national system..
- Commercial property datasets have coverage limitations in rural areas. These gaps would need to be addressed in the implementation phase.
- The property-level schema is more developed than current practice supports. Fields such as sprinkler presence and verified fire flow by parcel require data that

most Washington fire departments do not currently maintain in structured, retrievable form.

## 12. Conclusion

The PPC 2.0 data schema presented in this report and the accompanying workbook represents a clear and practical specification for a modernized fire protection classification system, built around the performance-based evaluation principles embodied in NFPA 1750 and the CPSE Standards of Cover model. It is directly informed by the interested party engagement process, which established strong consensus around transparency, performance-based evaluation, and the need to account for the diverse operational contexts of Washington State’s fire service community.

The schema as presented is not a deployable scoring system. It is a specification of the data that would need to be collected and the normalization approach that would need to be applied before weights could be calibrated and a validated methodology deployed. The primary work remaining includes actuarial validation against historical fire loss data and weight calibration. These tasks require data collection, data access, and resources.

What this schema provides is a detailed, documented roadmap for that future work: a clear statement of what a modernized Washington PPC system should measure, why each component matters, and how the pieces fit together. It demonstrates that a performance-based alternative to the current WSRB methodology is technically feasible, grounded in established science, and responsive to the priorities expressed by Washington’s fire service community.

### ***Appendix Note***

This report is intended to be read alongside the PPC 2.0 Data Schema Workbook. Field specifications, source systems, normalization calculations, and the WSRB-to-PPC2 crosswalk are documented in the workbook. The interested party engagement findings referenced in Section 3 are documented in full in the Interested Party Engagement Report.

# PPC 2.0 — Improved Data Schema Prototype

Washington State Office of the Insurance Commissioner (OIC) Assessment · LM2 & Associates

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## About

This workbook defines the proposed PPC 2.0 data schema developed as part of the Washington State Office of the Insurance Commissioner (OIC) assessment of fire protection classification methods. This purpose of this workbook is to document the structure of the proposed framework, the specific metrics and data elements included, the source systems from which data may be obtained, and how metrics can be standardized and prepared for future analysis. This workbook is intended to be used alongside the PPC 2.0 Methodology Report, which provides additional context on the framework design and its relationship to current classification approaches.

## Scope and Use

The PPC 2.0 framework represents a design-ready data schema, not a finalized scoring model. The workbook defines how fire protection capability can be described using consistent, structured data. It does not assign weights, calculate final scores, or represent a validated methodology. Development of a deployable scoring model would require access to operational and fire loss data, calibration of metric weights, and actuarial validation to ensure alignment with insurance rating practices.

## Contents of this Appendix

### Summary

Provides a high-level overview of the schema structure and intended use.

### Proposed\_Community\_Schema

Defines metrics used to describe community-level fire protection capability. Includes metric definitions, data types, potential source systems, normalization considerations, and contextual information on how the metric relates to fire protection capability.

### Proposed\_Property\_Schema

Defines data elements that capture variation at the structure level. Includes metric definitions, data types, potential source systems, normalization considerations, and contextual information on how the metric relates to fire protection capability.

### Crosswalk\_WSRB-to-Proposed

Maps elements of the PPC 2.0 schema to the current WSRB framework.

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## Summary of Approach

*Sheet: Summary*

### Overview

This model evaluates fire protection capability based on how departments actually perform in the field. It focuses on response performance, staffing, coverage, and outcomes rather than checklists or documentation. This schema does not represent a finalized scoring model.

### **Community Capability Schema**

Represent overall system performance across response, staffing, deployment, water supply, prevention, and regional capability.

### **Property-level Schema**

Provides additional context at the structure level, including proximity, water supply conditions, and structural characteristics.

### **Purpose**

Scoring prioritizes measurable performance over inventory. Metrics are scored on a continuous 0–100 scale to reflect real differences in capability. Performance outcomes (like response reliability) are prioritized over inputs, and contributing factors such as automatic aid are not separately scored to avoid double counting.

### **Role of Property Data**

The Property Data tab captures structure-level differences that are not reflected in the community score. This includes building characteristics, fire protection features, and access conditions. Define what data should be collected, how it should be structured, and how it can support development of a modernized classification approach.

### **Key Concepts**

The PPC 2.0 data schema builds on the existing classification approach while expanding the use of data and performance-informed measures. It is designed to leverage data that is already collected by fire departments and related systems wherever possible, reducing the need for new data collection. The schema organizes metrics in a consistent structure to support normalization and future analysis, while incorporating property-level data to provide additional context without functioning as a standalone scoring system.

### **Future Development**

Development of a deployable methodology based on this schema would require additional steps, including normalization of all metrics to a consistent scale, assignment of weights, and calibration using operational and fire loss data. Actuarial validation would be necessary to ensure alignment with existing insurance rating practices and to preserve the loss-predictive meaning of classification levels. These steps would be undertaken as part of a future phase following data access and testing.

### **Intended Use**

This schema is intended to provide a structured foundation for describing fire protection capability using consistent, data-driven inputs. It supports greater transparency in how classification factors are defined and creates a framework that can be used for future analysis, modeling, and evaluation. By organizing data in a consistent way, the schema enables more informed decision-making and provides a path toward a more modern, performance-informed classification approach.

### **Implementation Note**

This approach is designed to be practical and implementable using data departments already collect or can reasonably derive.

## Proposed Community Capability Schema

Sheet: Proposed\_Community\_Schema

Defines metrics used to describe community-level fire protection capability, including metric definitions, data types, potential source systems, normalization considerations, and the relationship between each metric and fire protection capability.

