Annual Operating Report – Feasibility of Disaggregated Data Collection

Florida Commission for the Transportation Disadvantaged

June 30, 2024

Thomas Howell Ferguson P.A.
Certified Public Accountants

Contact: Jeff Barbacci, CPA
Thomas Howell Ferguson P.A.
2615 Centennial Boulevard Ste 200
Tallahassee, Florida 32308
(850) 668-8100

Florida Commission for the Transportation Disadvantaged
Annual Operating Report – Feasibility of Disaggregated Data Collection
June 30, 2024

Table of Contents

Florida Commission for the Transportation Disadvantaged
Annual Operating Report – Feasibility of Disaggregated Data Collection
June 30, 2024

Executive Summary

The Annual Operating Report (AOR) is a report consisting of data which Community Transportation Coordinators (CTCs) submit every year to the Florida Commission for the Transportation Disadvantaged (CTD). AOR data is meant to help inform State policymakers and facilitate evaluations of Florida's transportation disadvantaged (TD) systems' operations. The data is also meant to be verified so that any and all depictions, evaluations, or any other analyses stemming from its use can be trusted to be accurate. In short, the AOR is intended to be a trusted source of information that can be used to analyze the state's TD systems.

CTD as a commission is established in Chapter 427, Florida Statutes. The very first directive given to CTD in carrying out its statutory purpose of coordinating TD services is to compile "all available information" on TD systems' operations. Despite these explicit directives, the statute also allows CTD considerable flexibility to determine precisely what sort of data to compile. This flexibility allows the data compiled to be more responsive to evolving factors including, demographic and technological changes.

Over the years, the AOR has evolved incrementally, often in reaction to situational needs. In State Fiscal Year 2022-2023, CTD conducted a study on the AOR as an attempt at a more deliberate, all-encompassing evaluation of the optimal data collection required to vividly depict the Florida Coordinated Transportation System's operations and the needs of TD riders. The study concluded with a core finding that the current AOR collects data in a highly summarized, or aggregated, format which limits its capacity to be verified or used for analysis. The study also concluded with a core recommendation to develop a detailed plan to test run the additional collection of more disaggregated individual trip level data, as well as individual bus pass level data, from CTCs as part of the 2023 AOR submission cycle, without interrupting the current processes and methods already in place.

In State Fiscal Year 2023-2024, CTD not only developed a plan but conducted an actual test run of the disaggregated data through a website, CTDdata.com. The site was built with multiple layers of security and developed over multiple stages with the help of ten different CTCs' participation. While the test run itself was primarily concerned with figuring out the technical requirements behind ensuring successful submissions, data collected was also used to design a series of data visualizations in order to demonstrate example analyses which are made possible with the new, more detailed information. The same sorts of example analyses are also accessible on the CTDdata.com site itself to allow interested parties to further explore and interpret the data, making the test run data a resource for ongoing analysis and decision-making.

Florida Commission for the Transportation Disadvantaged
Annual Operating Report – Feasibility of Disaggregated Data Collection
June 30, 2024

Background

AOR's Instructions and Primary Purposes

The Annual Operating Report (AOR) is a report consisting of data which CTCs submit, via forms, to CTD every year. The introduction section to the Commission's most recent "Instructions for Completion of the Annual Operating Report (AOR)" articulates the reason for collecting these data:[1]

> **Introduction**
>
> Pursuant to Chapter 427, Florida Statutes, each Community Transportation Coordinator (CTC) must submit an Annual Operating Report (AOR). The Commission for the Transportation Disadvantaged (CTD) has updated the instructions for the web page reporting forms for the AOR. This report is due to the CTD by September 15th of each year. CTCs must submit electronic extension requests to the CTD Area Manager no later than September 14th.
>
> The CTD uses these forms to gather information needed to accurately reflect each CTC's operating data, provide a statewide operational profile of the Florida Coordinated Transportation System, and evaluate certain performance aspects of the coordinated systems individually and as a whole. The CTD also uses data collected in this report to substantiate the need to seek additional funds. All information submitted is subject to confirmation by the CTD. The CTC must be able to support all information submitted in this report with documentation, which substantiates the data's compliance with the requirements of these instructions.

The same introductory section goes on to stress the importance of guaranteeing the data's integrity:

> The CTD uses these forms to gather information needed to accurately reflect each CTC's operating data, provide a statewide operational profile of the Florida Coordinated Transportation System, and evaluate certain performance aspects of the coordinated systems individually and as a whole. The CTD also uses data collected in this report to substantiate the need to seek additional funds. All information submitted is subject to confirmation by the CTD. The CTC must be able to support all information submitted in this report with documentation, which substantiates the data's compliance with the requirements of these instructions.
>
> Each CTC must maintain written documentation of source information and procedures used to complete the report. This documentation should be updated annually, available for reference when completing the next year's report, and available when the report is subject to auditing.
>
> For record keeping purposes, each CTC should print the AOR before submitting the data to the CTD. If changes are required, the AOR should be printed again to ensure the most recent figures are captured.
>
> The information submitted within the Annual Operating Report is subject to auditing. This includes information from the CTC, it's transportation operators, and coordination contractors.

[1] "Instructions for the Completion of the Annual Operating Report (AOR): FY 2022-23" Florida Commission for Transportation Disadvantaged. p. 3. Available online at the following link here.

In summary, this introduction to the AOR's instructions highlights two essential functions to the data being collected:

1) That the data provide utility to State policymakers in informing them on, and facilitating evaluation of, Florida's transportation disadvantaged systems' operations, and

2) That the data be verified to ensure the accuracy of any and all depictions, evaluations, or any other analyses dependent on and using the information.

Types of Data Collected through the AOR

The forms used by CTCs to submit data, as currently required by the AOR's instructions, break down along the following five major categories:

1. CTC Organization
2. CTC Coordinated System
3. CTC Trips
4. CTC Vehicles & Drivers
5. CTC Revenue Sources and Expense Sources

These five major categories span the range from basic information about the CTCs (categories 1 & 2) to their performance in providing core services (category 3) to the resources they employ in providing those same services (categories 4 & 5). Such breadth of information is consistent with efforts to paint complete operational profiles of the coordinated systems both individually and as a whole. However, breadth in itself is not enough to meet the AOR instructions' stated objectives. All information, or data, submitted is also "subject to confirmation by the CTD" to ensure that it "accurately" reflects actual operations.

CTD's Authority to Collect AOR Data

Chapter 427, Florida Statutes, the same statute that also establishes the Commission itself, tasks CTD with responsibility as a statewide aggregator of all available information, or data, relating to the transportation disadvantaged. The very first directive given to CTD in carrying out its statutory purpose "to accomplish the coordination of transportation services provided to the transportation disadvantaged" is to "Compile all available information on the transportation operations for, and needs of, the transportation disadvantaged in the state." A more explicit statutory directive requires CTD to use this same information to "Make an annual report to the Governor, the President of the Senate, and the Speaker of the House of Representatives by January 1 of each year."[2] For CTCs,

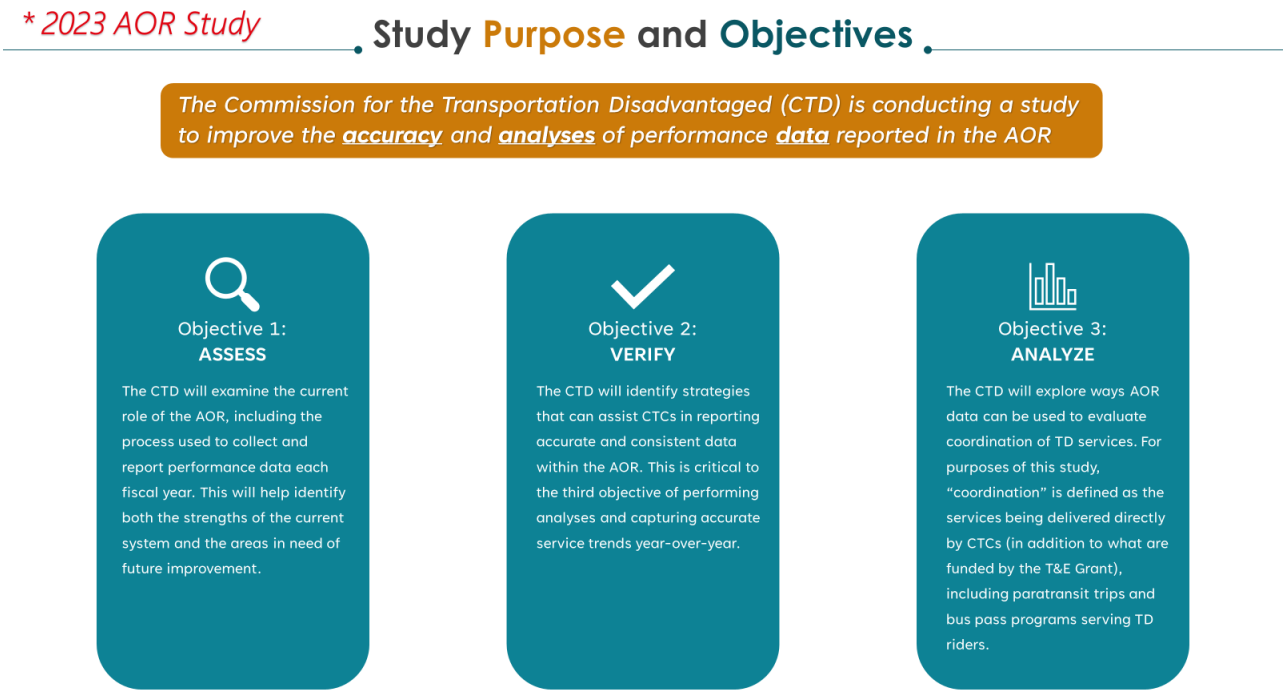
[2] The AOR is a statutory requirement of CTCs and is one of two primary datasets used in CTD's Annual Performance Report (APR), which the commission officially delivers to the Governor's Office and Legislature by January 1 of each year to fulfill these statutory requirements. The other major dataset in the APR consists of data derived from CTD's Trip & Equipment (T&E) Grant invoices, which CTCs submit to CTD throughout the state fiscal year to receive reimbursement under the grant in exchange for the delivery of transportation services to the TD population. While T&E invoice data capture only trips being purchased directly by CTD using Transportation Disadvantaged Trust Fund (TDTF) dollars, the "macro-level" data from AORs is intended to capture all coordinated TD services across multiple purchasing agencies. In this role of producing the APR, the CTD functions as more than just a purchasing agency—it is also a statewide coordinator of TD services, for which the AOR data is critical.

section 427.0155(2), Florida Statutes directs these entities to "Collect annual operating data for submittal to the commission."

Despite these explicit directives, Chapter 427 is silent on the extent to which any data collected— by CTD or CTCs—should be summarized or broken down (that is, aggregated or disaggregated) at any step in the overall process. Nor does the statute provide detailed guidance on what specific data should be collected or what it should measure. In other words, statute does not stipulate what particular data points or data fields CTD needs to aggregate, and similarly is silent on what specifically CTCs must collect in terms of annual operating data to be submitted to CTD. This lack of specifics is not necessarily a defect of the statute, as it gives CTD more flexibility in determining what elements should be included and allows these same elements to more easily evolve whenever technology advances and new datasets become available, all of which are real strengths. The important takeaway from the lack of specific statutory guidance is that CTD exercises considerable self-determination in what it collects through the AOR.

2023 AOR Study

In the absence of specific statutory guidance, the responsibility for determining the precise sort of data to be collected for the AOR falls, by default, on CTD. Over the years, the AOR has evolved incrementally, often in reaction to situational needs. In State Fiscal Year 2022-2023, CTD conducted a study on the AOR as an attempt at a more deliberate, all-encompassing evaluation of the optimal data collection required to vividly depict the Florida Coordinated Transportation System's operations and the needs of TD riders. The study pursued three objectives—Assess, Verify, Analyze—all aimed toward an overall purpose "to improve the accuracy and analyses of performance data reported in the AOR."



The study's findings along each of the three objectives can be broken down and summarized as follows:

Objective 1: ASSESS

- The study's other two objectives, with their focus on accuracy and analyses, are fully consistent with the AOR's current stated instructions and purposes.
- The breadth of information collected through the AOR's five categories is fully consistent with CTD's statutory directive to "compile all available information on the transportation operations for, and needs of, the transportation disadvantaged in the state."
- The data reported on trips (category 3) is the most substantive piece of the AOR because it most directly reflects the coordinated system's performance in providing transportation services to transportation disadvantaged persons. Categories 1 and 2 offer basic information about the CTC and its contractors, while categories 4 and 5 present information on the resources employed in the performance of providing the services in category 3.
- The current limitations of AOR performance data with respect to accuracy and analyses stem from high-level reporting, which lacks detail. Trip data in category 3 is both submitted by CTC and reported by CTD in a highly aggregated format as annual totals. The collection of more disaggregated data (e.g., records of individual trips) would allow more opportunities with respect to both audits and analyses.

