To see “conference strength” in its rawest form—unfiltered by averaging team ratings—you want to expose exactly how the conference‐level PageRank is built from cross‐conference games. In our system, conference strength Sc is literally the PageRank score on a directed graph whose nodes are conferences and whose edges come only from cross‐conference matchups. Below is what I’d recommend you show (and why each piece is most telling):

**1. The Conference → Conference PageRank Vector**

**What to show:**  
A simple two‐column table (or bar chart) listing each conference alongside its computed PageRank value Sc. For example:

| **Conference** | **PageRank Score Sc** |
| --- | --- |
| SEC | 0.18542 |
| Big Ten | 0.16003 |
| Big 12 | 0.14278 |
| FBS Independents | 0.12054 |
| ACC | 0.11537 |
| Pac-12 | 0.09521 |
| Mountain West | 0.06508 |
| American Athletic | 0.06217 |
| Conference USA | 0.02568 |
| MAC | 0.01940 |
| Sun Belt | 0.01400 |
| … | … |

* **Why this is telling:**
  1. This vector **is** the “conference strength” in our framework. Every Sc is normalized (sum of all Sc=1), so you can say “the SEC has 18.5 % of the total cross-conference rank flow.”
  2. At a glance, stakeholders can see exactly where their conference sits relative to “average” (an average conference would be 1/(number of conferences) ~ 111≈0.091).
  3. If you want to show “historical progression,” you can provide a small table of “Week 1 → Week 2 → … → Final” PageRank values, illustrating how each cross-conference upset nudged the curve.

**2. The Intermediary “Normalized Matrix” View**

**What to show (optional but highly transparent):**  
Construct an N×N matrix W where N= number of conferences.

* Row *i* is “source” conference (loser side), column *j* is “target” conference (winner side).
* Wi,j = sum of all edge weights from conf *i* → conf *j* across every cross-conference game in the chosen time window (e.g. full season).
* You may also show this matrix *normalized by row* (so that each row sums to 1) to highlight relative “flow” from a given conf to all opponents.

An example snippet:

|  | **ACC** | **Big Ten** | **Big 12** | **SEC** | **…** |
| --- | --- | --- | --- | --- | --- |
| **ACC** | — | 0.057 | 0.042 | 0.021 | … |
| **Big Ten** | 0.034 | — | 0.012 | 0.089 | … |
| **Big 12** | 0.021 | 0.066 | — | 0.128 | … |
| **SEC** | 0.018 | 0.049 | 0.023 | — | … |
| … | … | … | … | … | … |

* **Why this is telling:**
  1. You see *exactly* how much “credit flow” travels from conference *i* to conference *j*. If SEC → Big Ten is 0.089 but Big Ten → SEC is only 0.049, it means SEC beat Big Ten by a larger “weighted margin” over the course of the season.
  2. Summing each row gives the total “outflow” of credit, summing each column gives the total “inflow.” PageRank effectively re‐weights each node based on these inflows (plus damping).
  3. A stark imbalance in any row or column immediately flags a lopsided cross-conference relationship (e.g. “Mountain West lost 90 % of its cross-PfA games, so its row is almost zero except a tiny upset here or there”).

**3. The Injection Multiplier Formula**

**What to show:**  
A side‐by‐side demonstration of how each conference’s PageRank Sc turns into an **intra-conference injection multiplier**for teams. For each conference c, compute:

InjectionFactor(c)  =  Sc1N∑i=1NSi  =  Sc1/N  =  N×Sc

(where N = total number of conferences).  
Present a small table:

| **Conference** | **PageRank Sc** | **InjectionFactor = N Sc** |
| --- | --- | --- |
| SEC | 0.18542 | 11×0.18542≈1.429 |
| Big Ten | 0.16003 | 11×0.16003≈1.327 |
| Big 12 | 0.14278 | 11×0.14278≈1.254 |
| FBS Independents | 0.12054 | 11×0.12054≈1.155 |
| ACC | 0.11537 | 11×0.11537≈1.127 |
| Pac-12 | 0.09521 | 11×0.09521≈1.022 |
| Mountain West | 0.06508 | 11×0.06508≈0.849 |
| … | … | … |

* **Why this is telling:**
  1. Nothing hides here: if the SEC’s PageRank is 0.185, you can show that every intra‐SEC game is *immediately*multiplied by ~ 1.43 (i.e. a 43 % boost) because the SEC “owns” 18.5 % of all cross‐conf flow—well above the neutral 1/11≈0.0909.
  2. Conversely, a weaker league like Mountain West (PageRank ~ 0.065) sees its games *penalized* by 11×0.065≈0.85, meaning each MWC intra‐game is worth only 85 % of what a “neutral” conference game would be.
  3. If you want absolute transparency, you can show each conference’s Sc alongside N Sc. That leaves no doubt how much “lift” or “drag” each intra‐conference contest carries.

