entered into the SAP general ledger as a single record for the entire company's depreciation. This one entry does not contain information about specific assets that would allow APT to identify which service lines utilize those assets and to which routes the operating expenses might be allocated. As the single entry has no identifiable characteristics, it is captured in the APT G&A Family but is not allocated to individual services. Amtrak's upstream systems for calculating depreciation would need to modify their output to SAP with additional information before APT might allocate the expense to routes.

3.2.2 Asset Usage Allocation (AUA) Transparency

There have been several criticisms regarding the transparency of the Asset Usage Allocation (AUA) charge. The GAO noted that "while Amtrak may be capturing depreciation or economic costs through its synthetic capital charge (which serves as a proxy for depreciation and which Amtrak does not publicly report)," the recommendation to allocate depreciation by lines of business is still of value. [28]

The RPA also criticizes transparency of reporting and interpretability of information regarding the synthetic capital charge (AUA), as "(t)he Asset Usage Allocation … does not appear in Amtrak's route accounting reports." [29] The critique also suggests that Amtrak should provide a document that reconciles the AUA charge with the depreciation reported on Amtrak's financial statements. The *Trains* article is also critical of Amtrak's synthetic capital charge, stating that it is not a "real" expense. [30]

The purpose of AUA was to develop a synthetic measure of interest and depreciation that could be allocated to trains using APT, but it is not intended to replace depreciation in audited financial reports. AUA offered a measure of capital usage by each route while avoiding some of the complications of allocating Amtrak's unique assets (conveyed assets, fully depreciated assets, State contributions, etc.). However, interest and depreciation charges captured on Amtrak's SAP general ledger and the AUA are not directly reconcilable with one another. AUA is a synthetic approximation of interest and depreciation to represent their economic value but does not tie back those underlying financial transactions. Finally, the AUA charge is not reported externally by Amtrak, and it is unclear to what extent, if any, Amtrak utilizes the measure for internal purposes.

3.3 Avoidable Cost Methodology

In the RPA's evaluation of APT, it notes that Amtrak does not report avoidable costs as required by statute. [31] The original mandate for APT, Consolidated Appropriations Act, 2005, described a system for the "*avoidable* and fully allocated costs of each Amtrak route [emphasis added]." The initial

[28] United States Government Accountability Office. "AMTRAK: Better Reporting." 56.
[29] The Rail Passengers Association. "Amtrak's Route Accounting: Fatally Flawed." 19.
[30] Johnson. "Amtrak's Money Mystery."
[31] The Rail Passengers Association. "Amtrak's Route Accounting: Fatally Flawed." 4.

methodology developed in 2009 included an avoidable cost module.[32] However, Amtrak did not implement or publish the results. Subsequently, in a 2013 audit, the DOT Office of Inspector General (OIG) reviewed and found limitations to the proposed avoidable cost methodology,[33] which resulted in a concern about the reliability of avoidable cost estimates produced. As a result, the initial avoidable cost methodology is not implemented in APT. Additionally, RPA states that while the mandate to report avoidable cost has not been rescinded, there have not been follow-on efforts to estimate avoidable costs.[34]

PRIIA Section 207 ("Metrics and Standards") requires a metric of the percentage of avoidable and fully allocated operating costs covered by each route and a recent FRA rulemaking described the composition of this metric.[35] In the rule, avoidable operating costs are defined as "the sum of frequency and route variable costs," both Amtrak measures of route costs derived from APT data that attempt to categorize Amtrak route costs and their variability with changes in service. For a full description of the measures that comprise avoidable costs in the rule, see the rulemaking on Metrics and Standards from November 2020.

3.4 Data Quality

A common criticism of APT is the occurrence of data quality issues, either resulting from inconsistencies due to the use of allocation proxies or due to data entry errors.

3.4.1 Allocation Proxies

The RPA report offers criticism on how allocation rules in APT are applied using proxies when data is not available. For example, the RPA states that with respect to the allocation of station costs

> … at some of Amtrak's largest (and most expensive) stations, APT cannot use even this statistic because commuter agencies do not report it. Instead, APT uses passenger car unit trips (in plain language, number of coaches).[36]

The RPA report states that the proxy used in the allocation process would favor (commuter) trains with larger coach capacity.