Objective 2: VERIFY

- With the current AOR, data on annual trip totals is broken down, or disaggregated, in four different ways: service type, trip purpose, revenue (or funding) source, and provider type. Yet, to produce the disaggregated trip totals within each of these different methods, data on individual trips must be aggregated at some point in the overall process (i.e., trip totals are derived from records of individual trips). As CTD does not currently collect individual trip level data for the AOR, checking to see that the totals equal across all four of these methods is the only way of verifying the data's integrity. There is no audit trail to individual trip level data (the most disaggregated form of data) as part of the AOR submission process for backing up the totals.
- The lack of an audit trail on AOR trip data contrasts sharply with CTD's invoices for its own grant programs. Trip totals on CTD invoices must match, or be reconciled, to detailed back-up documentation on individual trip level data also provided by CTCs in order for CTD to process the invoice.
- The collection of disaggregated, individual level trip data is of fundamental importance to CTD's verification of summarized totals in its invoices. CTD's invoicing procedures are a concrete example of how aggregated data (summarized totals) is always a summary of more detailed (more disaggregated) data that exists elsewhere.

- The existing contrast between requirements for an audit trail of CTD invoices and no similar trail for the AOR is most often attributed to the fact that the CTD invoices are explicitly tied to reimbursement. While reimbursement-driven programs necessitate precision, a more comprehensive perspective acknowledges that well-informed decisions, holistic or even targeted improvements, public trust, and future planning depend on accurate and auditable data collection across the board. Data integrity is paramount in any situation where data is used to inform and make decisions, not just in situations of deciding whether to reimburse.

Objective 3: ANALYZE

- The AOR is similar to many other traditional data collection and analysis methods in the way it summarizes the various elements of the coordinated system into a single representation with its county summaries. The capacity to provide a quick overview and immediately extract some insights is a key strength of aggregated data. That is, aggregated data's primary strength, or value, lies in its presentation of information.
- What aggregated data offers in quick and easy takeaways, it lacks in the depth and richness necessary for more comprehensive and in-depth analysis. The opposite can be said for disaggregated data in that its primary weakness lies in it not being immediately presentable, whereas its biggest strength lies in what it allows in terms of insights that may be masked by data in a more summarized form.
- Deciding on what data needs to be collected—and the extent to which it should be aggregated or disaggregated—should be based on what questions the data is supposed to help answer and not on how it is to be presented. Being able to answer more questions with a dataset is equivalent to improving its analytical capacity. Put another way, the usefulness of a dataset may be determined by the number and types of questions that it can be used to help answer or inform.
- Aggregated data is built from disaggregated data, so disaggregated data is always capable of answering more questions by comparison. This is because disaggregated data contains more datapoints, which allows for analysis to delve into more intricate details and answer a broader array of questions.
- By moving beyond summary statistics, disaggregated, individual trip level data can equip CTD (and others) with more granular, or detailed, information that enhances the precision of questions it can answer, expands the types of analyses it can conduct, and deepens understanding of the coordinated system.

2023 AOR Study Recommendations

The 2023 AOR Study' concluded with the following three recommendations for State Fiscal Year 2023-2024:

> **Recommendation 1: For the upcoming AOR submissions in 2023, the Commission should continue with the current processes and methods it has in place and collect the same information as it has in recent years.**
>
> **Recommendation 2: The Commission should develop a detailed plan to test run the additional collection of individual trip level data, as well as individual bus pass level data, from CTCs as part of the 2023 AOR submission cycle. This planned test run for collecting data on individual trips and bus passes should function separately from the existing processes referenced in Recommendation 1 and not be integrated within them.**
>
> **Recommendation 3: As part of the detailed plan in Recommendation 2, the Commission should conduct a comprehensive and thorough review of its legal options and authorities pertaining to the collection of data on individual trips and bus passes. The review should especially focus on the collection of potentially sensitive information, including potential personally identifiable details such as names or addresses. By proactively exploring its legal options and authorities for collecting specific details, the Commission can ensure that its data collection practices align with legal requirements, protect privacy rights, and build a strong foundation for the ethical and responsible use of disaggregated data.**

Recommendation 2 could be viewed as the overriding recommendation from the 2023 study, with Recommendation 1 simply clarifying that any test run need not interfere with the current AOR process, and Recommendation 3 advising a legal review of all authorities to collect the types of data that would be collected as part of a test run.

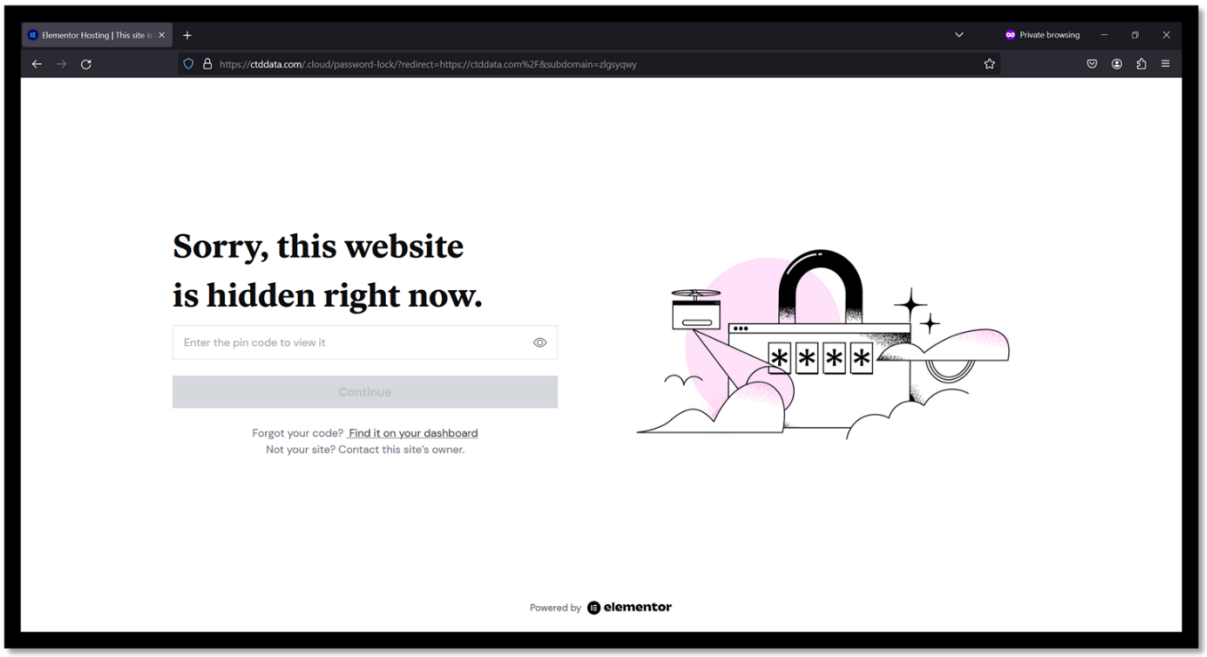
The remainder of this study provides a review of an actual test run of disaggregated data consistent with Recommendation 2. The test run was conducted in the latter half of 2023-2024 and did not overlap existing AOR processes, consistent with what was advised in Recommendation 1. At the same time, the test run was not accompanied with a completed comprehensive and thorough legal review, as was advised in Recommendation 3. However, the test run itself did employ multiple methods to ensure the secure submission of disaggregated data and protection of privacy rights, all of which are discussed in detail within this study.

Florida Commission for the Transportation Disadvantaged
Annual Operating Report – Feasibility of Disaggregated Data Collection
June 30, 2024

Process Description for the Collection of Disaggregated Data (2023 AOR cycle)

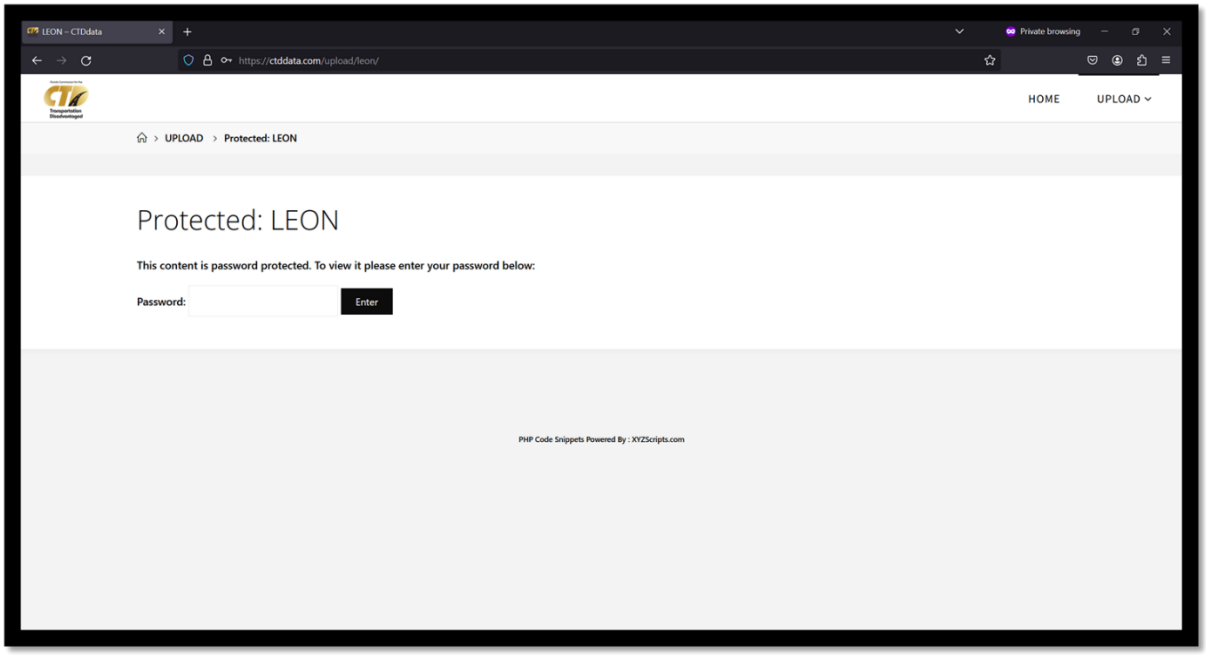
In State Fiscal Year 2023-2024, CTD not only implemented Recommendation 2 of the 2023 AOR Study by developing a detailed plan, but proceeded to conduct an actual test run of the collection of disaggregated trip and bus pass data. A website at the domain CTDdata.com was designed and constructed for willing CTCs to participate in the test run. The site at CTDdata.com was built with multiple layers of security. Anyone trying to access the site could not do so without first obtaining a 4-digit PIN code, which was generated by THF and provided to a CTC upon their request to participate. This same 4-digit PIN to access the site could be changed at anytime by THF.

Exhibit 1: Example of site security with PIN



Also upon receiving a CTC's request to participate, a unique county-specific web page would then be added to the site for the CTC to upload their data. Not only was each county-specific web page only made live when CTC's were attempting to upload their data, but each page could only be accessed with a page-specific password, which was also generated and controlled by THF.

Exhibit 2: Example of county-specific page security with password



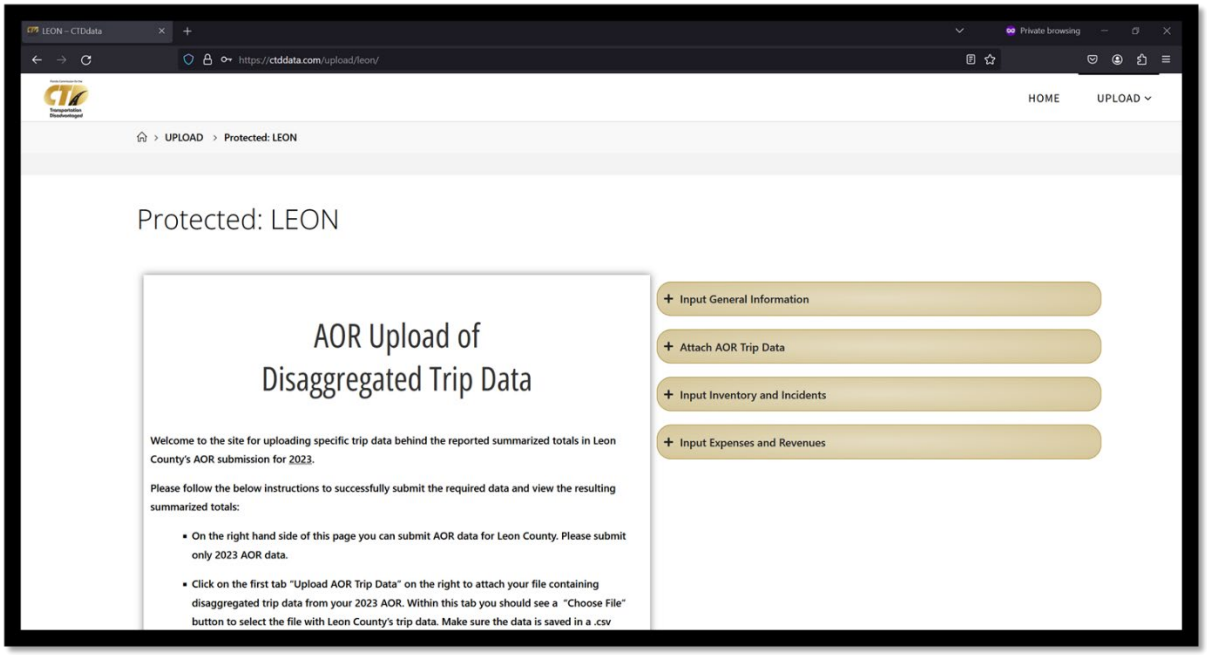
Upon successfully entering the correct password, a CTC would then be directed to their county-specific web page to upload their data. The layout of the page consisted of instructions along the left-hand side and four or five[3] separate tabs (depending on bus pass data) along the right-hand side for inputting or attaching information. These tabs broke down in a manner consistent with the current AOR's five major categories:

- **Input General Information:** CTC Organization (category 1)
- **Attach AOR Trip Data:** CTC Trips (category 3)
- **Attach AOR Bus Pass Data:** CTC Trips (category 3)[4]
- **Input Inventory and Incidents:** CTC Vehicles & Drivers (category 4)
- **Input Revenues and Expenses:** CTC Revenue Sources and Expense Sources (category 5)

[3] All county-specific web pages had four separate tabs by default, unless the CTC also had data on bus passes, in which case their web page would have an additional fifth tab.