**4. The Conference Graph Edge List (Raw Weights)**

**What to show:**  
A table (or downloadable CSV) with one row per cross-conference game, containing at least these columns:

* **Week / Date**
* **Loser’s Conference**
* **Winner’s Conference**
* **Base Weight** (i.e. margin × venue × decay)
* **Risk Multiplier** (1−pexp0.5B) applied to credit
* **Surprise Multiplier** (1+γ×[−log⁡2pexp]), capped at Imax⁡
* **Final Edge Weight** =Base×Risk×Surprise

For example, each row might look like:

| **Week** | **LoserConf** | **WinnerConf** | **BaseWeight** | **RiskMult** | **SurpriseMult** | **EdgeWeight** |
| --- | --- | --- | --- | --- | --- | --- |
| 3 | Big 12 | SEC | 0.05 | 1.80 | 2.30 | 0.207 |

* **Why this is telling:**
  1. You see exactly which cross‐conference games “flow” credit from one conference to another.
  2. You can verify by eye how an upset (low pexp) gets “blown up” by a large Surprise × Risk product, or how a routine win barely moves the needle.
  3. If someone questions “Why did the SEC look so strong?” you can point directly to the subset of edges where SEC conferences collected large weights (e.g. “week 5 upset of Pac-12” gave +0.25 weight).

**Putting It All Together: A Single “Transparency Dashboard”**

If you want a one‐page report that lets anyone “drill down,” include a dashboard with things such as:

1. **Edge Weight Heatmap or Matrix** – visualize the N×N “flow matrix.”
2. **Ranked PageRank Table** – conferences sorted by Sc, with injection multipliers.
3. **Short Explanation** – bullet out the formulas for Base, Risk, Surprise, PageRank, Injection.
4. **Raw Edge List Download Link** (CSV) – every cross-conference game, in‐depth weights.

**Which Metric Is “Most Telling”?**

* **The PageRank Score Sc Itself** is the single most direct indicator of conference strength in our framework. It tells you: “This conference commands X % of all cross-conference rank flow.” This should be the central ranking of conferences at the top of the page.
* However, if you want to show *why* a conference ended up with that Sc, point people to the **Raw Edge List** or **Flow Matrix**. In practice:
  1. **Rank Sc** identifies the winners/losers at a glance (e.g. SEC ≫ Big Ten ≫ Big 12).
  2. **Injection Multiplier** NSc translates that abstract PageRank into a concrete “intra-conference impact” factor (e.g. SEC games are worth +43 %, MWC games worth −15 %).
  3. **Edge Matrix** (or CSV) shows exactly which games produced those flows (e.g. “Georgia’s Week 4 win over Ohio State gave 0.23 weight,” etc.).

If someone complains “I don’t trust you—you’re hiding how the SEC got so high,” you can reply:

“Here’s the full list of every SEC vs non-SEC game, with exactly how many ‘rank points’ each game produced. Then we run a standard PageRank over those points. SEC owns 18.5 % of total flow. That means SEC packages a 1.429× lift on all its intra-games. If you don’t like a specific upset weight, feel free to recompute with a different risk-multiplier B or change margin caps, but here’s the entire raw data.”

**In summary:**

1. **Publish the “Cross-Conference Edge CSV”** showing loser\_conf, winner\_conf, base, risk, surprise, final\_weight—every game, no filters.
2. **Publish the 11×11 “Flow Matrix”** (conference→conference total weights) and the per‐row normalized version.
3. **Publish the final PageRank vector Sc** next to its computed injection factor NSc.

Those three tables (or downloadable files) plus the short “how we computed them” write-up give complete transparency. The PageRank Sc is the single “most telling” number, but anyone who wants to dig deeper can trace every credit/surprise weight back to the raw game.