Core Module	Submodule	Metric	Field Name	Description	Primary Source	Metric Type	Direction	Recommended?	Standard(s)	Operational Meaning	Scoring Notes
Staffing, Training, and Readiness	Apparatus Readiness	Staffed Engines/Fire Suppression Capable Apparatus Available	staffed_engines_available	Number of engines/fire suppression capable apparatus that are actually staffed, equipped to perform primary functions and available for immediate response.	Staffing roster + apparatus assignment	Direct system extract	Higher is better	Yes	NFPA 1750 5.2.3.1	Shows deployable apparatus capability, not just inventory sitting in the bay.	Operational capacity input. Where possible this should be normalized rather than used as a raw count.
Staffing, Training, and Readiness	Apparatus Readiness	Staffed Aerial/Ladder Apparatus Available	staffed_aerials_available	Number of aerial/ladder apparatus that are actually staffed, equipped to perform primary functions and available for response	Staffing roster + apparatus assignment	Direct system extract	Higher is better	Conditional	NFPA 1750 5.2.3.2	Shows deployable apparatus capability, not just inventory sitting in the bay.	Included as a direct capability input; stronger performance or capacity increases the score.
Regional or Specialized Capability	Communications	% structures with Radio Coverage	pct_pop_with_radio_coverage	Percent of structures with radio coverage	Radio system coverage study	Engineering report	Operational capability	Yes	NFPA 1225	Shows whether communications support field operations reliably.	Included as a direct capability input; stronger performance or capacity increases the score.
Regional or Specialized Capability	Communications	Dispatch Center Type	dispatch_center_type	Type of dispatch center serving the department	PSAP / agency documentation	Categorical	Context	Yes	NFPA 1225; APCO	Shows whether communications support field operations reliably.	Context only. Not scored directly.
Deployment & Coverage	Community Context	Service Area Square Miles	service_area_sqmi	Jurisdiction service area size in square miles	GIS	Context / denominator	Not scored directly	No	Best-practice input	Context field used to normalize or interpret capability metrics.	Context only. Not scored directly.
Deployment & Coverage	Community Context	Structure Fires (12 months)	structure_fires_12mo	Structure fire count in prior 12 months	NERIS / RMS	Context / denominator	Not scored directly	No	Best-practice input	Context field used to normalize or interpret capability metrics.	Context only. Not scored directly.
Deployment & Coverage	Coverage and Resource Distribution	% Structures Within 480-Second Travel Time	pct_population_480sec	Percent of the community that can be reached within the travel-time coverage threshold.	GIS network analysis	GIS-derived from existing data	Higher is better	Yes	NFPA 1750; CPSE Standards of Cover	Shows how much of the community can realistically get a timely response.	Direct 0–100 style field. Example: 50% coverage = score of 50; 85% coverage = score of 85.
Deployment & Coverage	Coverage and Resource Distribution	% Structures Within 610-Second Travel Time	pct_population_610sec	Percent of the community that can be reached within the travel-time coverage threshold.	GIS network analysis	GIS-derived from existing data	Higher is better	Yes	NFPA 1750; CPSE Standards of Cover	Shows how much of the community can realistically get a timely response.	Direct 0–100 style field. Example: 50% coverage = score of 50; 85% coverage = score of 85.

Core Module	Submodule	Metric	Field Name	Description	Primary Source	Metric Type	Direction	Recommended?	Standard(s)	Operational Meaning	Scoring Notes
Deployment & Coverage	Coverage and Resource Distribution	Frontline Apparatus Per 100 Square Miles	frontline_apparatus_per_100_sqmi	Frontline apparatus (engines, quints, and/or equivalent fire suppression capable apparatus) scaled to the size of the service area.	Apparatus readiness + GIS	Normalized count	Higher is better	Yes	CPSE Standards of Cover; NFPA 1750	Shows whether apparatus are reasonably scaled to the area being protected.	Normalized count metric. Higher normalized coverage/capacity increases the score without penalizing small communities for raw counts.
Prevention & Risk Reduction	Fire Investigation	Certified Fire Investigators	certified_fire_investigators_count	Number of investigators certified to conduct fire investigations (NFPA 1033)	Personnel certification records	Count	Specialized capability	Yes	NFPA 1033	Shows whether the department has qualified personnel and keeps skills current.	Usually scored directly or normalized in a later step. More deployable/qualified capacity increases the score.
Prevention & Risk Reduction	Planning and Standards of Cover	Standards of Cover Present	standards_of_cover_present	Whether the department maintains a Standards of Cover document	Department planning documentation	Boolean	Planning capability	Yes	CPSE; NFPA 1710; NFPA 1750	Shows whether the department has current planning in place for deployment and risk reduction.	Boolean lookup. Usually full credit for Yes and reduced credit for No.
Prevention & Risk Reduction	Planning and Standards of Cover	Standards of Cover Last Updated Year	soc_last_updated_year	Most recent year Standards of Cover was updated	Department planning documentation	Year	Planning capability	Yes	CPSE; NFPA 1710; NFPA 1750	Shows whether the department has current planning in place for deployment and risk reduction.	More recent plans get more credit. Older plans score lower.
Prevention & Risk Reduction	Community Risk Reduction	% Required Inspected Occupancies	pct_required_occupancies_inspected	Percent of occupancies that are required to be inspected annually (according to the AHJ)	Fire marshal records	Direct system extract	Higher is better	Yes	NFPA 1750	Shows whether the department is reducing risk at the properties that matter most.	Direct percentage/rate contribution. Higher values increase the score.
Prevention & Risk Reduction	Community Risk Reduction	% Fires Confined to Room of Origin	room_of_origin_pct	Percent of fires confined to the room of origin.	NERIS / RMS	Direct system extract	Higher is better	Yes	NFPA 1750	Shows how often fires are being contained early instead of spreading through the structure.	Included as a direct capability input; stronger performance or capacity increases the score.
Prevention & Risk Reduction	Community Risk Reduction	Community Risk Assessment Present	cra_present	Whether a formal CRA exists and is current. Document and adopted by the AHJ current within 5 years. CPSE 11th Edition requirement.	Planning records	Documented yes/no field	Higher is better	Yes	NFPA 1300	Shows whether the department has current planning in place for deployment and risk reduction.	Boolean lookup. Usually full credit for Yes and reduced credit for No.
Prevention & Risk Reduction	Community Risk Reduction	CWPP Present	cwpp_present	Whether a Community Wildfire Protection Plan exists	Planning records	Documented yes/no field	Higher is better	Yes if WUI applies	NFPA 1300	Shows whether the department has current planning in place for deployment and risk reduction.	Boolean lookup. Usually full credit for Yes and reduced credit for No.