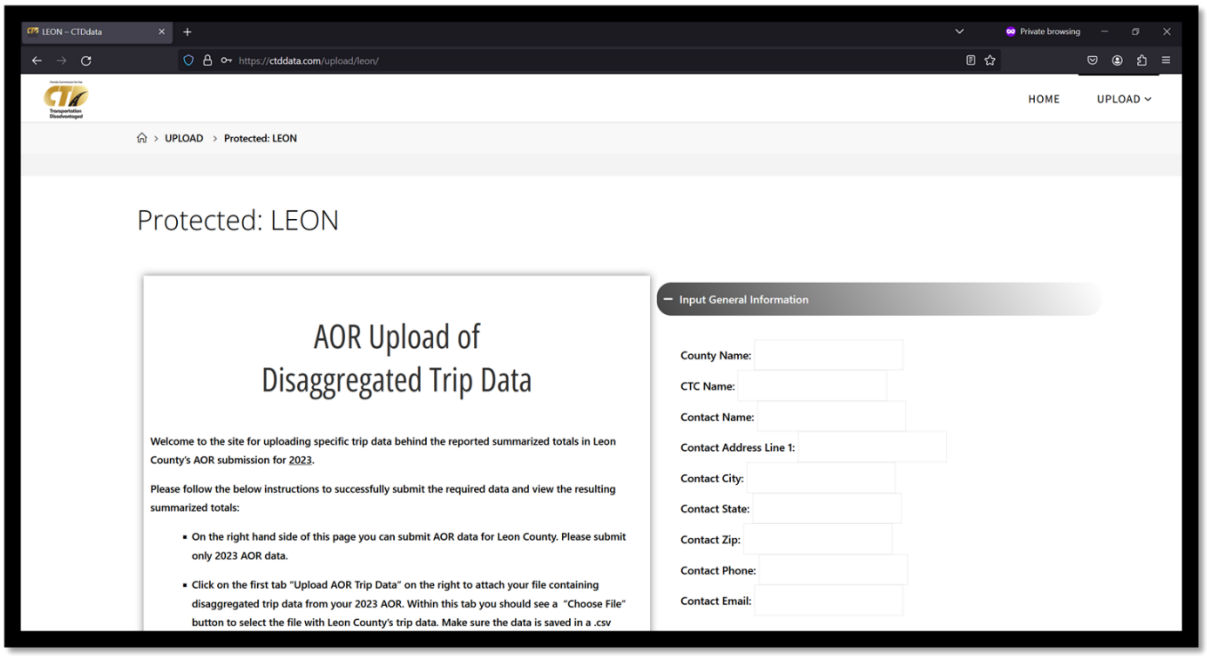
[4] For CTCs that distribute bus passes, the current AOR instructions require that these be converted to trip counts by either an established formula or "an automated accounting systems" if one is in place to count the actual number of trips provided by the passes. Regardless of either, the current AOR does not count (or collect) the actual number of bus passes as was done in the test run.

Exhibit 3: Example of county-specific web page



The first tab on the county-specific web page required the input of general information about the CTC. These included features commonly associated with contact information such as the name of the CTC, a point of contact (as in a person's name), a physical address, and phone number and email.

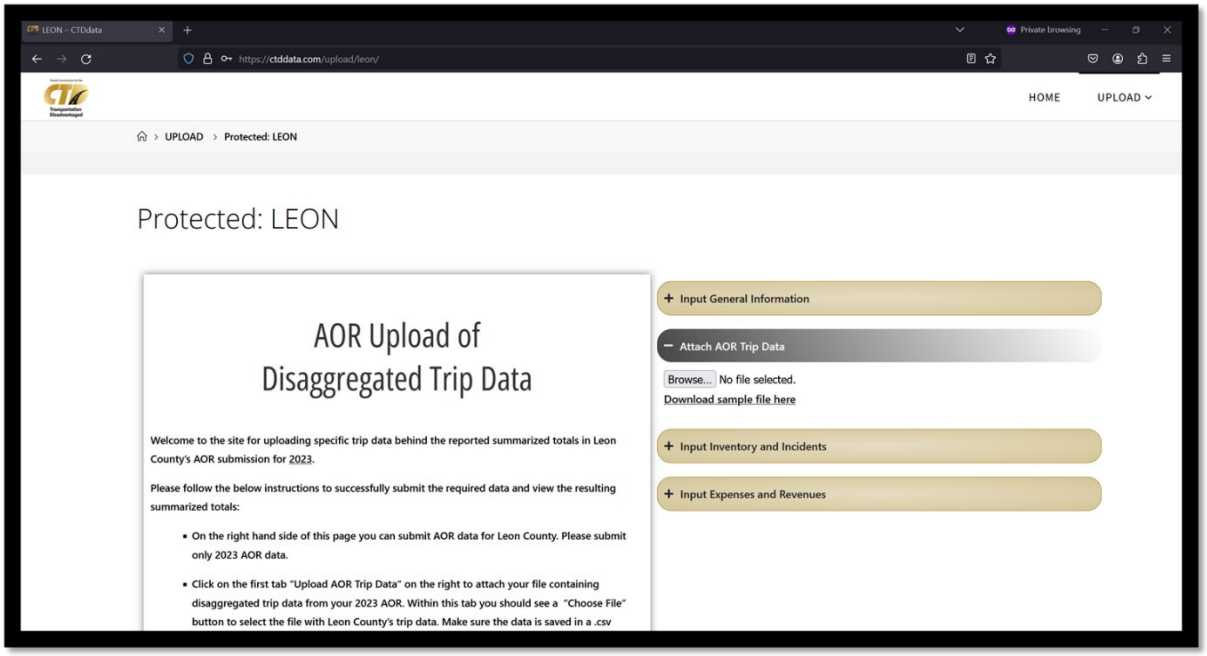
Exhibit 4: Input of General Information Tab



The next tab is where the test run deviated from the current AOR by requiring data on trips that was more in depth compared to annual totals. Following the input of general information, the next tab did not require inputs but the attachment of a file containing the individual trip level (i.e., disaggregated) data. A sample file was also available for download under this same tab so CTCs could visualize a real example of how to structure their file prior to attaching it. With every row in the file representing an individual trip, each row was to have its trip characteristics identified across the following thirteen columns:

1. Date
2. Passenger Name or other unique identifier
3. Pick Up Time
4. Pick Up Address
5. Pick Up City
6. Drop Off Time
7. Drop Off Address
8. Drop Off City
9. Miles
10. Trip Type
11. Trip Purpose
12. Revenue Source
13. Provider Type

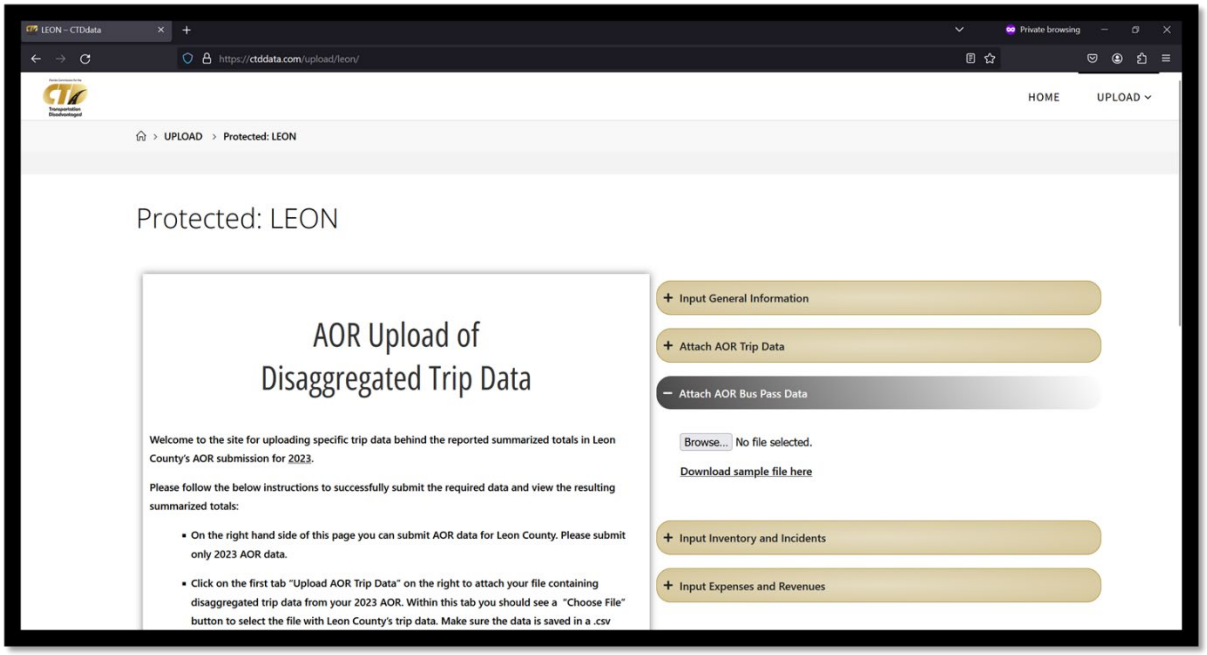
Exhibit 5: Attachment of Trip Data Tab



For CTCs that distributed bus passes, an additional tab similar to the trip data tab would also ask for the attachment of a file containing individual bus pass level data. Again, another sample file was available for download under this tab to help CTCs visualize a real example of how to structure their file containing records of bus passes prior to attaching it. With every row in the file representing an individual bus pass, each row was to identify the following characteristics on the pass across four columns:

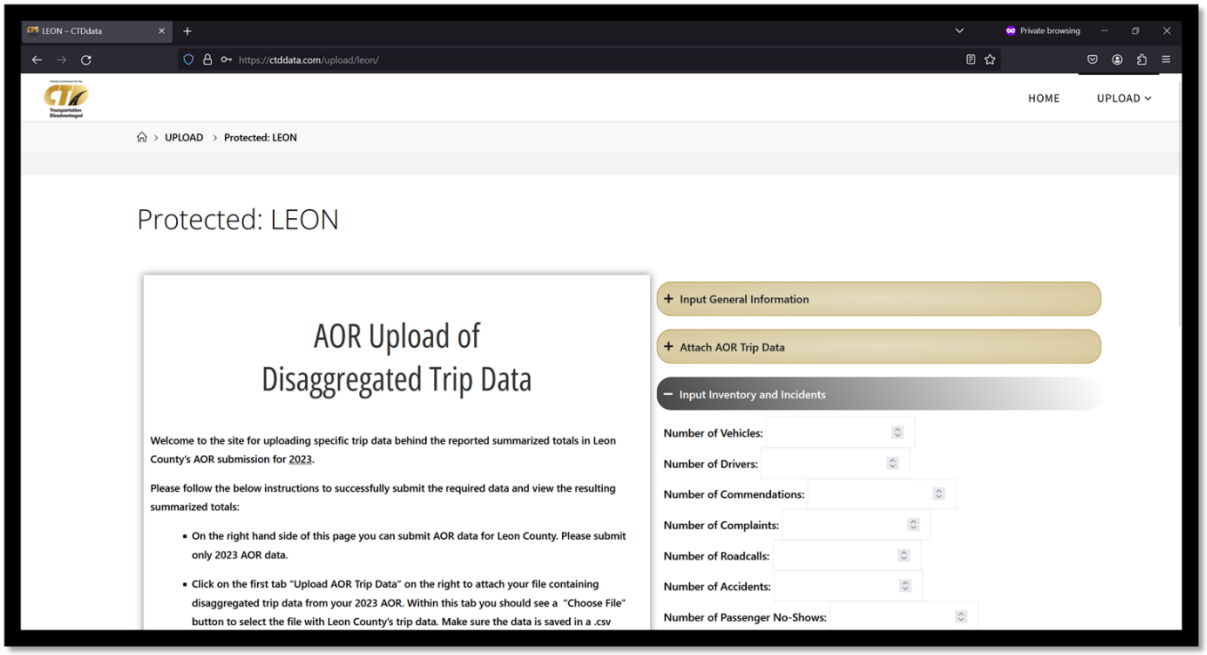
1. Date (when pass was issued)
2. Passenger Name or other unique identifier
3. Card ID (or Bus Pass Sequence Number)
4. Pass Type (1 Day, 7 Day, etc.)

