Where Should OPDC Put the Next MAC?

A county-level capacity triage using caseload/MAC data

Abstract

This sample report shows a clear[1], reproducible way to decide where to add public-defense capacity in Oregon using OPDC's county caseload table[2]. I build a single score—the Capacity Pressure Index—that combines three measures: (1) how full each place is (utilization), (2) how much extra capacity it would take to bring it down to a safe level of 95%, and (3) an indicator of case mix (cases handled per unit of workload). The index gives each county a 0–1 score so we can rank them by urgency. I also show two simple views to guide action: how many MAC a county needs to reach 95%[3], and how much one MAC would reduce overload.

1. Background

Public defense operates under binding capacity constraints. When Reported MAC (weighted appointments) exceeds Prorated MAC (contracted capacity adjusted for FTE and timing), utilization surpasses 100 percent and delays emerge—most acutely for clients, especially minority groups in custody. Determining where to deploy the next unit of attorney capacity (≈ one full-time MAC) therefore requires a defensible and repeatable decision rule. This report offers such a rule using only the minimal, routinely available fields from OPDC's dashboard, translating current workload and contracted capacity into a transparent, rank-ordered set of placement recommendations.

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2. Data Definitions

The analysis uses the county-level OPDC dashboard export. Some rows represent county groups (e.g., *"Gilliam, Hood River, Sherman, Wasco, Wheeler"*); I retain those groupings to match the published table.

- **MAC (Maximum Attorney Caseload).** Standardized annual capacity unit for one full-time attorney, derived from OPDC case weights.
- **Prorated MAC (capacity).** Contracted MAC adjusted for FTE and partial-year timing; excludes supervision and specialty-court work.
- **Reported MAC (workload).** Weighted appointments/cases reported to OPDC (heavier cases count more, lighter cases count less).
- **Utilization. Workload relative to capacity** (Reported MAC ÷ Prorated MAC). *Interpretation:* 100% = workload equals capacity; >100% = over capacity.

[1] The complete R code is available on my GitHub profile: SeyvanGit/Oregon-Public-Defense-Capacity-Analysis: Where to put the next MAC (OPDC) — simple, reproducible code to rank counties and size staffing needs using OPDC caseload/MAC data.
[2] I used the Criminal Contract Providers data: July 2023-Sep 2025 from Microsoft Power BI
[3] This percentage is arbitrary and depends on what proportion OPDC aims to reach in order to provide enough capacity.

- **Appointed cases. Unweighted case count** (simple number of cases).
- **Cases per MAC. Cases handled per unit of weighted workload**; effectively the inverse of the average case weight (higher values imply a lighter mix or higher throughput).
- **ΔMAC to 95%. Additional MAC needed** to bring a county to 95% utilization, assuming workload remains constant.
- **Capacity Pressure Index. 0–1 composite score** combining utilization (50%), ΔMAC to 95% (30%), and cases per MAC (20%) after 0–1 scaling; higher values indicate greater urgency for added capacity.

From these, I compute:

- **ΔMAC to 95%**: additional capacity needed to reach 95% utilization if workload does not change,

$$\Delta\text{MAC}_{95} = \max\left(0,\ \frac{\text{Reported MAC}}{0.95} - \text{Prorated MAC}\right)$$

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3. Methods

Because utilization, ΔMAC, and cases-per-MAC live on different scales, each is mapped to the unit interval via min–max normalization, scale01(x)=(x−minx)/(maxx−minx), computed across all counties in the snapshot. The **Capacity Pressure Index** is then:

$$\text{CapPressure} = 0.5 \cdot \text{scale01}(U) \ + \ 0.3 \cdot \text{scale01}(\Delta\text{MAC}_{95}) \ + \ 0.2 \cdot \text{scale01}(\text{Cases per MAC})$$

The weighting scheme is designed to prioritize near-term operational need. **Utilization** receives the largest weight (0.50) because it is the most direct and least ambiguous indicator of immediate overload: when reported, weighted workload exceeds prorated capacity, delays escalate as systems approach or exceed full utilization. It is also the most precisely measured quantity on the dashboard, warranting primacy in the index. **ΔMAC to 95%** is assigned the second-largest weight (0.30) because it translates "overload" into a concrete staffing requirement; jurisdictions with similar utilization may require very different amounts of additional capacity to return to a safe level, and this term captures the magnitude of the remedy, making results actionable for budgeting and hiring. **Cases per MAC** carries the smallest weight (0.20). As a proxy for case mix and throughput rather than capacity itself, it is useful for discriminating among otherwise similar jurisdictions, but it is inherently noisier and therefore plays a tiebreaking rather than a driving role.