It is true that APT uses proxies where allocation statistics are not available. For instance, while gross ton miles may be an ideal allocation statistic for track maintenance costs, it is not available for all service lines from the Train Unit Statistics (TUS) database including freight or commuter railroads. Not all

[32] Federal Railroad Administration. "APT Methodology Report, Vol. 1."
[33] U.S. Department of Transportation Office of Inspector General. "Amtrak's New Cost Accounting System." 4.
[34] The Rail Passengers Association. "Amtrak's Route Accounting: Fatally Flawed." 4.
[35] *Metrics and Minimum Standards for Intercity Passenger Rail Service*. 2020. 85 FR 72971, 49 CFR 273 (November 16).
[36] The Rail Passengers Association. "Amtrak's Route Accounting: Fatally Flawed." 5.

railroad operators provide statistics, so proxies are used when needed. An example of this is that commuter passenger boards and deboards information at each station is not available to Amtrak as a data feed for train statistics. In this case, the proxy of passenger coaches is used rather than Total Boards and Deboards (ST_TBDX). Amtrak endeavors to use allocation statistics most representative of the costs to be allocated and proxies are only used when the desired allocation statistic is not available.

3.4.2 Allocation and Data Quality

APT is reliant on the provision of accurate data from its input systems and its results must include allocations of all posted transactions. For example, SAIPRC investigations into route cost categories have shown what appear to be data quality issues, with many very small charges, with seemingly unrelated accounting codes. While these may be immaterial at the aggregate level (about 1.5 percent of route costs), the noise in the data may decrease the overall confidence in APT for outside stakeholders.[37] The SAIPRC Route Cost Summary Report notes that Amtrak cites two possible reasons for these charges "unique/unusual expenses, or data entry errors."[38] The RPA also criticizes the allocation of inaccurate financial transactions by APT.[39]

APT is reliant on input from multiple systems, including but not limited to SAP, TUS, and the Operations Management Systems (OMS), and any limitations of upstream systems affect APT results. Additionally, APT must allocate all expenses entered into the ledger, regardless of whether they are accurate. Critically, APT must allocate all financial transactions from SAP entered into the system and balance with each month's ledger. In some instances, expenses that seem out of place in a family, such as mechanical materials costs in an Operations subfamily, do occur. However, the statement by RPA that the charge is a result of a "flaw" of APT[40] is inaccurate. Any inaccurate coding of financial transactions into SAP must be allocated by APT, regardless of accuracy. APT itself does not create charges, and incorrect entry of data into an upstream system can generate an implausible allocation. It should be noted that this would be a potential issue in any allocation system, including the previous RPS system.

Improving the quality of data feeding APT from upstream systems, including both the procedures for entering valid data into those systems and the modernization of the systems themselves, would improve the quality of APT results. In practice, Amtrak has procedures to identify correct upstream issues before they reach APT through multiple channels. Amtrak's APT group works with Amtrak's general ledger accountants to identify and implement validation rules for data entry into SAP. Such validation steps identify and restrict the use of certain cost elements only to applicable departments, preventing the potential miscoding of data that enters APT, to preclude incorrect or counterintuitive allocations. In addition, Amtrak continues to develop process improvements to the assignment of WBS Qualifiers,

[37] State-Amtrak Intercity Passenger Rail Committee. 2019. "SAIPRC Task 1 Route Cost Category Descriptions Summary Report." 23.
[38] State-Amtrak Intercity Passenger Rail Committee. "SAIPRC Task 1." 23.
[39] The Rail Passengers Association. "Amtrak's Route Accounting: Fatally Flawed." 7
[40] The Rail Passengers Association. "Amtrak's Route Accounting: Fatally Flawed." 7.

aiming to establish consistency into the construction and organization of WBS projects and associated costs.