Exhibit 6: Attachment of Bus Pass Data Tab



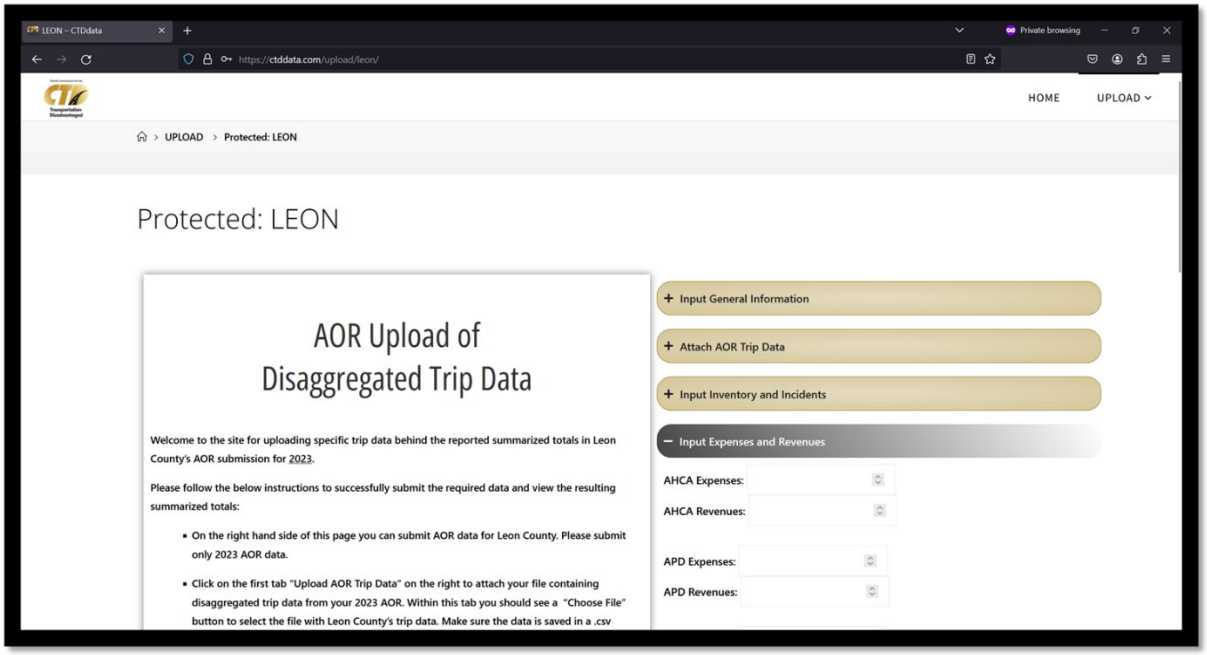
After the attachment of trip data and, if applicable, bus pass data, the next tab returned to the current AOR format by again requiring inputs by the CTCs on annual totals for inventory and incidents. This next tab required simple numeric inputs reflecting annual totals for each of the following: vehicles, drivers, commendations, complaints, roadcalls, accidents, passenger no shows, and unmet trip requests.

Exhibit 7: Input of Inventory and Incidents Tab



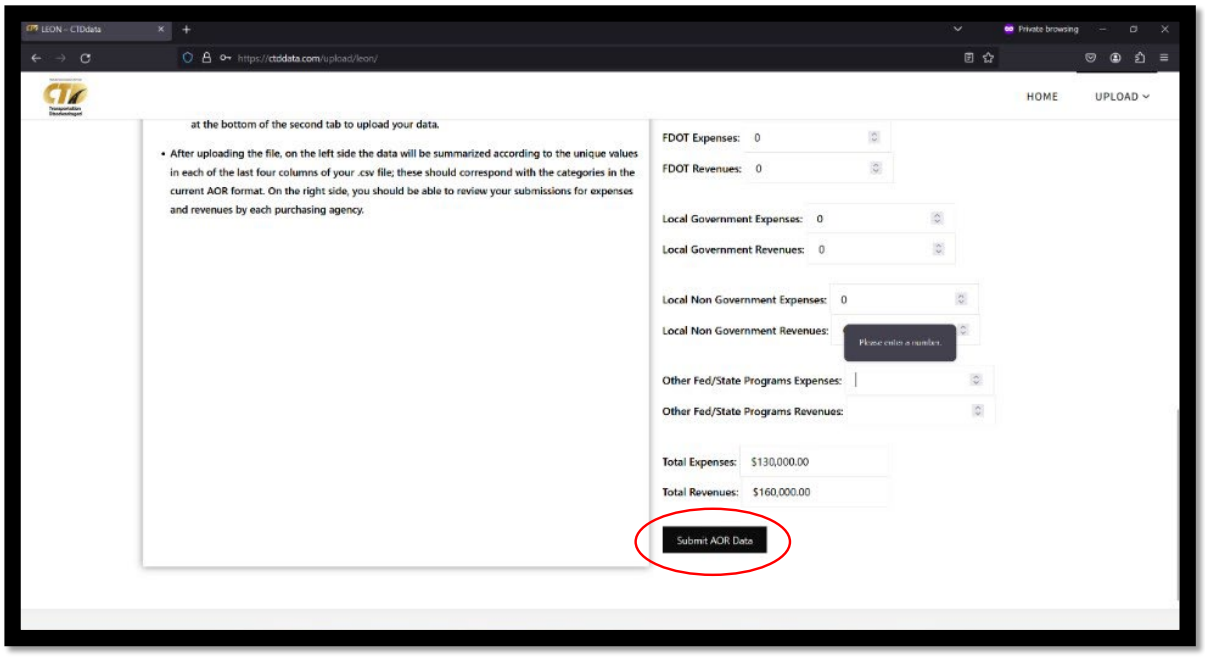
The final tab on the county-specific web page required numeric inputs relating to expenses and revenues by purchasing agency (i.e., funding source), which is also required under the current AOR format. CTCs would input the expenses and revenues by each purchasing agency, and the totals for both across all purchasing agencies would self-calculate at the bottom of the tab, providing CTCs the opportunity to review and check if the totals balanced to what they expected.

Exhibit 8: Input of Expenses and Revenues Tab



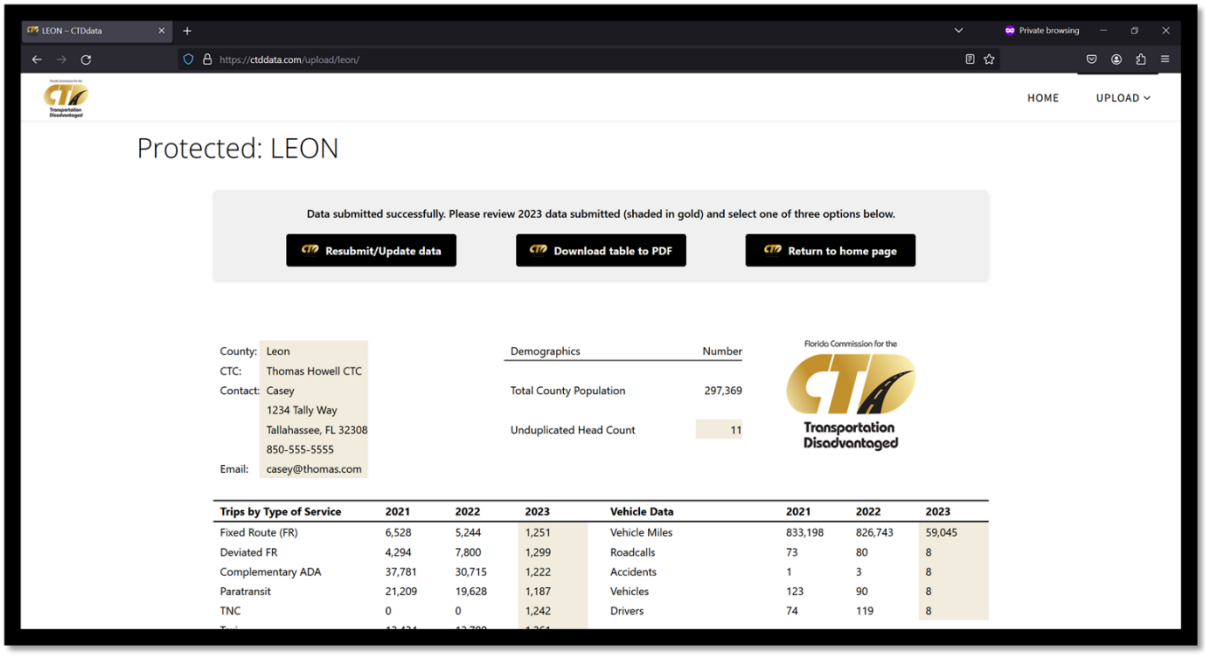
Once a CTC had completed all inputs and attached all necessary files in all of the tabs, they could then submit their AOR information by clicking on a button at the bottom of the final tab for (for expenses and revenues). Upon clicking this "Submit AOR Data" button, all information input or attached within all of the tabs would then be uploaded to a secure cloud server.

Exhibit 9: Submit AOR Data button



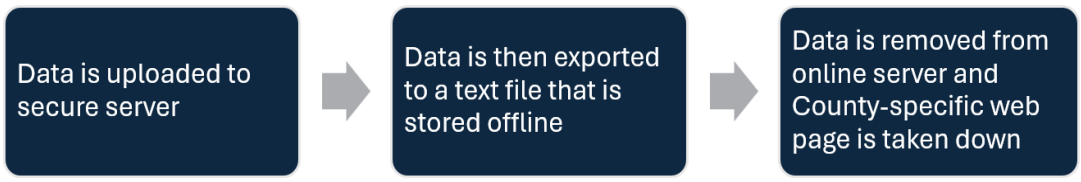
Before making their submission final, CTCs had the opportunity to review the data and information they were submitting. The review was facilitated by summarizing (on the same web page) the information in a table format identical to the current AOR's county profiles. At this review stage, CTCs could print a PDF copy of the table or, if something looked incorrect, they could click on a button to redirect them back to the county-specific web page in its original appearance and resubmit the corrected data. This setup allowed CTCs to submit their data as many times as they needed until everything looked accurate.

Exhibit 10: Summary Table for Review



A series of steps were implemented around the upload process and subsequent data storage to provide security on the backend in addition to the PIN and password security features on the frontend. First, all unique passenger names from the attached trip and bus pass data files were automatically replaced with, in the order of their appearance in the file, "Passenger 1", "Passenger 2", "Passenger 3", etc. This meant that all identifiable passenger information was masked prior to being stored on the server and therefore was never saved anywhere. Next, after all data was uploaded to and stored on the server, it was removed from the server and saved in files offline. Finally, after transferring the data from the server online to files offline, the county-specific web page was taken down and no longer accessible through the site.