Because all inputs are first scaled to [0,1], the weights reflect importance rather than measurement units. Simple sensitivity analyses (varying weights by ±0.05–0.10) show that the top tier of jurisdictions is generally stable. If policy emphasis shifts toward budget sizing**,** the ΔMAC weight can be increased with a compensating reduction to cases-per-MAC; if the priority

is immediate risk, the utilization weight should remain at 0.50 or higher. Overall, the 0.50/0.30/0.20 allocation provides a practical and defensible balance: it emphasizes being over capacity, keeps the resource requirement visible, and uses case mix to break ties.

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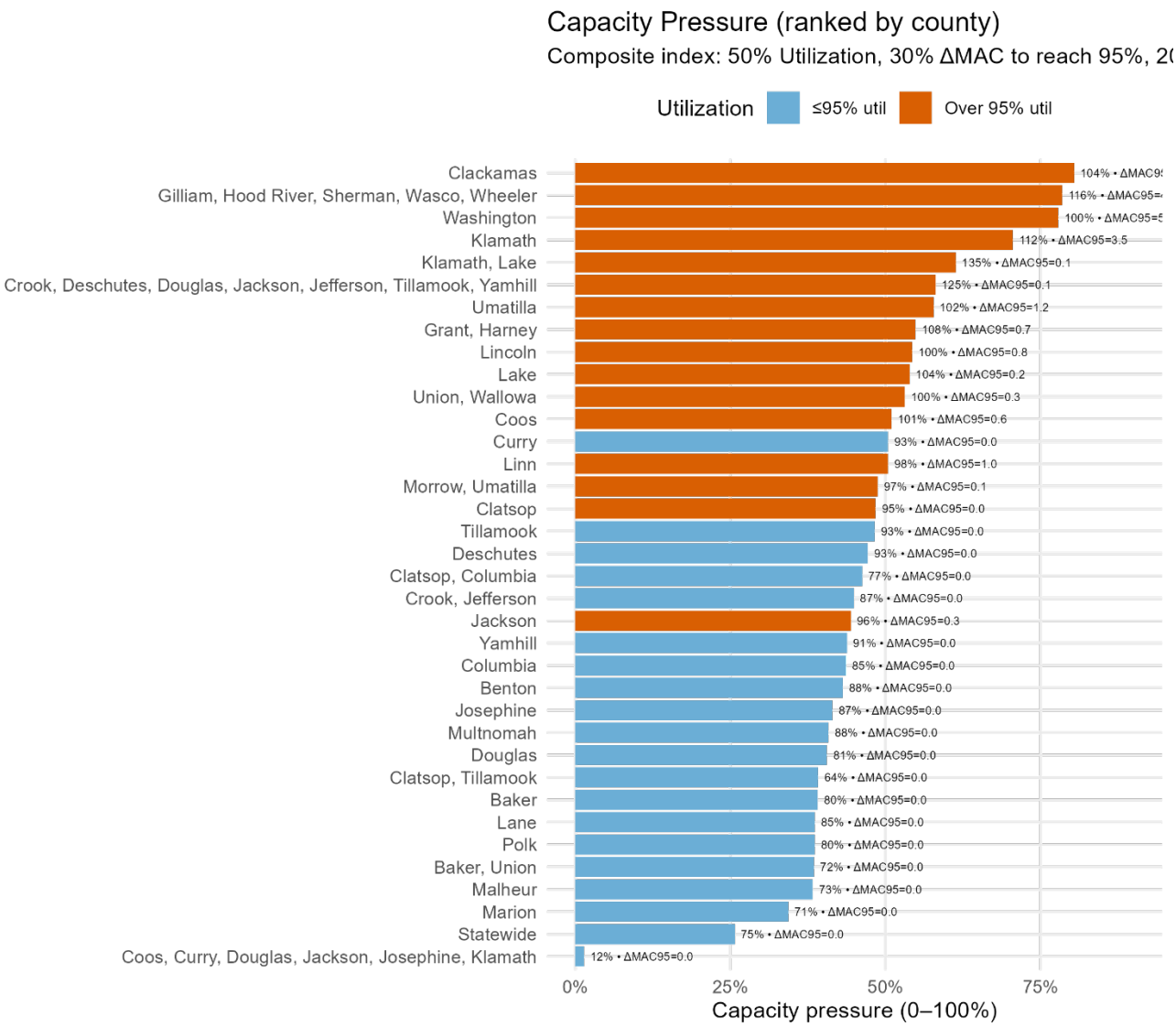
4. Findings