Core Module	Submodule	Metric	Field Name	Description	Primary Source	Metric Type	Direction	Recommended?	Standard(s)	Operational Meaning	Scoring Notes
Prevention & Risk Reduction	Community Risk Reduction	Pre-Fire Plans for Target Hazards	preplans_target_hazards_pct	Percent of identified target hazards with current pre-fire plans and associated training or familiarization.	Preplan system / fire marshal / training records	Direct system extract / documented percentage	Higher is better	Yes	Best-practice operational planning	Shows whether crews are prepared for the places where a fire would be hardest to manage.	Higher preplan coverage improves prevention and operational readiness for target hazards.
Prevention & Risk Reduction	Community Risk Reduction	Current Fire / Building Code Adopted	code_adoption_current	Whether the jurisdiction has adopted a current fire or building code cycle.	Jurisdiction / AHJ records	Documented yes/no field	Higher is better	Yes	NFPA 1 / IFC / local adoption context	Shows whether the jurisdiction has modern code requirements on the books.	Current code adoption can modestly improve the prevention score.
Regional or Specialized Capability	Automatic Aid Capability	Automatic Aid	automatic_aid	Presence of automatic aid agreements that dispatch partner resources immediately as part of the first alarm assignment.	Automatic aid agreements / run cards	Boolean	Higher is better	Yes	NFPA 1750, 3.3.3.1	Shows whether outside help is built into the first alarm without delay.	Immediate automatic aid improves first-alarm capability and should score higher than delayed aid.
Regional or Specialized Capability	Mutual Aid Capability	Mutual Aid	mutual_aid	Presence of mutual aid or delayed aid agreements that provide support after a request or after initial dispatch.	Mutual aid agreements	Boolean	Higher is better	Yes	NFPA 1750, 3.3.3.2	Shows whether additional resources are available after the initial response, even if they are not automatic.	Delayed aid still adds capability, but it should generally carry less weight than no-delay automatic aid.
Response Performance	Response Performance	90th Percentile First Unit Arrival Time	p90_first_unit_arrival_min	90th percentile first-arriving unit response time for applicable incidents	CAD / Dispatch	Direct system extract	Lower is better	Yes	NFPA 1750, 4.2.2.1(3)	Shows how quickly suppression can actually start.	Inverted time metric. Faster performance increases the score; slower performance lowers it.
Response Performance	Response Performance	% Incidents Meeting First Unit Benchmark	pct_meeting_first_unit_benchmark	Percent of incidents meeting the adopted first-unit benchmark	CAD analytics / dashboard	Direct system extract	Higher is better	Yes	NFPA 1750	Shows an operational part of the system that affects how well the department can protect the community.	Direct percentage/rate contribution. Higher values increase the score.
Response Performance	Response Performance	% Incidents Meeting Effective Response Force	pct_meeting_effective	Percent of incidents where ERF is assembled within target time	CAD + staffing / attendance	Direct system extract	Higher is better	Yes	NFPA 1750, 4.2.2.1 (5)(6)	Shows whether enough people are getting there on time for the first alarm.	Direct percentage/rate contribution. Higher values increase the score.
Response Performance	Response Performance	Call Processing Time (P90)	call_processing_p90_sec	90th percentile call receipt-to-dispatch time	PSAP / CAD	Direct system extract	Lower is better	Yes	NFPA 1225; NFPA 1750, 3.3.81.3	Shows how quickly calls move from the 911 center to dispatched units.	Inverted time metric. Faster performance increases the score; slower performance lowers it.
Staffing, Training, and Readiness	Staffing Availability	Average On-Duty Staffing	avg_on_duty_staffing	Average on-duty staffing available per shift	HR / staffing roster	Direct system extract	Context + optional score	Yes	NFPA 1750	Shows how many responders are immediately available without waiting for callbacks.	Included as a direct capability input; stronger performance or capacity increases the score.

Core Module	Submodule	Metric	Field Name	Description	Primary Source	Metric Type	Direction	Recommended?	Standard(s)	Operational Meaning	Scoring Notes
Staffing, Training, and Readiness	Staffing Availability	Average Volunteer / On-Call Responders Per Incident	avg_volunteer_responders	Average volunteer or on-call responders actually arriving per incident	CAD attendance / RMS	Direct system extract	Higher is better	Yes	NFPA 1750	Shows how many volunteer/on-call responders actually arrive on incidents.	Included as a direct capability input; stronger performance or capacity increases the score.
Staffing, Training, and Readiness	Training and Coordination	Firefighter Certification Rate	firefighter_certified_pct	Percent of firefighters certified to Firefighter I or higher (NFPA-1001 FFI & II or equivalent)	Training records / state certification database	Calculated percentage	Personnel qualification	Yes	NFPA 1010	Shows whether the department has qualified personnel and keeps skills current.	Included as a direct capability input; stronger performance or capacity increases the score.
Staffing, Training, and Readiness	Training and Coordination	Officer Certification Rate	officer_certified_pct	Percent of company officers certified Fire Officer I or higher (NFPA 1021 Officer 1 or equivalent)	Training records / certification database	Calculated percentage	Personnel qualification	Yes	NFPA 1020	Shows whether the department has qualified personnel and keeps skills current.	Included as a direct capability input; stronger performance or capacity increases the score.
Staffing, Training, and Readiness	Training and Coordination	Driver Operator Certification Rate	driver_operator_certified_pct	Percent of apparatus operators trained to operate apparatus (NFPA 1001 FFII)	Training records / certification database	Calculated percentage	Personnel qualification	Yes	NFPA 1010	Shows whether the department has qualified personnel and keeps skills current.	Included as a direct capability input; stronger performance or capacity increases the score.
Staffing, Training, and Readiness	Training and Coordination	Average Training Hours per Firefighter	avg_training_hours_per_fire_personnel	Average annual training hours completed per fire personnel (all ranks)	Training management system	Calculated average	Operational readiness	Yes	NFPA 1500; NFPA 1750	Shows whether the department has qualified personnel and keeps skills current.	Included as a direct capability input; stronger performance or capacity increases the score.
Staffing, Training, and Readiness	Training and Coordination	Multi-Company Drills Per Year	multi_company_drills_per_year	Number of multi-company or interagency drills conducted annually	Training management system	Direct system extract	Higher is better	Yes	NFPA 1403; best-practice readiness	Shows whether the department has qualified personnel and keeps skills current.	More recent plans get more credit. Older plans score lower.
Staffing, Training, and Readiness	Training and Coordination	Multi-Company Drills Include Regional Partners	mco_regional	Whether multi-company or interagency drills include regional/partner agencies rather than only local companies.	Training management system	Documented yes/no field	Higher is better	Optional	Best-practice readiness	Shows whether the department practices with the agencies it may depend on during larger incidents.	Regional/interagency drills can modestly improve the training/readiness score.
Staffing, Training, and Readiness	Volunteer Response Reliability	Volunteer Turnout Rate	volunteer_turnout_rate	Percent of volunteer/on-call members who actually respond when toned for applicable incidents	CAD attendance / RMS	Direct system extract	Higher is better	Yes where volunteer/combinatio n system applies	NFPA 1750	Shows whether the volunteer roster turns into actual responding personnel.	Direct percentage/rate contribution. Higher values increase the score.
Water Supply	Water Supply Coverage and Capacity	% Non-Hydranted Area	non_hydranted_area_pct	Percent of service area without hydrant coverage	Water utility GIS / service area GIS	GIS-derived from existing data	Lower is better	Yes	NFPA 1142	Shows how much of the community has to rely on rural or alternative water supply.	Operational capacity input. Where possible this should be normalized rather than used as a raw count.