Overview of Upload Process (as presented at Commission meeting on June 3, 2024)

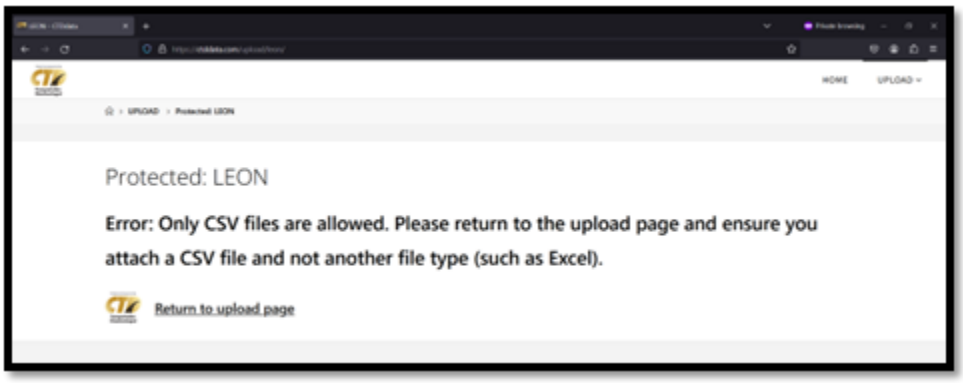


*Passenger names are masked as part of the upload process

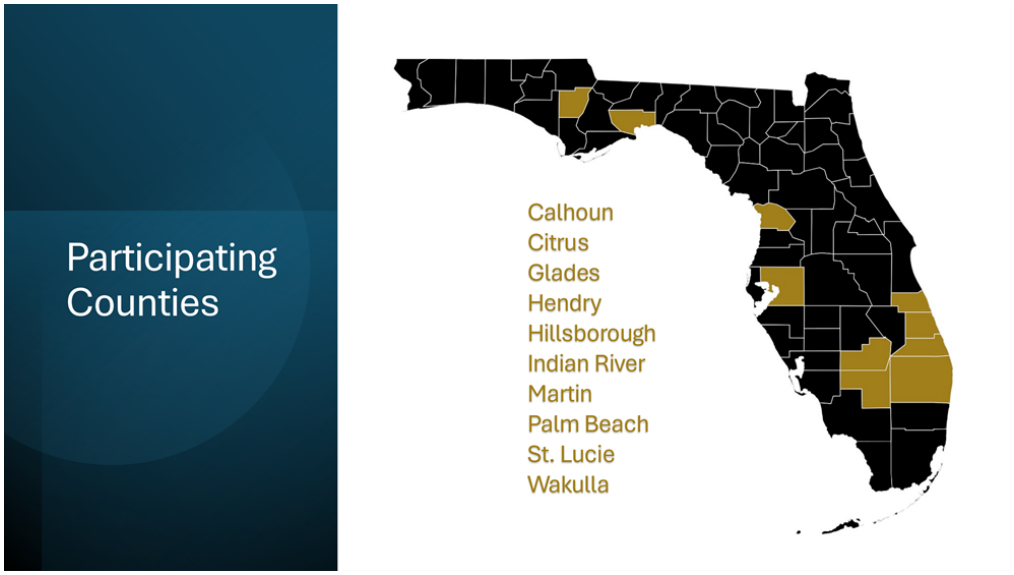
Test Run Participation, Feedback, and Site Development

A number of counties participated in the test run of submitting the disaggregated data through the CTDdata.com site from early March through mid-May. Glades, Hendry, Indian River, Martin, and Palm Beach participated in the initial testing during the month of March. Based on some of the feedback received from this initial testing and other lessons learned, a number of enhancements were made to the site including the post-submission table summary for review and error messages for scenarios where the wrong file type was attached.

Exhibit 11: Example of Error Message for Wrong File Type



A virtual public workshop was hosted via Microsoft Teams on April 12, 2024. The workshop served two primary purposes: first, to bring all other CTCs up to date on the study and the testing site in particular; and, second, to invite all CTCs interested in participating in the test run and to explain some of the details on gaining access to the site (e.g., the site PIN). Based on feedback from a couple of workshop participants, the masking of passenger names was added to the upload process at this stage. Also, an official set of instructions in the form of a Microsoft PowerPoint document was developed and emailed out on April 15, 2024 (see Appendix). Following the workshop, a total of ten different counties participated in the test run, with nine of the counties submitting their own disaggregated AOR data and another (which could not locate its own data) using the sample file provided on the site.



Data Collected through Test Run

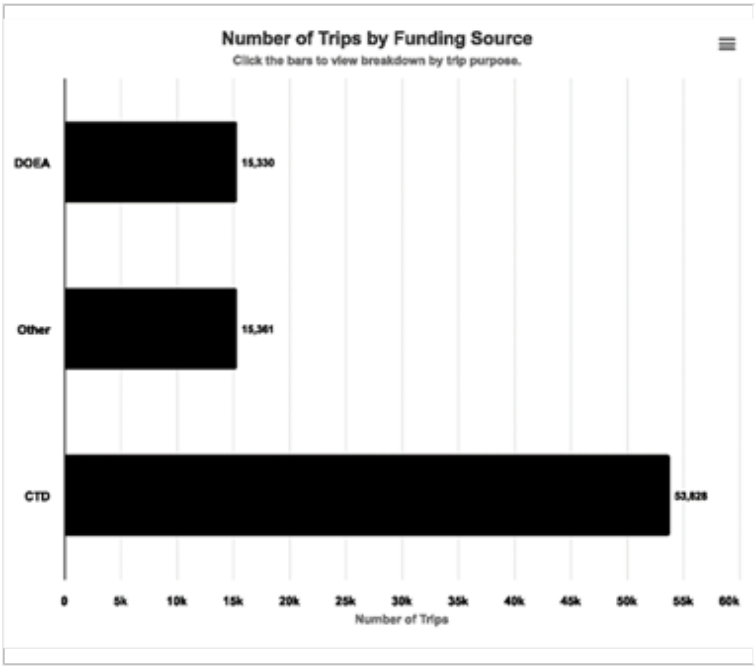
The collection of disaggregated data allows for deeper levels of verification and other analyses through the presence of more data points. While the test run itself was primarily concerned with figuring out the technical requirements behind ensuring successful submissions, data collected was used to build a series of data visualizations in order to demonstrate a handful (by no means exhaustive) of example analyses which are made possible with the new information. All such analyses, which are expanded on below, provide more granular insights compared to what is possible under the current AOR. Also, unlike the current AOR, all of the analyses, or visualizations, are built directly from back-up data (i.e., the disaggregated data collected) which can be checked at any time. By building the visualizations directly from the back-up data, there were instances where irregularities with the data could be identified, validated, and corrected.

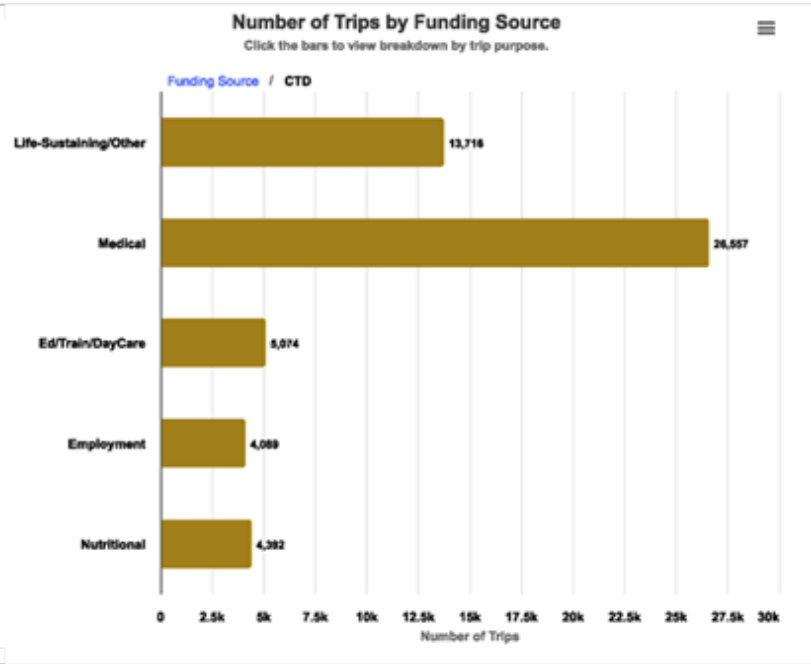
All of the visualizations below are taken from the CTDdata.com website, where profiles for participating counties are posted containing interactive visualizations built from the disaggregated data collected through the test run. These visualizations not only provide deeper insights but also offer flexibility in their use. All visualizations, and a few others, can be exported as images or PDFs. Additionally, the data behind the visualizations (though not the full disaggregated dataset) can be downloaded as CSV or Microsoft Excel files. This accessibility allows interested users to further explore and interpret the data, making the test run data a resource for ongoing analysis and decision-making.

While the current AOR does display annual totals broken down by a single factor—either by Trip Type, Funding Source, Trip Purpose, or Provider Type—it cannot reveal annual totals broken down by any combination of these factors. The black bar chart below in Exhibit 12 on the left provides an example of this single factor disaggregation seen with the current AOR. The gold bar chart on the right breaks down the 53,828 CTD trips by Trip Purpose; that is, it shows the annual totals for just CTD-funded

trips broken down by trip purpose, which is something made possible by the disaggregated data collected.

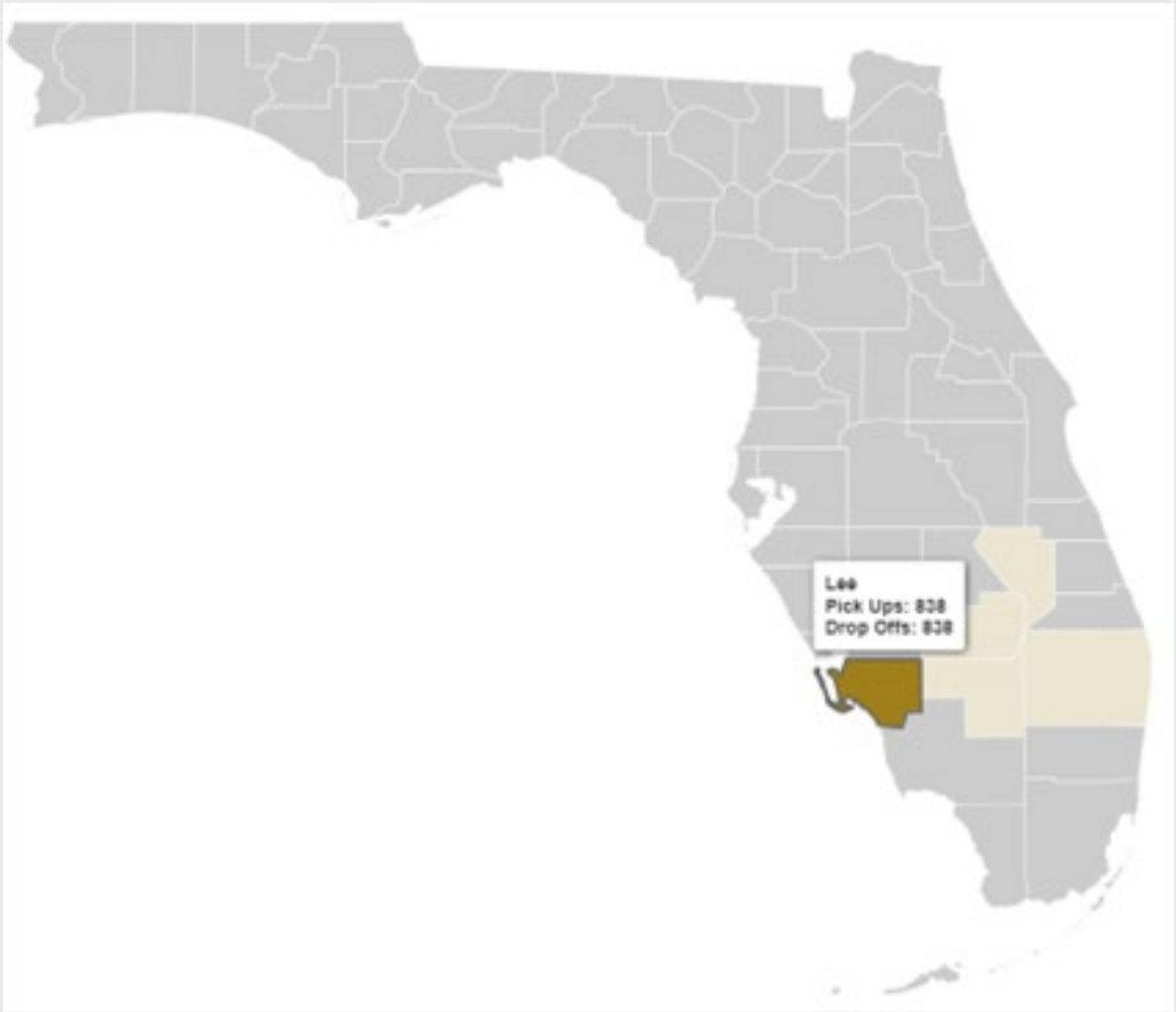
Exhibit 12: Hillsborough County: Trips by Funding Source and CTD Funded Trips by Trip Purpose (CTDdata.com)





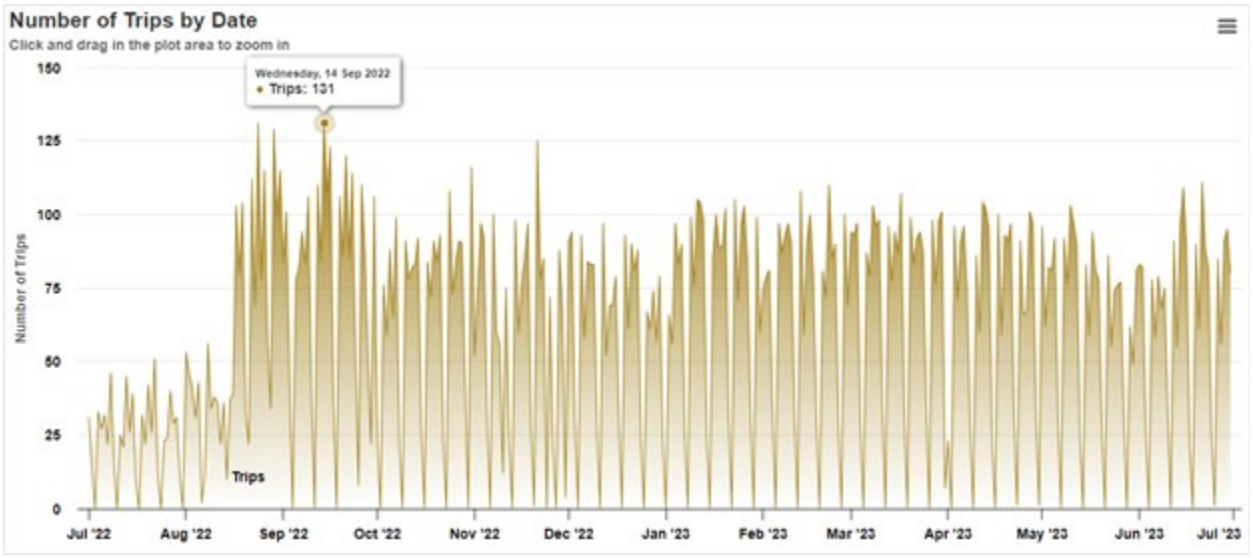
The current AOR does not dive into much detail on the geography of trips provided, but does provide a "YES/NO" answer on the question of whether a county provided any trips which crossed county boundaries. The disaggregated data collected allows analysis to reach beyond this and show the exact number of pick ups and drop offs occurring in each county. This is made possible because the disaggregated data possesses two columns—Pick Up City and Drop Off City—from which the counties can be extracted.