4.1 Capacity Pressure (ranked)

Figure 1 ranks counties and county-groups by the Capacity Pressure Index, a composite that blends current utilization, the MAC shortfall to return to 95 percent, and cases per MAC. The distribution is clearly right-skewed: a small set of jurisdictions carry the bulk of the pressure. **Clackamas** sits at the top with the highest composite score, closely followed by the five-county group Gilliam–Hood River–Sherman–Wasco–Wheeler, then Washington and Klamath. The next band—Klamath–Lake and the large cluster Crook–Deschutes–Douglas–Jackson–Jefferson–Tillamook–Yamhill—also registers high pressure. Notably, most of these top entries are shaded orange, indicating they are already above the 95 percent utilization threshold and thus represent the most urgent candidates for additional capacity.

Below the peak, the figure shows a broad middle of moderate pressure where some counties hover near the 95 percent line (e.g., Umatilla, Grant–Harney, Lincoln, Lake, Union–Wallowa, Coos, Curry, Linn). These are plausible targets for smaller or incremental allocations that could tip them into a safe operating range. The lower third of the ranking—dominated by blue bars—includes jurisdictions such as Yamhill, Multnomah, Douglas, Benton, Josephine, Columbia, Lane, Polk, Baker/Union, Malheur, Marion, and Statewide, which exhibit comparatively low composite pressure and generally sit at or below 95 percent utilization. For triage, the chart supports a two-step strategy: concentrate near-term hires in the orange, high-pressure tail, then use fractional or shared MAC to stabilize counties clustered just under the midline. Because several entries are county groups, any within-group allocation should be guided by additional information on contractor coverage and travel constraints.