Core Module	Submodule	Metric	Field Name	Description	Primary Source	Metric Type	Direction	Recommended?	Standard(s)	Operational Meaning	Scoring Notes
Water Supply	Water Supply Coverage and Capacity	Water Tenders Per 100 Square Miles of Non-Hydranted Area	tenders_per_100_sqmi_nonhydr	Operational tenders normalized by non-hydranted area	Apparatus inventory + GIS	Normalized count	Higher is better	Yes	NFPA 1142	Shows whether rural water supply capability is in place where hydrants are limited.	Normalized count metric. Higher normalized coverage/capacity increases the score without penalizing small communities for raw counts.
Water Supply	Water Supply Coverage and Capacity	Drafting Sites Per 100 Square Miles of Non-Hydranted Area	drafting_sites_per_100_sqmi_nonhydr	Available drafting sites normalized by non-hydranted area	GIS / FD ops preplans	Normalized count	Higher is better	Yes	NFPA 1142	Shows whether rural water supply capability is in place where hydrants are limited.	Normalized count metric. Higher normalized coverage/capacity increases the score without penalizing small communities for raw counts.
Water Supply	Water Supply Coverage and Capacity	Hydrant Coverage	hydrant_coverage_pct	Percent of area or parcels served by operationally available hydrants (in-service, tested, and accessible for fire suppression)	Hydrant GIS / utility data	GIS-derived from existing data	Higher is better	Yes	NFPA 291; NFPA 1142	Shows whether fixed water supply is actually available and adequate for suppression.	Operational capacity input. Where possible this should be normalized rather than used as a raw count.
Water Supply	Water Supply Coverage and Capacity	Percent of Target Hazards with Verified Adequate Fire Flow	pct_target_hazards_fireflow	Percent of identified target hazards for which adequate fire flow has been verified through hydrant flow testing, modeled system capacity, or other documented evaluation.	Fire department preplans, hydrant flow test records, water utility data, or other local fire flow documentation	Calculated percentage	Higher is better	Yes	NFPA 1142; NFPA 291; locally adopted fire flow requirements or fire code standards	Indicates the extent to which the department has verified that adequate fire flow is available at higher-risk locations, where insufficient water supply would significantly impact fire suppression effectiveness.	Higher percentages would correspond to higher water supply capability scores, as they indicate that a greater proportion of critical occupancies have sufficient documented fire flow to support suppression operations.
Regional or Specialized Capability	Wildland and WUI Capability	WUI Exposure Present	wui_exposure_present	Boolean flag indicating whether meaningful WUI exposure exists in the jurisdiction	GIS overlay / state wildfire hazard / USFS WUI	Documented / GIS-derived applicability flag	Conditional	Conditional	NFPA 1300; best-practice implementation	Shows wildfire response capability where WUI exposure is actually present.	Boolean lookup. WUI metrics apply for Yes, do not apply for No.
Regional or Specialized Capability	Wildland and WUI Capability	% Jurisdiction in WUI	percent_jurisdiction_wui	Percent of jurisdiction/service area classified as WUI	GIS overlay / state wildfire hazard / USFS WUI	GIS-derived context field	Context	Optional	NFPA 1300; best-practice implementation	Shows wildfire response capability where WUI exposure is actually present.	Context only. Not scored directly.
Regional or Specialized Capability	Wildland and WUI Capability	NWCG s-130/S-190 Trained Personnel	nwcg_trained_personnel	Count of personnel with baseline NWCG wildland training such as S-130/S-190, or equivalent as defined by the jurisdiction.	Training system / qualification roster	Direct system extract	Higher is better	Yes if WUI applies	NWCG; NFPA 1140	Shows wildfire response capability where WUI exposure is actually present.	Included as a direct capability input; stronger performance or capacity increases the score.

Core Module	Submodule	Metric	Field Name	Description	Primary Source	Metric Type	Direction	Recommended?	Standard(s)	Operational Meaning	Scoring Notes
Regional or Specialized Capability	Wildland and WUI Capability	Wildland Fire Suppression Apparatus Count	wildland_engines_count	Count of engines/apparatus configured for wildland response	Apparatus inventory	Direct system extract	Higher is better	Yes if WUI applies	NFPA 1900; NFPA 1140	Shows wildfire response capability where WUI exposure is actually present.	Operational capacity input. Where possible this should be normalized rather than used as a raw count.
Regional or Specialized Capability	Wildland and WUI Capability	Wildland Fire Suppression Apparatus per 100 sq mi of WUI	wildland_engines_per_100_sqmi_wui	Wildland apparatus normalized by WUI area	Apparatus inventory + GIS WUI area	Normalized count	Higher is better	Yes if WUI applies	NFPA 1900; NFPA 1140	Shows wildfire response capability where WUI exposure is actually present.	Normalized count metric. Higher normalized coverage/capacity increases the score without penalizing small communities for raw counts.
Regional or Specialized Capability	Wildland and WUI Capability	Wildland Fire Suppression Response Agreements Present	wildland_response_agreements	Whether the jurisdiction participates in formal wildland/WUI response agreements	FD admin / planning records	Documented yes/no field	Higher is better	Yes if WUI applies	NWCG; NFPA 1140	Shows wildfire response capability where WUI exposure is actually present.	Boolean lookup. Usually full credit for Yes and reduced credit for No.
Regional or Specialized Capability	Wildland and WUI Capability	CWPP Last Updated Year	cwpp_last_updated_year	Most recent year Community Wildfire Protection Plan was updated	Planning records	Documented year field	Higher is better	Yes	NFPA 1300	Shows whether the department has current planning in place for deployment and risk reduction.	More recent plans get more credit. Older plans score lower.

## Proposed Property-Level Schema

Sheet: *Proposed\_Property\_Schema*

Defines data elements that capture variation at the structure level, including proximity to fire stations, water supply conditions, and structural characteristics.