Exhibit 13: Glades County: Pick Ups and Drop Offs in Neighboring Lee County (CTDdata.com)



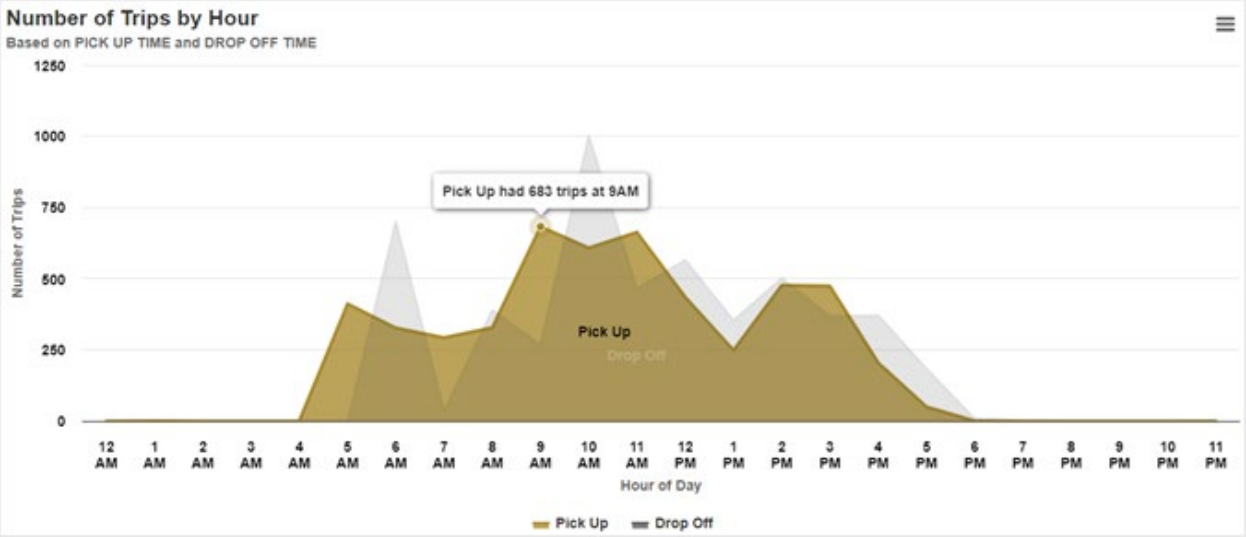
Time-series analysis is not a current feature of the AOR because the only figures reported are annual totals. That is, the annual totals cannot be broken down into any time period subsets within the year (e.g., trips broken down by month). However, the disaggregated data collected through the test run has an exact date attached to each trip, enabling multiple forms of more detailed analyses. With this granular data, analyses can be built from individual days, allowing for breakdowns by months, weeks, or even specific days. This flexibility in the data allows for a more nuanced understanding of patterns and trends over different time periods, potentially revealing insights that annual totals alone cannot provide.

Exhibit 14: Martin County: Number of Trips by Day of the State Fiscal Year (CTDdata.com)



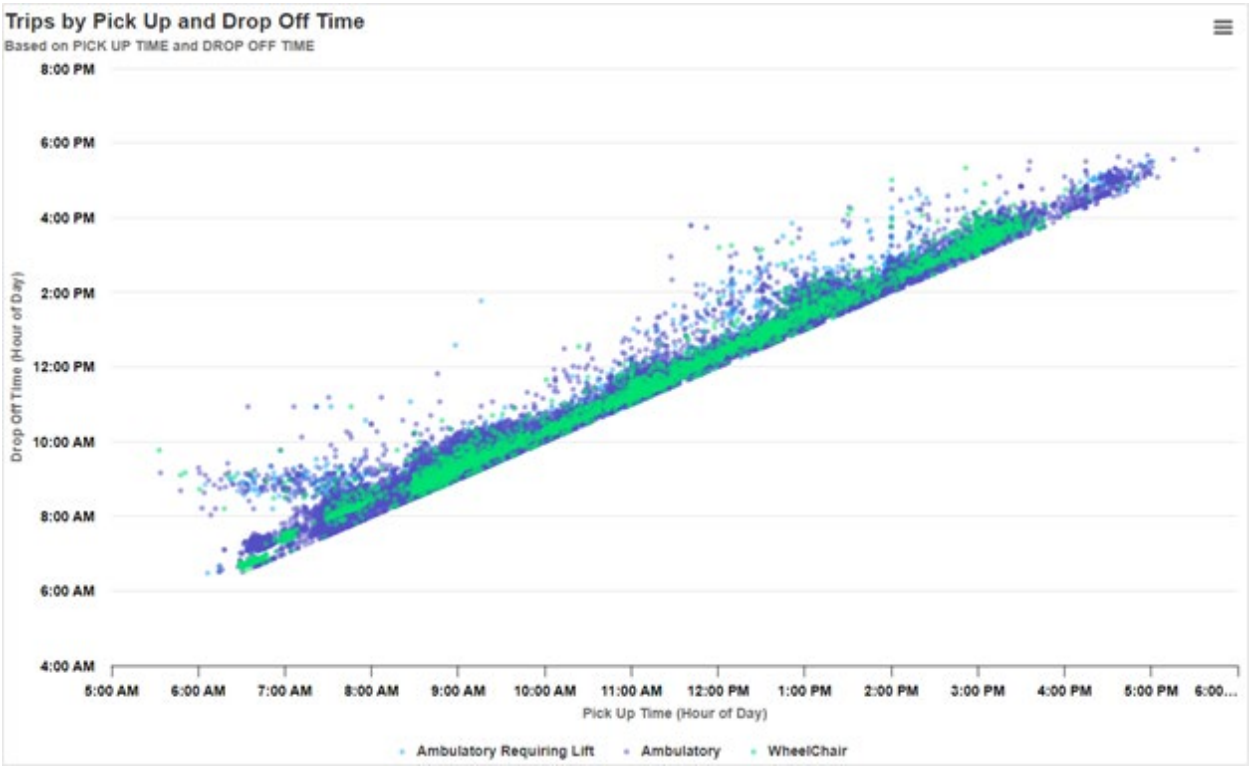
In fact, time-series analysis made possible with the disaggregated data collected through the test run extends beyond individual days, as each trip includes specific pick up and drop off times. This allows for even more granular analysis, such as understanding daily patterns and peak usage hours. One such analysis is charted below, which shows the distribution of trips throughout the year based on the hour they were either picked up or dropped off. Examining these hourly distributions facilitates the identification of trends such as rush hour peaks and nighttime usage patterns in trip timing.

Exhibit 15: Hendry County: Total Cumulative Annual Trips by Pick and Drop Off Hour (CTDdata.com)



Because the disaggregated data collected contains a record of every individual trip, any analysis constructed from it can drill down all the way to the level of an individual trip. The scatter plot below is yet another type of time series analysis showing the distribution of trips throughout the year based on pick up and drop off times. Instead of being aggregated into annual totals, however, this scatter plot presents a visual representation of each individual trip provided over the course of the year according to their respective pick up and drop off times. Additionally, the scatter plot distinguishes trips by the mode of transportation used (Ambulatory Requiring Lift, Ambulatory, Wheelchair). Thus, it represents an analysis that combines three factors—Pick-Up Time, Drop-Off Time, and Mode of Transportation—providing a comprehensive view of the entire dataset on a per-trip basis.

Exhibit 16: Citrus County: Individual Trips Plotted by Pick Up and Drop Off Hour, Colored by Mode of Transportation (CTDdata.com)



Conclusion

Across state fiscal years 2022-2023 and 2023-2024, CTD has assessed its existing AOR and studied ways to improve the verifiability and usefulness of its data. These efforts have highlighted significant insights on enhancing the quality and utility of the data collected. The current AOR, while extensive in the breadth of information it gathers, remains limited in depth, particularly regarding transportation service data. This limitation, stemming from the highly summarized or aggregated format of the data, restricts both its verifiability and its analytical applicability.

The initiatives undertaken by CTD to understand and address these limitations have demonstrated promising results. The 2024 test run of disaggregated data collection via the CTDdata.com site illustrated the feasibility and advantages of collecting more granular data from CTCs. The detailed data collection enabled the construction of various analyses that were previously unattainable with aggregated data, thereby showcasing the enhanced analytical capacity and verifiability of disaggregated data.

Key findings from both studies include:

- **Enhanced Data Verifiability:** Disaggregated data allows for a more rigorous verification process, ensuring the accuracy of reported totals through an audit trail that is not possible with aggregated data.

- **Increased Analytical Depth:** The ability to analyze data at more granular levels facilitates more perspectives and deeper insights into transportation patterns, service utilization, and similar interests which can be critical for informed decision-making.
- **Secured Data Integrity:** By masking identifiable passenger information and implementing multiple security layers, the test run also demonstrated the feasibility of protecting sensitive data while maintaining its analytical value.

The successful implementation of these methodologies underscores the significance in transitioning from aggregated to disaggregated data collection in future AOR cycles. Such a shift will not only align with the statutory directives of CTD but also support the evolving needs of Florida's transportation disadvantaged systems. The adoption of detailed data collection practices will empower policymakers and stakeholders with precise, actionable insights, ultimately contributing to more effective transportation services for the disadvantaged populations of Florida.