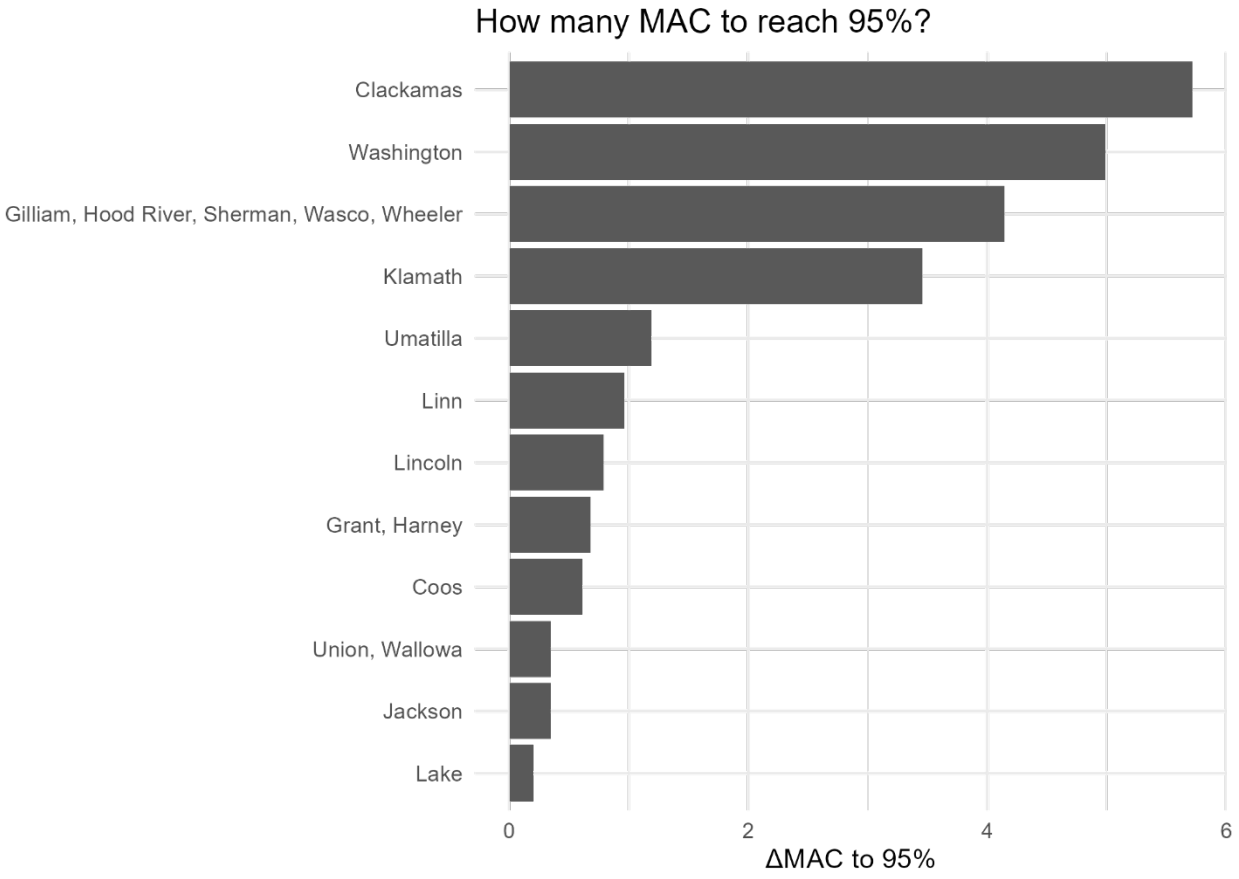
Figure 1. Capacity Pressure (ranked)



4.2 MAC required to return to 95%

The "ΔMAC to 95% utilization" chart (Figure 2) shows a highly concentrated pattern of capacity need under a constant-workload assumption. Clackamas has the largest shortfall—just under six MAC—followed by Washington at about five, the grouped counties Gilliam–Hood River–Sherman–Wasco–Wheeler at a little over four, and Klamath at roughly three to three-and-a-half. These jurisdictions account for most of the total deficit, implying that targeted deployments to a small set of places would yield the greatest absolute reduction in overload. A second tier—Umatilla (around 1.1 MAC) and Linn (around 0.9 MAC)—could likely be stabilized with a single additional attorney each, while Lincoln, Grant–Harney, Coos, Union–Wallowa, Jackson, and Lake show sub-unit gaps that are well suited to fractional or shared allocations. Taken

together, the evidence supports two complementary strategies: a depth strategy that concentrates multiple hires in the top four jurisdictions to bring them back to the 95 percent target, and a breadth strategy that uses single or fractional MAC to eliminate several smaller shortfalls quickly. Because some rows represent grouped counties, any within-group apportionment would require supplemental information.