3.5 Allocation Transparency for State Partners

The lack of transparency of the APT allocation methods has concerned stakeholders, particularly in the context of APT as the source of Section 209 invoices. In some instances, the complexity of the system inhibits stakeholders from determining the source of higher-than-expected costs and other queries.[41] When the methodology is combined with a perceived resistance by Amtrak to "data sharing and collaboration,"[42, 43] some stakeholders experience a difficulty in interpreting allocation of costs. This may be attributable to a lack of "narrative/description that interprets the comprehensive cost information."[44] One example of transparency and complexity resulting in unexpected costs is allocated charges to States for police costs where no police are stationed, due to the calculation process for police support fees.[45,46] At times, some costs are allocated in a manner perceived by some stakeholders as counterintuitive (e.g., the reduction of the Long Distance services causing an *increase* in Section 209 route costs).[47] Lack of transparent communication on adjustments to the allocation methodology that impact the state-supported services has resulted in inquiries and adjustments to State bills. The Amtrak Office of Inspector General also found that in one case, reclassification of certain mechanical cost centers caused unintended downstream effects in the calculation of shared costs, resulting in overcharging of some State partners.[48] Issues related to transparency and accuracy of cost sharing may result in a lack of trust, as documented in the Amtrak Office of Inspector General report.[49]

It should be noted that the net costs from the Section 209 policy are a subset of costs as negotiated by the States and Amtrak, including route costs closely associated with the operation of a route, third-party costs charged to State routes, and support fees that cover regional or national shared costs in

[41] 2020. "Correspondence between San Joaquin Regional Rail Commission and U.S. House members." November 30.
[42] Mortenson, Stacey. 2020. "OP-ED: Transparent and Responsive Cost Sharing Is the Key Ingredient for Intercity Passenger Rail." Mass Transit, October 29. https://www.masstransitmag.com/rail/blog/21160449/oped-transparent-and-responsive-cost-sharing-is-the-key-ingredient-for-intercity-passenger-rail.
[43] San Joaquin Joint Powers Authority. 2019. "Testimony of Stacey Mortensen, Executive Director For San Joaquin Joint Powers Authority, U.S. House Transportation & Infrastructure Committee, Subcommittee on Railroads, Pipelines and Hazardous Materials: On Amtrak Now and Into The Future." November 13. https://transportation.house.gov/imo/media/doc/Mortensen%20Testimony.pdf.
[44] AECOM. 2018. "Memo: Existing PRIIA Section 209 Cost Documentation." May 3.
[45] United States Government Accountability Office. "AMTRAK: Better Reporting." 45.
[46] Amtrak Office of Inspector General. 2022. "Amtrak Has Begun to Address State Partners' Concerns About Shared Costs But Has More Work to Do to Improve Relationships." https://amtrakoig.gov/audit-documents/audit-reports/governance-amtrak-has-begun-address-state-partners-concerns-about. 22.
[47] 2020. "Correspondence between San Joaquin Regional Rail Commission and U.S. House members." November 30.
[48] Amtrak Office of Inspector General. "Amtrak Has Begun to Address State Partners' Concerns." 33.
[49] Amtrak Office of Inspector General. "Amtrak Has Begun to Address State Partners' Concerns." 38.

proportion to the service. However, APT allocation methods were designed for fully allocated costing to meet congressional requirements and some shared costs not closely related to a State route are excluded from the Section 209 costs paid by States. Criticisms in this section are stated with respect to transparency in the context of Section 209, and it should be noted that the use of APT to determine Section 209 costs is an extension of its core mandate.

Amtrak and the individual States coordinate on improved transparency in costing and allocation through their service managers and collectively through participation in SAIPRC and its working groups related to costing. Utilizing a data-sharing agreement between Amtrak and SAIPRC, State partners have access to detailed APT cost data to validate their bills and investigate discrepancies. Additionally, FRA publishes data appendices annually that summarize cost allocations for the fiscal year and this report will update prior documentation. The Amtrak Office of Inspector General recommended in a 2022 report that Amtrak should work with SAIPRC to ensure that, with respect to the cost-sharing methodology, "its independent third party periodically reviews and validates that the systems the company uses to implement it, do so accurately and in accordance with the methodology, particularly the APT allocations and the PnL tool."[50]

[50] Amtrak Office of Inspector General. "Amtrak Has Begun to Address State Partners' Concerns." 43.