PPC 2.0 Field	Example Field Name	Category	Description	Why It Matters	Data Type	Source
Parcel ID	UNFRM_APN	Identifier	Unformatted assessor parcel number	ID	Identifier	Example: Third party vendor (Cotality or equivalent)
Site Address	ADDRESS	Identifier	Situs property address	ID	Identifier	Example: Third party vendor (Cotality or equivalent)
Property Indicator	PROP_IND	Occupancy / Use	General property type indicator	Distinguishes residential, condo, commercial, etc.	Categorical lookup	Example: Third party vendor (Cotality or equivalent)
Land Use	LAND_USE	Occupancy / Use	Standardized land use code	Proxy for occupancy and fire load characteristics	Categorical lookup	Example: Third party vendor (Cotality or equivalent)
Actual Year Built	YR_BLT	Building Age	Original construction year	Older structures can indicate higher vulnerability and older code era	Numeric (year)	Example: Third party vendor (Cotality or equivalent)
Effective Year Built	EFF_YR_BLT	Building Age	Year building was assessed with current components	Captures major renovations better than original year built alone	Numeric (year)	Example: Third party vendor (Cotality or equivalent)
Construction Type	CONSTR_TYP	Construction	Primary method of construction	Key structural fire behavior indicator	Categorical lookup	Example: Third party vendor (Cotality or equivalent)
Exterior Walls	EXT_WALLS	Construction	Exterior wall material / finish	Relevant to combustibility and exposure	Categorical lookup	Example: Third party vendor (Cotality or equivalent)
Roof Cover	ROOF_COVER	Construction	Roof covering material	Important for structural fire and especially wildfire ember exposure	Categorical lookup	Example: Third party vendor (Cotality or equivalent)
Condition	CONDITION	Construction Quality	Physical condition of the main improvement	Proxy for maintenance and vulnerability	Categorical lookup	Example: Third party vendor (Cotality or equivalent)
Quality	QUALITY	Construction Quality	Construction quality grade	Proxy for durability and construction quality	Categorical lookup	Example: Third party vendor (Cotality or equivalent)
Universal Building Sq Ft	UBLD_SQ_FT	Exposure	Best available building square footage	Useful as exposure / context, not necessarily risk by itself	Numeric (square feet)	Example: Third party vendor (Cotality or equivalent)
Stories	STORY_NBR	Building Form	Number of stories	Can affect access complexity and suppression difficulty	Numeric (count)	Example: Third party vendor (Cotality or equivalent)
Water Service	WATER	Utilities	Type of water service on parcel	Public vs well/cistern matters for suppression context	Categorical lookup	Example: Third party vendor (Cotality or equivalent)
Market Improvement Value	MKT_IMP	Exposure	Market value of improvements	Useful for exposure and loss modeling, not direct protection score	Numeric (dollar value)	Example: Third party vendor (Cotality or equivalent)
Sprinkler Presence	nan	Fire Protection Systems	nan	Strongly improves fire containment and reduces loss.	Categorical (Full / Partial / None / Unknown)	May come from inspections, preplans, or inferred

PPC 2.0 Field	Example Field Name	Category	Description	Why It Matters	Data Type	Source
Fire Flow Adequacy	nan	Water Supply / Fire Protection	Fire department preplans, hydrant flow test records, water utility data, or other documented fire flow evaluations	Indicates whether adequate fire flow for the property has been demonstrated through hydrant flow testing, modeled system capacity, or other documented evaluation.	Categorical (Adequate / Limited / Inadequate / Unknown)	Fire department preplans, hydrant flow test records, water utility data, or other local fire flow documentation
Travel Time to Property	nan	Proximity / Accessibility	Estimated travel time from the first-due or nearest responding station to the property.	Captures whether this specific property is harder or easier to reach than the average property in the community.	Numeric (minutes)	Derived from station locations, road network, and parcel point.
Distance to Nearest Hydrant	nan	Proximity / Accessibility	Distance from the property to the nearest usable hydrant.	Property-level access to suppression water can vary within the same community, even where hydrants exist overall.	Numeric (feet)	Derived from parcel point and hydrant layer.
Alternative Water Source Available	nan	Proximity / Accessibility	Whether a usable alternative water source or drafting location is available within operational distance for properties in non-hydranted areas.	Important for rural properties where hydrants are not available.	Boolean / categorical	Derived from drafting site/preplan data.
Access Type	nan	Proximity / Accessibility	General access type for the property (standard public road, narrow/private drive, limited access, gated, etc.).	Captures whether apparatus can realistically get to the property without unusual delay or restrictions.	Categorical lookup	Available from local parcel/access datasets.
Driveway / Access Length	nan	Proximity / Accessibility	Estimated length of the driveway or private access from public road to the structure.	Long access lengths can delay hose stretch, water supply setup, and apparatus positioning.	Numeric (feet)	Derived from parcel/building footprint and road centerline data.

## Crosswalk: WSRB to PPC 2.0 Proposed Schema

Sheet: Crosswalk\_WSRB-to-Proposed

Maps each element of the current WSRB Public Protection Classification framework to the corresponding fields in the proposed PPC 2.0 schema, identifying the transition type for each mapping.

WSRB Section	Existing WSRB Field(s)	Existing WSRB Description	Proposed PPC 2.0 Module	Proposed PPC 2.0 Field(s)	Mapping Notes	Transition Type
Water Supply	Items 1–3: Adequacy of Water Supply, Hydrant Size/Type/Installation, Hydrant Inspection & Condition	Item 1: Water supplies must deliver required fire flows with consumption at the maximum daily rate, evaluated via fire flow tests, storage, pump, filter, main, and hydrant capacity (5.0 pt scale = 1,000 pts). Item 2: Hydrants must conform to AWWA standards - at least 3 outlets (1 pumper quick-connect, others $\geq 2\frac{1}{2}$ " ), connection main $\geq 6$ " diameter (0.5 pt scale = 100 pts). Item 3: Evaluates hydrant inspection frequency, flow testing, identification, and physical condition. [PC Schedule, pp.6–7]	Water Supply Capability	pct_target_hazards_fire_flow_non_hydranted_areas_pct_tenders_per_100_sqmi_nonhydr_drafting_sites_per_100_sqmi_nonhydr_hydrant_coverage_pct	Three input audits (flow adequacy, hardware compliance, maintenance condition) replaced by unified coverage metrics. A hydrant that is operationally available and serving structures gets credit regardless of how its underlying system is engineered.	Outcome-based
Water Supply	Item 4: Hydrant Distribution & Spacing	Evaluates geographic distribution of hydrants relative to structures and needed fire flow locations. WSRB uses prescriptive spacing standards; an alternative GIS/performance-based analysis is also accepted. [PC Schedule, p.6]	Water Supply Capability	pct_target_hazards_fire_flow_non_hydranted_areas_pct_tenders_per_100_sqmi_nonhydr_drafting_sites_per_100_sqmi_nonhydr_hydrant_coverage_pct	Prescriptive distance rules replaced by GIS-based coverage and alternative supply density metrics.	Normalized
Water Supply	Items 5a–5b: Arrangement, Operation & Maintenance of Water System Components	Item 5a: Evaluates water source redundancy (single vs. multiple), telemetry/monitoring, gravity vs. pump configuration, and water system management (certified operator, cross-connections, Supervisory control and data acquisition (SCADA), valve exercising, emergency plan, interconnections) - 14 sub-items (0.5 pt scale = 100 pts). Item 5b: Evaluates component visit frequency, tank/reservoir inspection, valve inspection, and water main maintenance - 4 sub-items (0.5 pt scale = 100 pts). [PC Schedule, pp.7–8]	Water Supply Capability	pct_target_hazards_fire_flow_non_hydranted_areas_pct_tenders_per_100_sqmi_nonhydr_drafting_sites_per_100_sqmi_nonhydr_hydrant_coverage_pct	18 infrastructure engineering sub-items replaced by coverage outcomes. System reliability issues (source redundancy, pump backup power) surface as reduced hydrant coverage or gaps requiring alternative supply.	Captured indirectly
Fire Department	Automatic Aid Credit Calculation Incorporated in Items 1-4 and 7	WSRB credits automatic aid apparatus/personnel within 15 road miles when dispatched on first alarm. Credit calculated from four factors: a. Common Emergency Communications center (20%); b. Inter-Department Training frequency (0%, 10%, 25%, or 45%); c. Common SOPs (20%); d. Common equipment (15%); Max credit of 100% for Automatic Aid within 5 road miles travel distance, max credit of 33% for Automatic Aid over 5 road miles and within 15 road miles travel distance. [PC Schedule, pp.9-10]	Regional Service Delivery	automatic_aid_mutual_aid	WSRB's four-factor quality score (comms co-location, joint training, common SOPs, common equipment) replaced by a two-tier distinction: automatic_aid for first-alarm dispatch integration vs. mutual_aid for request-based support. WSRB does not credit mutual aid; PPC2 scores both. Qualitative factors captured separately through training and readiness fields.	Restructured