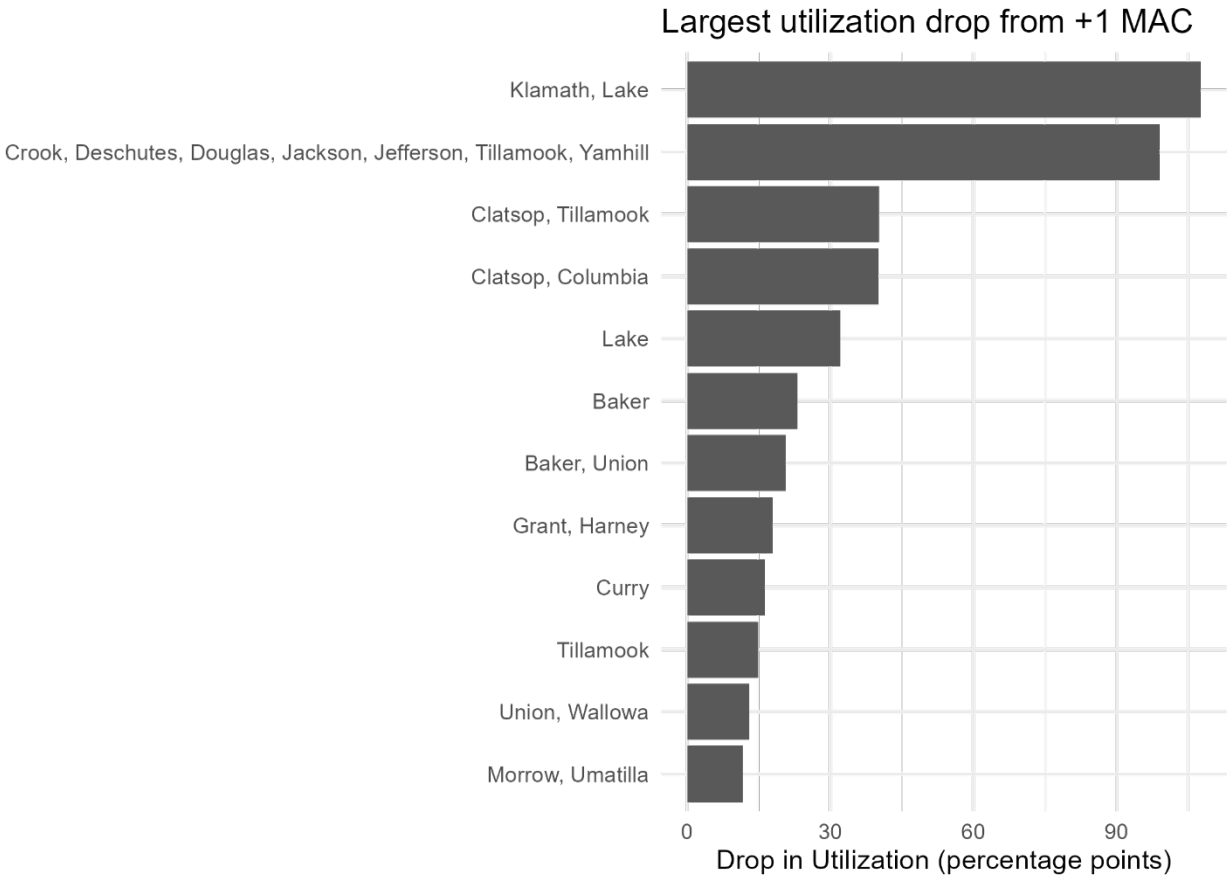


4.3 Where one MAC helps most

Figure 3 ranks the marginal effect of adding one MAC to each county or county-group, expressed as the drop in utilization (percentage points) under a constant-workload assumption. The largest effects are concentrated in small-capacity jurisdictions: Klamath–Lake and the multi-county cluster Crook–Deschutes–Douglas–Jackson–Jefferson–Tillamook–Yamhill would experience very large reductions, approaching a full order-of-magnitude decline in utilization after a single MAC is added. Clatsop–Tillamook and Clatsop–Columbia also show sizeable one-MAC gains, while the next tier—Lake, Baker, Baker–Union, Grant–Harney, Curry, Tillamook, Union–Wallowa, and Morrow–Umatilla—exhibits more modest but still meaningful declines. Substantively, the chart identifies where a single hire or contract will move the utilization needle the most; these effects are large precisely because some of these jurisdictions operate on very small baseline capacity, so the denominator shift from +1 MAC is proportionally big. For

staffing policy, this is a “bang-for-one-MAC” view and should be interpreted alongside the ΔMAC-to-95% results: a county can be highly responsive to one MAC yet still not represent the largest total shortfall.