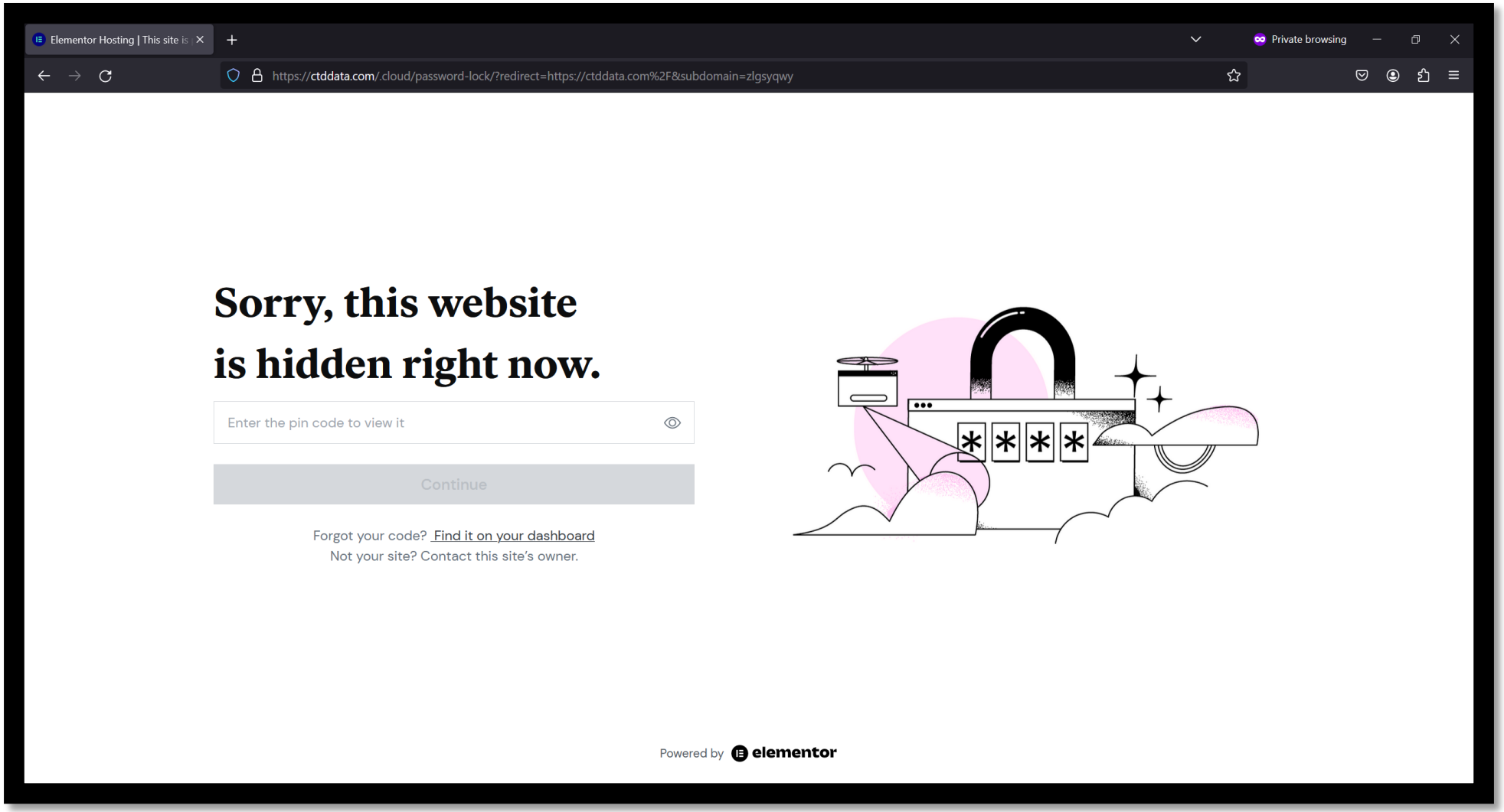
In conclusion, the findings and recommendations from this comprehensive study provide a clear roadmap for enhancing the AOR process. By embracing disaggregated data collection, the CTD can significantly improve the accuracy, reliability, and utility of the information used to evaluate and support Florida’s transportation disadvantaged systems.

Instructions for Official Test Run of Collection of Disaggregate Data for AOR

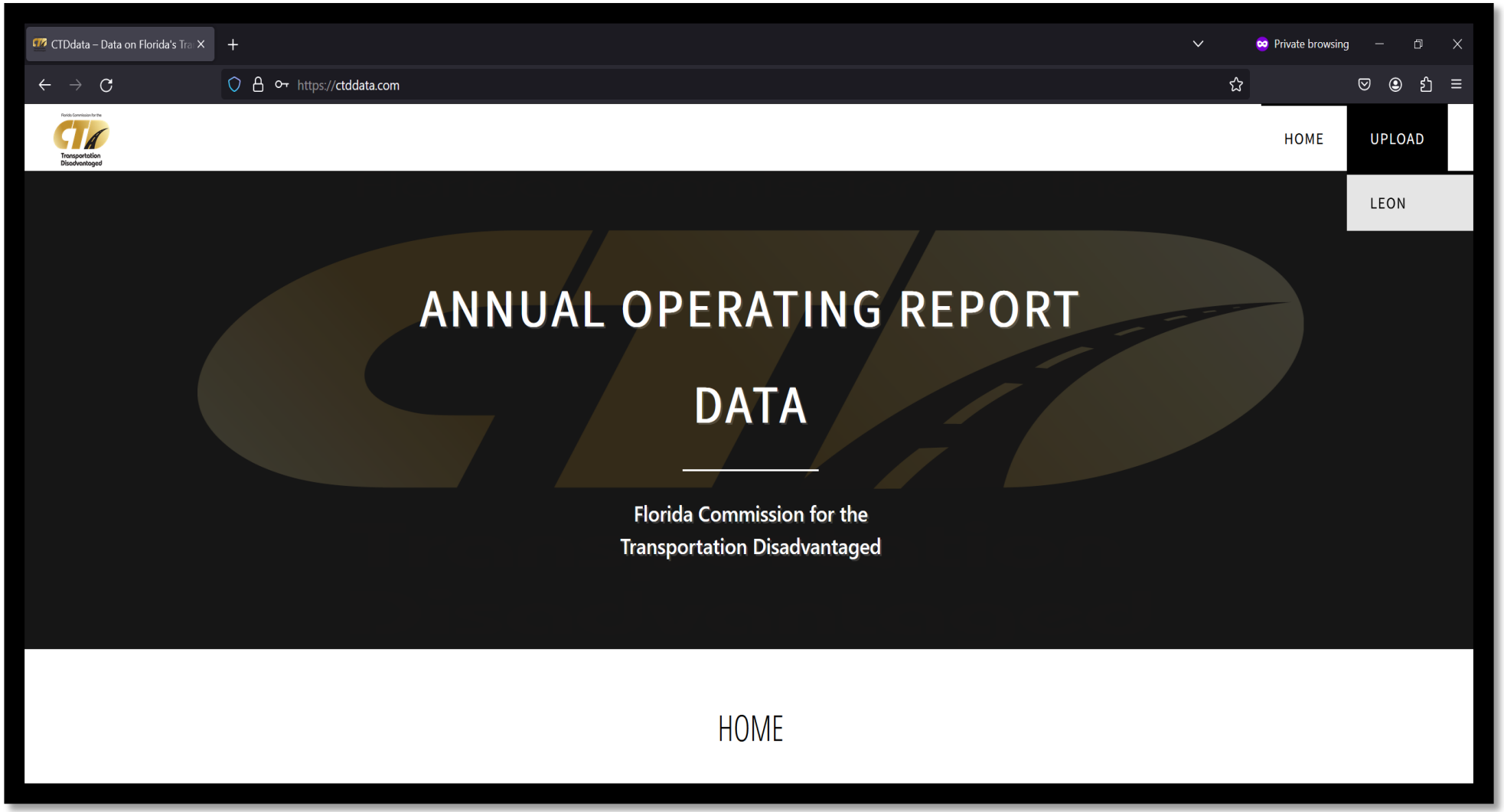
CTDdata.com

Enter Site PIN

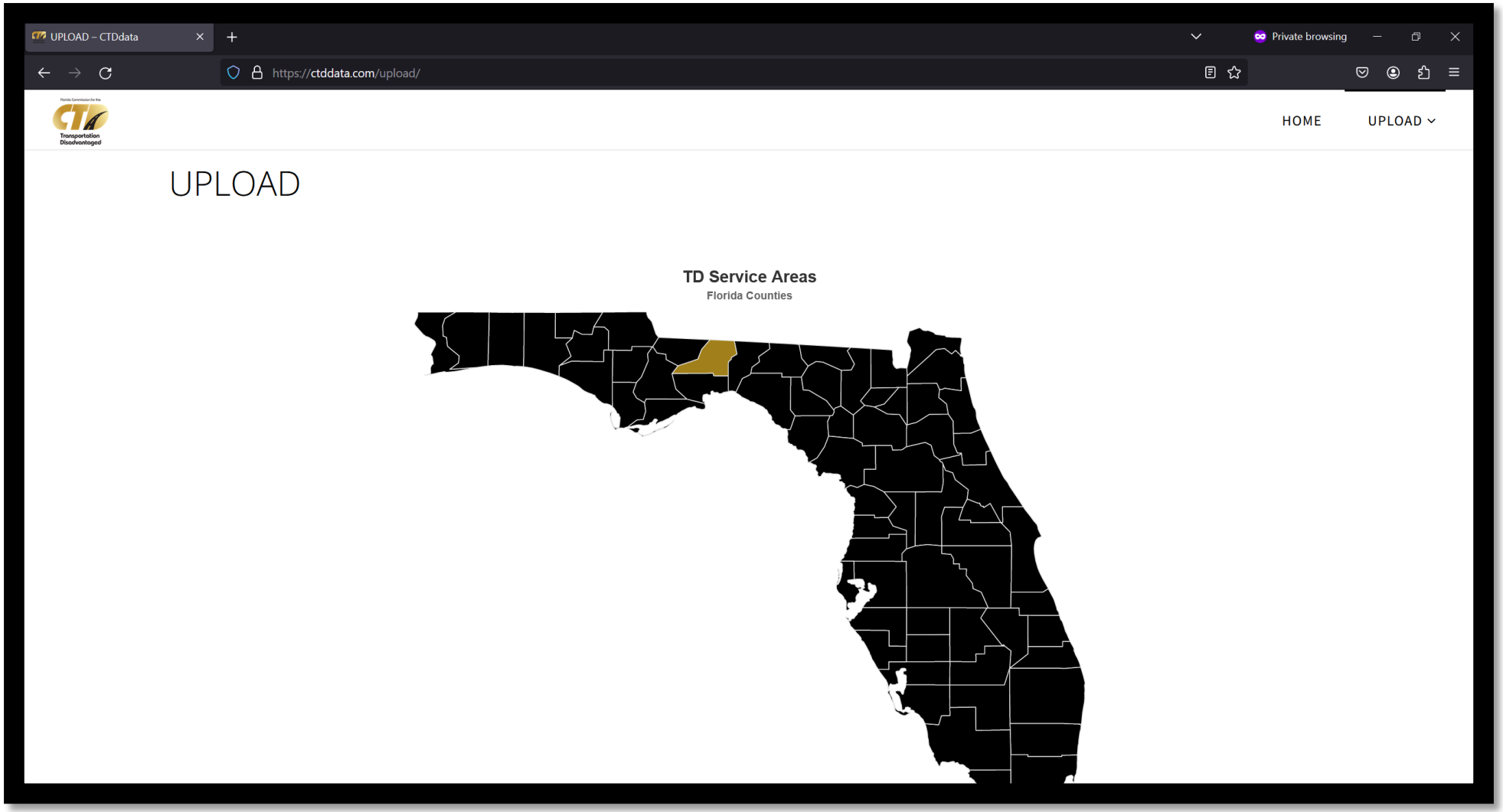
PIN provided by Thomas Howell Ferguson upon request



Find county under “UPLOAD”