WSRB Section	Existing WSRB Field(s)	Existing WSRB Description	Proposed PPC 2.0 Module	Proposed PPC 2.0 Field(s)	Mapping Notes	Transition Type
Fire Department	Item 1a/1b: Pumpers - In-Service & Reserve	Number of pumpers in service must meet Table 3 based on Basic Fire Flow. Reserves required (at least 1 per 8 in service). Reserves can be shared via written agreement. Automatic aid pumpers creditable within 15 road miles. [PC Schedule, pp.10–11]	Deployment & Coverage / Apparatus Capability	staffed_engines_available automatic_aid mutual_aid	Raw apparatus counts replaced by area-normalized rate and staffed/deployable count. Aid relationships distinguished by response tier (automatic_aid vs. mutual_aid) rather than proximity of signed agreements.	Normalized
Fire Department	Item 2a/2b/2c: Ladder Trucks & Ground Ladders	Ladder trucks required per Table 3 based on Basic Fire Flow. Reserves required (at least 1 per 5 in service). Ground ladder service evaluated separately. Credit limited to 80% without acceptable test results. [PC Schedule, p.11]	Apparatus Capability	staffed_aerials_available	Three sub-items (in-service aerials, reserves, ground ladder compliance) consolidated to staffed_aerials_available. Ground ladder service subsumed - apparatus providing ladder service counts toward the deployable total.	Outcome-based
Fire Department	Item 3: Distribution of Companies	Structures should be within 1.5 road miles of a first-alarm engine company and 2.5 road miles of a ladder company. Alternative: CAD-based performance evaluation of actual response times. [PC Schedule, p.11]	Deployment & Coverage	frontline_apparatus_per_100_sqmi pct_population_480sec pct_population_610sec	Prescriptive distance rules (1.5/2.5 road miles) replaced by GIS-based coverage and time-based benchmarks.	Normalized
Fire Department	Item 4a/4b: Pumper Capacity	Total pumper capacity must deliver the Basic Fire Flow. Reserve pumper capacity must maintain required level with largest pumper out of service. [PC Schedule, p.12]	Apparatus Capability / Response Performance	staffed_engines_available pct_meeting_erf room_of_origin_pct	GPM capacity scoring replaced by deployable count, ERF assembly rate, and fire confinement outcome. Modern apparatus typically exceeds NFPA 1901 minimums; meaningful variation is in company count, not marginal GPM.	Outcome-based
Fire Department	Item 5a: Maintenance & Condition of Apparatus (12 sub-items)	Evaluates preventive maintenance program: apparatus check frequency, inspection frequency, inspector certification level (EVT, ASE, etc.), and annual NFPA testing of pumps, aerials, foam systems, and apparatus road tests. [PC Schedule, p.12]	Apparatus Capability	staffed_engines_available staffed_aerials_available	12 maintenance process sub-items replaced by deployability outcome. Apparatus out of service for any reason does not count toward staffed_engines_available or staffed_aerials_available.	Outcome-based
Fire Department	Item 5b: Apparatus Age (5 sub-items)	Evaluates apparatus age. Apparatus over 15 years and over 25 years receive additional scrutiny. Extra reserves can offset age-related concerns. [PC Schedule, p.13]	Apparatus Capability	staffed_engines_available staffed_aerials_available	Age-based deductions replaced by deployability. Staffed and operational apparatus receives full credit regardless of age.	Outcome-based
Fire Department	Item 6a/6b: Chief & Company Officers	Chief officer must be on duty at all times. Communities with over 8 required companies need battalion/district chiefs. Company officers required per company with defined training and experience. [PC Schedule, pp.13–14]	Training	officer_certified_pct avg_on_duty_staffing	Officer count and on-duty status replaced by two complementary metrics: officer_certified_pct captures qualification quality, avg_on_duty_staffing captures staffing quantity (including officers).	Outcome-based
Fire Department	Item 7: Department Staffing (Overall)	Evaluates on-duty staffing plus volunteer credits (3 volunteers = 1 on-duty equivalent, capped at 50% of required strength). Shift volunteers credited as on-duty equivalent. [PC Schedule, p.14, Notes A–C]	Staffing & Operational Readiness	avg_on_duty_staffing avg_volunteer_responders volunteer_turnout_rate	Theoretical staffing and 3-to-1 volunteer equivalency replaced by actual operational data: avg_on_duty_staffing for career availability, avg_volunteer_responders for on-scene volunteer count, volunteer_turnout_rate for roster-to-response conversion reliability.	Outcome-based
Fire Department	Item 8: Engine & Ladder Unit Staffing	Evaluates per-unit minimum staffing for each engine and ladder company, in conjunction with overall department staffing (Item 7). [PC Schedule, p.14]	Apparatus Capability	staffed_engines_available staffed_aerials_available	Per-unit staffing deficiency replaced by deployable apparatus count. Apparatus without adequate staffing is not counted as deployable.	Outcome-based