Figure 3. Where one MAC helps most

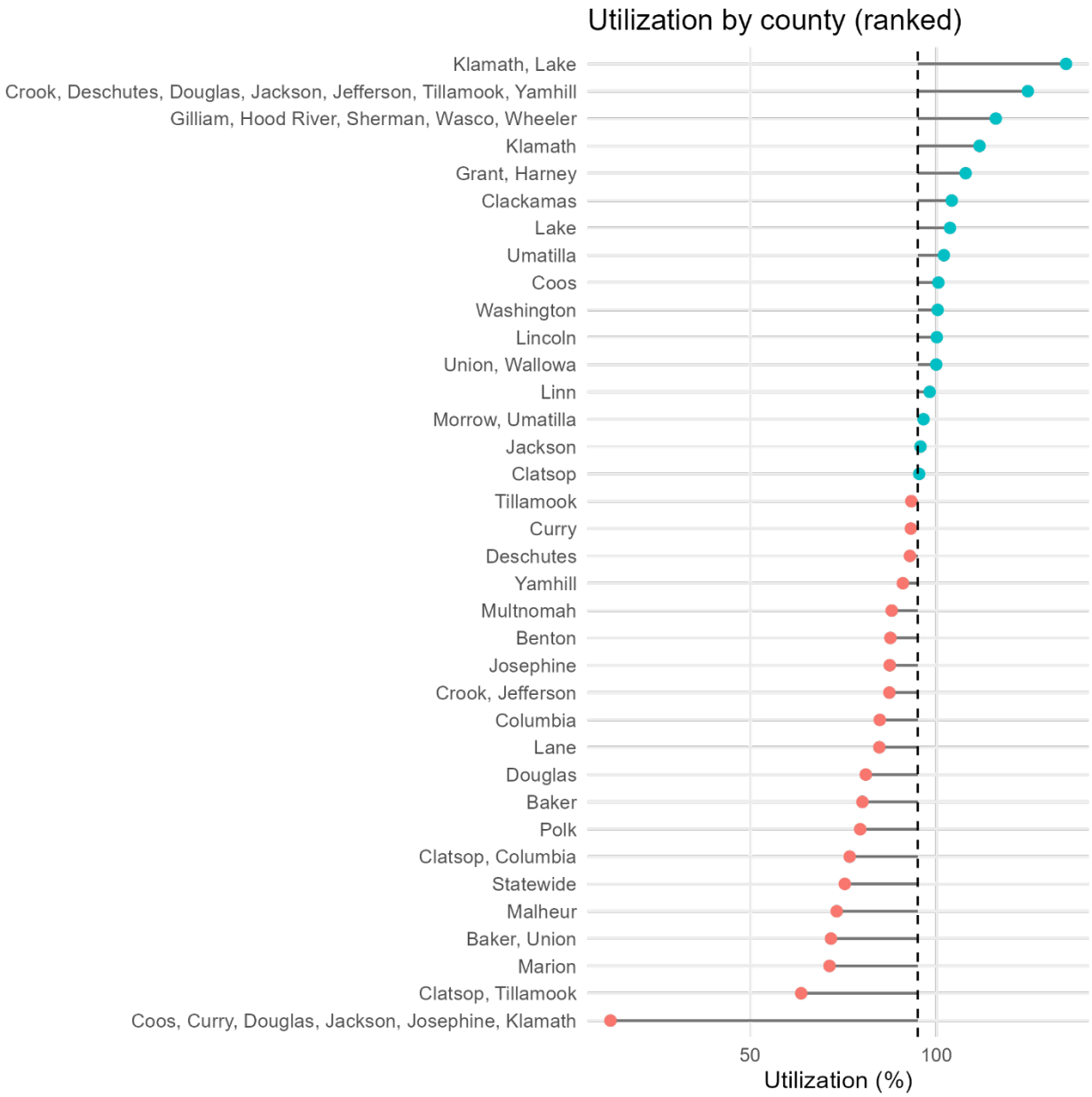


4.4 Threshold view (utilization only)

The ranked plot (Figure 4) presents utilization by county/group, with the vertical reference at 95 percent marking the safety threshold; markers to the right indicate jurisdictions at or above the threshold (colored), while those to the left are below. The upper tail is pronounced: Klamath–Lake sits at the extreme, with utilization well above 100 percent, followed closely by the large multi-county clusters Crook–Deschutes–Douglas–Jackson–Jefferson–Tillamook–Yamhill and Gilliam–Hood River–Sherman–Wasco–Wheeler, then Klamath, Grant–Harney, and Clackamas. A broad middle band— including Washington, Lincoln, Union–Wallowa, Linn, Morrow–Umatilla, Jackson, Clatsop, Tillamook, Curry, Deschutes, Yamhill, and Multnomah—lies near but mostly above the 95 percent line, indicating widespread but varying degrees of over-capacity operation. The lower tail comprises counties below the threshold (e.g., Benton, Josephine, Columbia, Lane, Douglas, Baker, Polk, and others), with a few groups markedly under-utilized