WSRB Section	Existing WSRB Field(s)	Existing WSRB Description	Proposed PPC 2.0 Module	Proposed PPC 2.0 Field(s)	Mapping Notes	Transition Type
Fire Department	Item 9–12: Stream Devices, Equipment, Hose, Hose Condition	Evaluates master stream devices and foam equipment (Item 9), equipment carried on pumpers and ladder trucks (Item 10), hose carried on apparatus and in reserve (Item 11), and hose condition and testing (Item 12). [PC Schedule, pp.15–17]	Apparatus Capability / Response Performance	staffed_engines_available_pct_meeting_erf room_of_origin_pct	Four equipment/hose items (550 WSRB points) captured indirectly. NFPA 1901 compliance treated as baseline; effectiveness validated through <code>staffed_engines_available</code> , <code>pct_meeting_erf</code> , and <code>room_of_origin_pct</code> .	Captured indirectly
Fire Department	Item 13a: Training Supervision + 13b: Company Training	Evaluates training supervision (certified instructor with 10+ years experience, 5% of Training item) and company-level training hours (minimum 20 hrs/month per firefighter, reduced for FF1/FF2 certification, 30% of Training item). [PC Schedule, p.18]	Training	firefighter_certified_pct_avg_training_hours_per_fire_personnel	Supervision qualifications and hour requirements replaced by certification rate ( <code>firefighter_certified_pct</code> ) and training intensity ( <code>avg_training_hours_per_fire_personnel</code> ).	Outcome-based
Fire Department	Item 13c: Training Center Drills + Automatic Aid Inter-Department Training (pp.9–10)	Evaluates training center drills (minimum 6 half-day drills/year including 2 night and 2 multi-company; 40% of Training item) and training center facilities (drill tower, fire building, training aids, 2-acre training area). Also relates to automatic aid inter-department drill frequency (quarterly=45%, semi-annual=25%, annual=10%, none=0% credit). [PC Schedule, pp.9–10, 18]	Training	multi_company_drills_per_year mco_regional	WSRB scores drill frequency and training center facilities separately; PPC2 drops facility scoring and adds a regional partner distinction. <code>multi_company_drills_per_year</code> captures drill frequency; <code>mco_regional</code> distinguishes whether drills include the partner agencies the department depends on for larger incidents.	Expanded
Fire Department	Item 13d: Officer Training + 13e: Driver/Operator Training + 13f: Recruit Training	Evaluates officer continuing education (minimum 10 hours/year, 5% of Training item), driver/operator training program (EVIP or equivalent, 5% of Training item), and recruit training program (NFPA 1001, 5% of Training item). [PC Schedule, pp.18–19]	Training	officer_certified_pct driver_operator_certified_pct	Three specialized training sub-items consolidated into certification rate metrics: <code>officer_certified_pct</code> for officers, <code>driver_operator_certified_pct</code> for driver/operators. Recruit training reflected in <code>firefighter_certified_pct</code> over time.	Outcome-based
Fire Department	Item 13g: Pre-Fire Planning (sub-item of Training)	Evaluates annual update of commercial or similar building pre-fire plans. Pre-fire information should be readily available on responding apparatus. Applies 10% of the Training item deficiency. [PC Schedule, p.19]	Prevention & Risk Reduction	preplans_target_hazards_pct	Binary annual-update requirement replaced by <code>preplans_target_hazards_pct</code> , a percentage metric focused on identified target hazards.	Outcome-based
Fire Department	Item 14: Response to Alarms (4 sub-items)	Evaluates first-alarm response to commercial districts, residential districts, multiple alarm capacity, and cover plans for when first-due companies are out of service. [PC Schedule, p.19]	Response Performance	pct_meeting_first_unit_benchmark pct_meeting_erf	Subjective response adequacy replaced by measured performance: <code>pct_meeting_first_unit_benchmark</code> for first-unit arrival reliability, <code>pct_meeting_erf</code> for full effective response force assembly.	Outcome-based
Fire Department	Item 15: Fire Operations	Evaluates overall fire operations effectiveness based on response, staffing, and training factors. Adjustments for SOPs, incident management system, LDH use, ladder truck availability, and CAFS. Alternative: CAD-based performance evaluation. [PC Schedule, p.20]	Response Performance / Staffing	standards_of_cover_present soc_last_updated_year	Composite subjective evaluation replaced by <code>standards_of_cover_present</code> and <code>soc_last_updated_year</code> - whether deployment decisions are formally planned and reviewed. WSRB adjustments for SOPs, IMS, LDH, and CAFS are not explicitly replicated; SOP/IMS quality captured indirectly through training and readiness fields.	Outcome-based