relative to peers. Overall, the distribution reveals substantial heterogeneity: a small set of jurisdictions are severely overloaded, many hover just over the threshold, and a minority operate comfortably below it. From a triage perspective, the figure endorses concentrating near-term additions in the high-utilization tail while monitoring the broad middle for drift above 100 percent; under-utilized groups may offer options for temporary rebalancing or shared coverage, subject to contractual and geographic constraints.

Figure 4. Utilization Rate by County



5. Recommendations

- **Prioritize the top-ranked jurisdiction.** Allocate the next available MAC to the county or county-group with the highest Capacity Pressure Index (Figure 1). This targets the location with the greatest combination of overload, staffing shortfall, and case-mix intensity.

- **Allocate additional MACs by marginal impact, with sufficiency check.** If multiple MACs are available, proceed in order of the one-MAC impact ranking (Figure 3) to maximize near-term reduction in utilization. For each jurisdiction, continue allocating until its cumulative additions meet the jurisdiction's ΔMAC to 95% requirement (Figure 2).
- **Adopt a monthly refresh cycle.** Recompute rankings each month to account for contractor shut-offs, late caseload reports, and other transients that can temporarily distort utilization. A monthly cadence yields a living, auditable triage list.
- **Respect county groupings and document apportionment.** Where rows aggregate multiple counties, make capacity decisions at the group level or apportion MACs using a transparent rule (e.g., historical case share, recent reported MAC). Record the rule used to support reproducibility and governance.

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7. Limitations and future work

This analysis is a snapshot that treats workload as steady when translating overload into additional MAC. It does not model seasonality, sudden intake spikes, or staffing changes, so the ΔMAC figures should be interpreted as short-run planning guides rather than long-run forecasts. Because the estimates rely on Reported MAC and Prorated MAC from the dashboard, they can be temporarily distorted by late caseload reporting or contractor shut-offs. The cases-per-MAC metric functions as a proxy for mix and throughput rather than capacity itself; as a ratio it is noisier than the core capacity measures and may vary from one snapshot to the next. Several rows aggregate multiple counties; without attorney-level microdata, allocation must be made at the group level or apportioned with a transparent rule (for example, recent workload shares), and within-group differences cannot be assessed here. Finally, the index uses min–max scaling and fixed weights; while simple sensitivity checks suggest rankings are stable to modest changes, scaling can be influenced by outliers and alternative weightings could be justified under different policy priorities. The "by-case" matrix was intentionally excluded because coverage was incomplete, so the current work does not explicitly incorporate custody-related urgency (such as Betschart exposure) or offense severity beyond what is implicitly captured in Reported MAC.

Future work should add a short time series—on the order of six to twelve months—of utilization and ΔMAC to distinguish chronic overload from temporary spikes, using rolling means or control charts to stabilize signals. As more complete by-case data become available, the analysis should incorporate custody and offense information to create an explicit risk component, allowing ties on capacity to be broken by urgency. Grouped rows ought to be refined either by transparent apportionment rules or, where feasible, by moving toward attorney-level microdata. Robustness can be strengthened with winsorized or rank-based scaling and formal weight-sensitivity analysis that reports rank stability under alternative weight sets. Finally, pairing the index with simple scenario analysis—adding one to N MAC under budget and recruitment constraints—or an allocation optimizer would translate rankings into concrete, auditable staffing plans.

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8. Reproducibility

All results are generated from a single R script that: (i) reads the county-level Excel export, (ii) computes utilization, cases-per-MAC, ΔMAC to 95%, and the composite index, and (iii) outputs the five figures and ranked tables. The method uses standard CRAN packages only and requires no privileged data. Weights for the index are tunable and can be adjusted to reflect policy priorities without changing the overall workflow.