WSRB Section	Existing WSRB Field(s)	Existing WSRB Description	Proposed PPC 2.0 Module	Proposed PPC 2.0 Field(s)	Mapping Notes	Transition Type
Fire Department	Item 16a/16b: Special Protection (Fireboats, WUI)	16a: Fireboat required where at least 1 mile of occupied wharf frontage needs water-side firefighting. 16b: WUI - communities with WUI areas evaluated for wildland response capability. [PC Schedule, p.20]	WUI Capability (Conditional)	wui_exposure_present percent_jurisdiction_w u_i_nwcg_trained_person nel_wildland_engines_c ount_wildland_engines_ per_100_sqmi_wui wildland_response_agre ements_cwpp_last_updat ed_year	Item 16a (fireboats) omitted - very few Washington communities meet the trigger threshold. Item 16b (WUI) expanded from a single line item to a dedicated conditional module reflecting Washington's wildfire risk profile.	Expanded
Fire Department	Item 17a/17b/17c: Fire Stations, Fuel, Response Delays	Evaluates fire station facilities including alarm receipt equipment, response delay factors, fuel availability, and communication/radio equipment (two-way radios, spare portables, public fire reporting, secondary power). [PC Schedule, pp.20-21]	Response Performance / Deployment	p90_first_unit_arrival _min_frontline_apparat us_per_100_sqmi	Station facility quality, fuel availability, and response delay factors captured through p90_first_unit_arrival_min and frontline_apparatus_per_100_sqmi. Deficiencies that cause delays surface as degraded response performance.	Captured indirectly
Emergency Communications	Item 1a-1d: Communication Center Building (4 sub-items)	Evaluates communication center building construction and exposures (per Table 4), fire protection systems, security, and emergency lighting. [PC Schedule, pp.22-23]	Communications	call_processing_p90_se c_pct_pop_with_radio_c overage	Facility attributes (construction, fire protection, security, emergency lighting) captured indirectly through operational performance metrics. Facility issues that compromise operations surface as degraded call processing and coverage.	Captured indirectly
Emergency Communications	Item 2a: CAD & Telephone Equipment (12 sub-items)	Evaluates CAD and telephone equipment: 911 capability, E-911 with ANI/ALI, wireless Phase I/II, VoIP, backup CAD server, auto-switchover, call info transmission, unit recommendation, GIS, AVL, MIS, and next-gen 911. [PC Schedule, p.23]	Communications	dispatch_center_type call_processing_p90_se c	12 technology sub-items replaced by dispatch_center_type (center generation, bundling many capabilities) and call_processing_p90_sec (whether calls are processed within benchmark time regardless of underlying technology).	Restructured
Emergency Communications	Item 2b-2d: Recording, Telephone Service, Circuit Supervision	Evaluates call recording capability, telephone service (lines required per Table 5 based on population), and dispatch circuit/device supervision with audible/visual trouble signals. [PC Schedule, p.24]	Communications	call_processing_p90_se c_pct_pop_with_radio_c overage	Prescriptive infrastructure specifications replaced by operational performance metrics. Call processing time and radio coverage capture effectiveness regardless of underlying technology.	Captured indirectly
Emergency Communications	Item 2e: Dispatch Circuits (1 sub-item)	Separate primary and secondary dispatch circuits required. Evaluated by circuit type (proprietary/other), supervision status, and switchover method (automatic/manual). [PC Schedule, p.25]	Communications	pct_pop_with_radio_cov erage	Dispatch circuit redundancy and supervision captured through pct_pop_with_radio_coverage. Circuit issues that cause coverage gaps or communication failures would surface as reduced coverage.	Captured indirectly
Emergency Communications	Item 2f: Emergency Power (5 sub-items)	Evaluates emergency power: auto-start generator, manual-start generator, battery/UPS, weekly generator testing, and 72-hour fuel supply. [PC Schedule, p.25]	Communications	call_processing_p90_se c	Emergency power adequacy captured through call_processing_p90_sec. Insufficient backup power surfaces as degraded call processing during outages.	Captured indirectly
Emergency Communications	Item 3a/3b: Telecommunicator Training & Staffing	Evaluates telecommunicator initial training (minimum 480 hours), continuing education requirements, and staffing levels (per Table 6, based on annual call volume). [PC Schedule, p.26]	Communications	call_processing_p90_se c	Training program adequacy and staffing levels captured through call_processing_p90_sec. Inadequate training or understaffing directly degrades processing times.	Outcome-based
Fire Safety Control	Item 1a: Fire Marshal Staffing (3 sub-items)	Evaluates fire marshal experience (minimum 10 years), certification, and continuing education. [PC Schedule, p.27]	Prevention & Risk Reduction	pct_required_occupanci es_inspected	Personnel qualifications replaced by inspection completion outcome.	Outcome-based

WSRB Section	Existing WSRB Field(s)	Existing WSRB Description	Proposed PPC 2.0 Module	Proposed PPC 2.0 Field(s)	Mapping Notes	Transition Type
Fire Safety Control	Item 1b: Fire Plan Review (4 sub-items)	Evaluates fire plan review personnel: experience, certification level, continuing education, and staffing sufficiency. [PC Schedule, p.27]	Prevention & Risk Reduction / Property Data (Cotality)	pct_required_occupancies_inspected And property level data: CONSTR_TYP, EXT_WALLS, ROOF_COVER	Plan review process inputs replaced by enforcement outcome metrics and Cotality construction attributes reflecting long-term code enforcement quality.	Outcome-based
Fire Safety Control	Item 1c/1d: Fire Code Inspections (New & Existing)	Evaluates fire code inspections of new construction and existing occupancies (per Table 7). Considers inspection frequency, inspector certification, experience, staffing levels, and continuing education. 5-year history reviewed. [PC Schedule, p.28]	Prevention & Risk Reduction	pct_required_occupancies_inspected	Inspection process deficiency scoring replaced by completion outcome.	Outcome-based
Fire Safety Control	Item 1e: Confidence Testing	Evaluates confidence testing of fire protection systems including sprinklers, alarms, standpipes, private hydrants, suppression systems, restaurant hoods, and fire doors per NFPA standards. 5-year history reviewed. [PC Schedule, p.28]	Prevention & Risk Reduction	pct_required_occupancies_inspected	System testing monitoring captured through inspection completion. Thorough occupancy inspections include verification of fire protection system testing and maintenance compliance.	Outcome-based
Fire Safety Control	Item 2a/2b: Public Fire Education	Evaluates public fire education programs for children (per Table 8, up to 10 programs) and adults (per Table 9, up to 5 programs). Community Risk Assessment-based programs count double. 5-year history reviewed. [PC Schedule, pp.29–30]	Prevention & Risk Reduction	cra_present cwpp_present	Program counts and educator qualifications replaced by planning presence: cra_present (formal Community Risk Assessment) and cwpp_present (Community Wildfire Protection Plan). WSRB gives double credit for CRA-derived programs, reflecting the same value PPC2 places on strategic risk assessment.	Outcome-based
Fire Safety Control	Item 3: Fire Investigations (6 sub-items)	Evaluates fire investigation personnel: experience, certification, law enforcement authority, continuing education, staffing, and NFIRS reporting. [PC Schedule, p.30]	Fire Investigation	certified_fire_investigators_count	Six sub-items consolidated to certified_fire_investigators_count. Certification inherently requires the experience, training, and CE that WSRB scores separately; count reflects staffing adequacy.	Restructured
Fire Safety Control	Item 4: BCEGS Class (Building Code Enforcement)	Based on the community's BCEGS class (1–10) per the BCEGS Classification Manual. BCEGS evaluates building code adoption and enforcement effectiveness for dwellings and commercial property separately. Class 1 = 0% deficiency; Class 10/99 = 100% deficiency. Applied to 40-point scale. [PC Schedule, p.31; BCEGS Manual]	Prevention & Risk Reduction / Property Data (Cotality)	code_adoption_current pct_required_occupancies_inspected And property level data: CONSTR_TYP, CONDITION, QUALITY, EXT_WALLS	Single 1–10 grade unbundled into three dimensions: code_adoption_current (code adoption), pct_required_occupancies_inspected (enforcement outcome), and Cotality construction attributes (built environment quality). Distinguishes communities that adopt modern codes but enforce poorly from those with older codes but rigorous enforcement.	Restructured

*Transition types: Outcome-based = prescriptive audit replaced by measurable performance metric; Normalized = prescriptive rule replaced by GIS/data-driven normalized measure; Captured indirectly = concept embedded within broader outcome metrics; Restructured = framework reorganized into more operationally meaningful fields.*