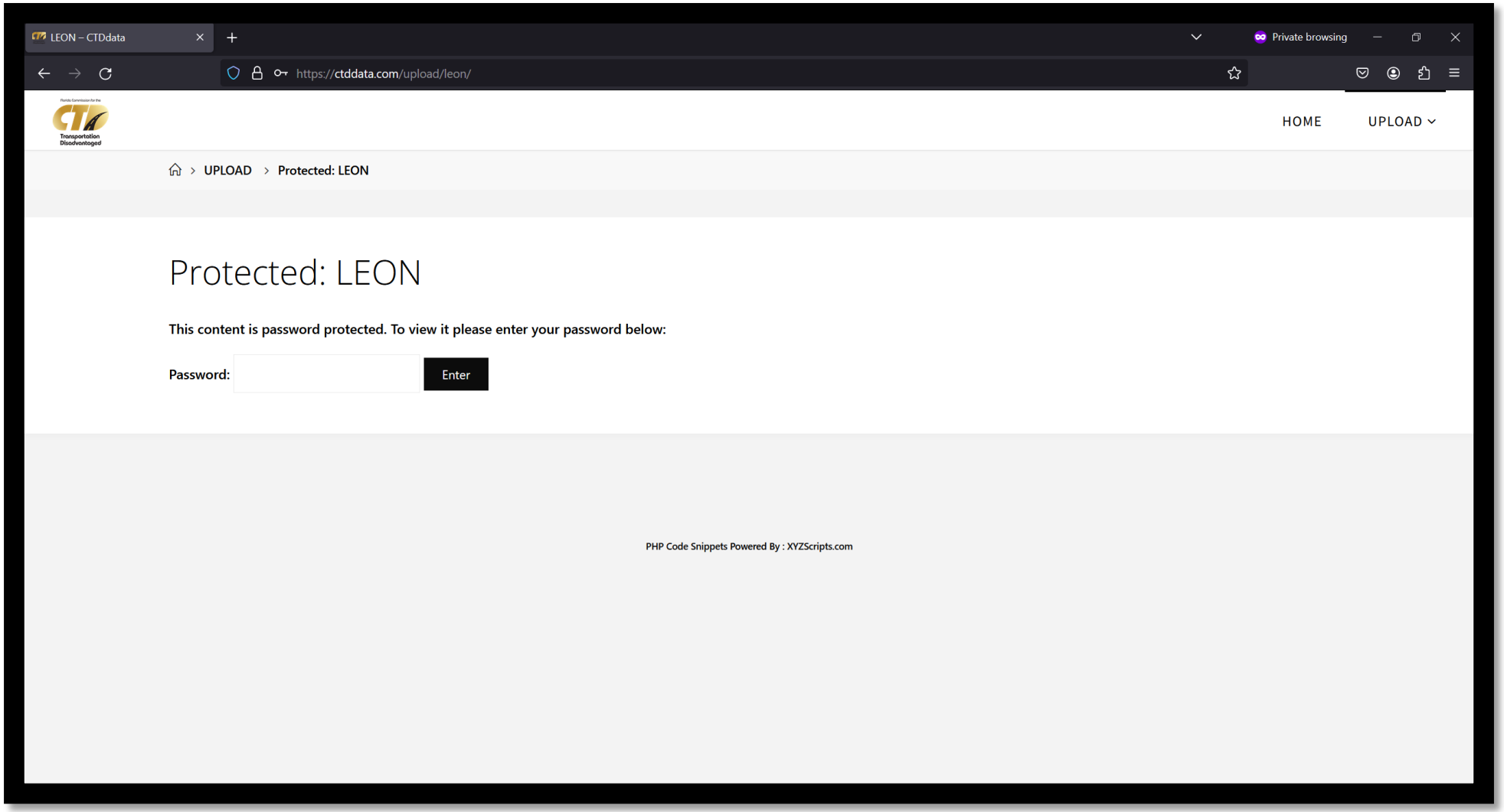


Or find county at UPLOAD page



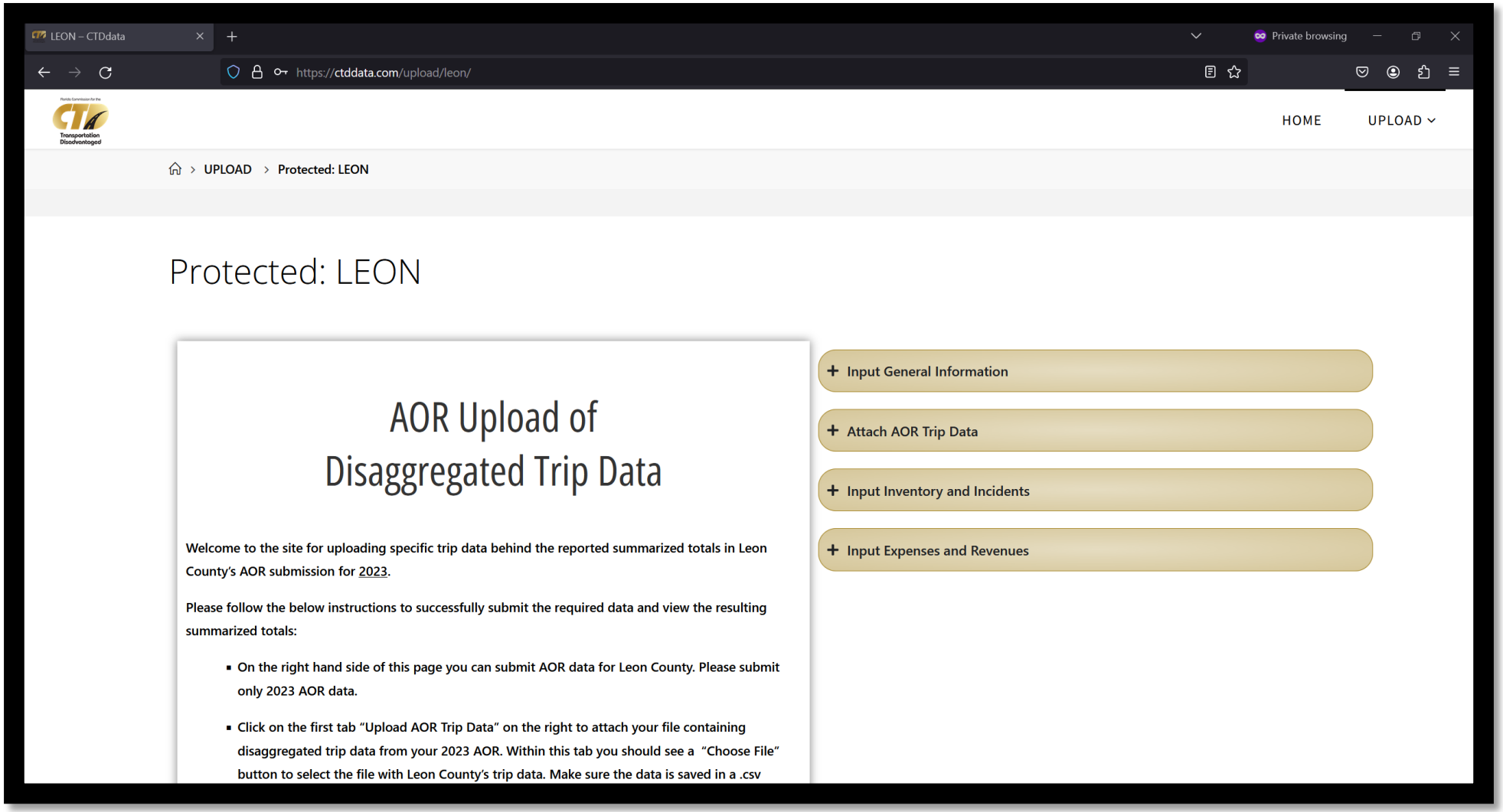
Enter county page password

Password provided by Thomas Howell Ferguson upon request



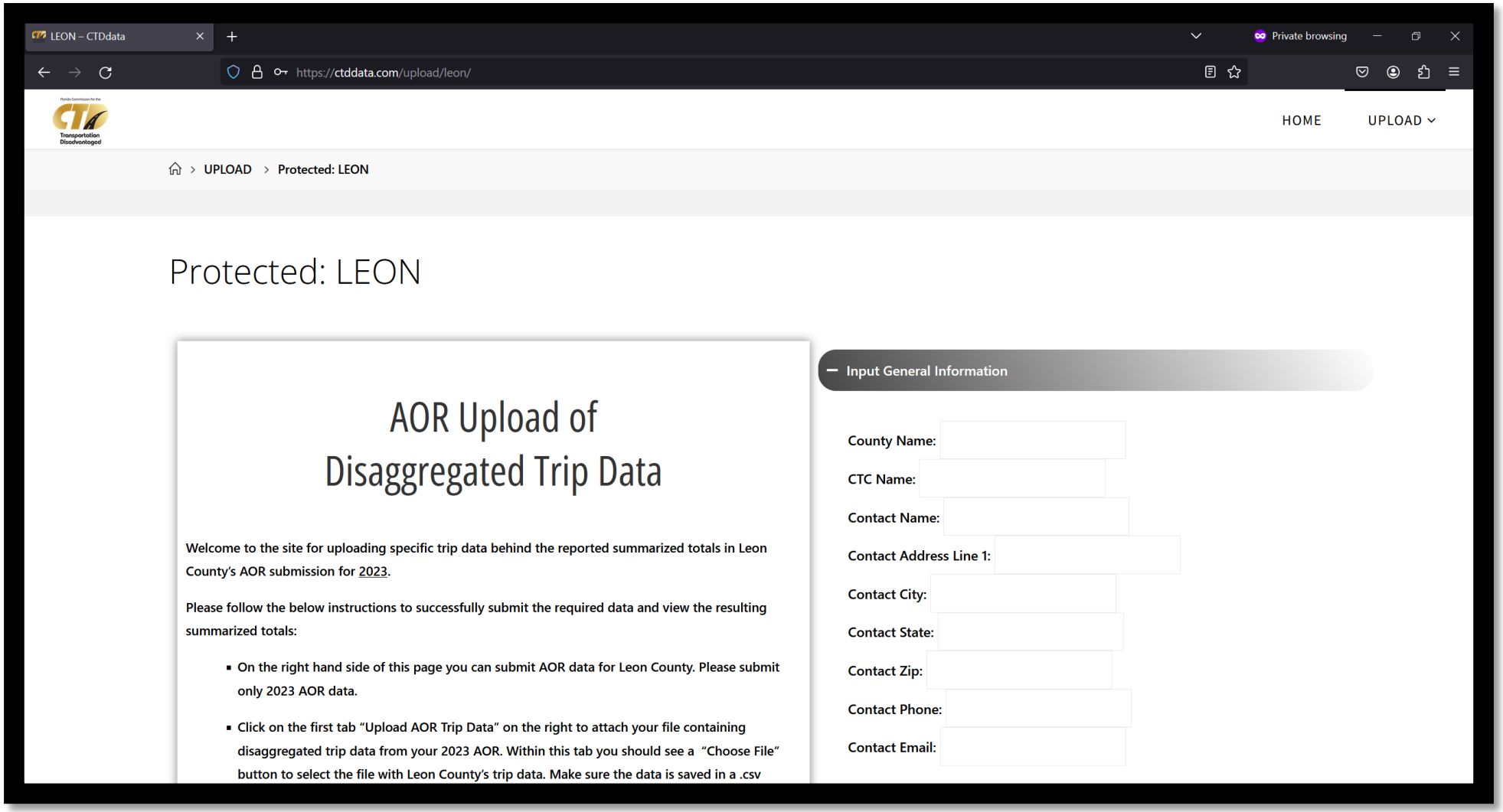
Instructions on left-hand side

Read through instructions first before entering information on right-hand side



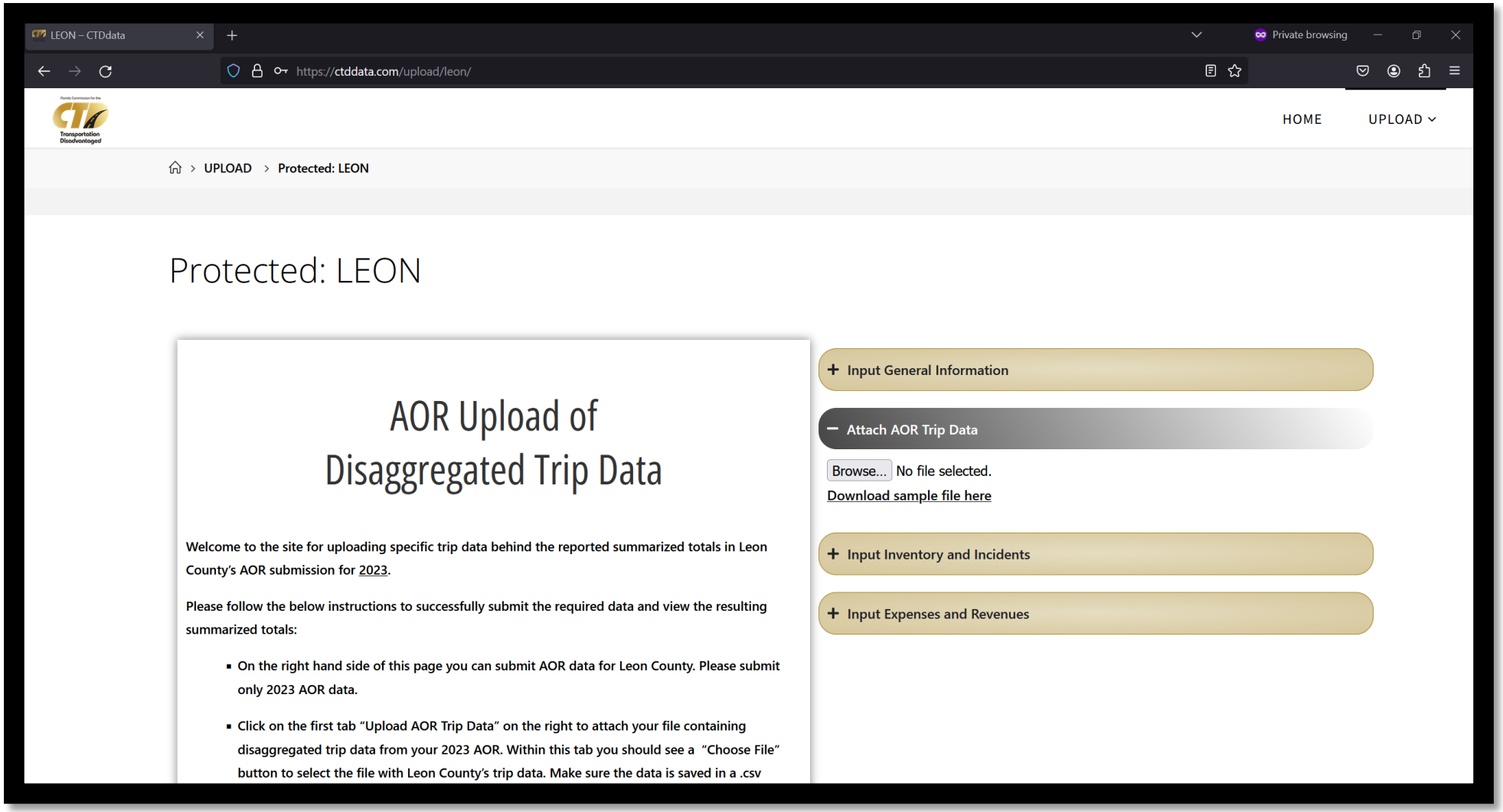
Input general information

Be sure to complete all fields or you will not be able to submit any data



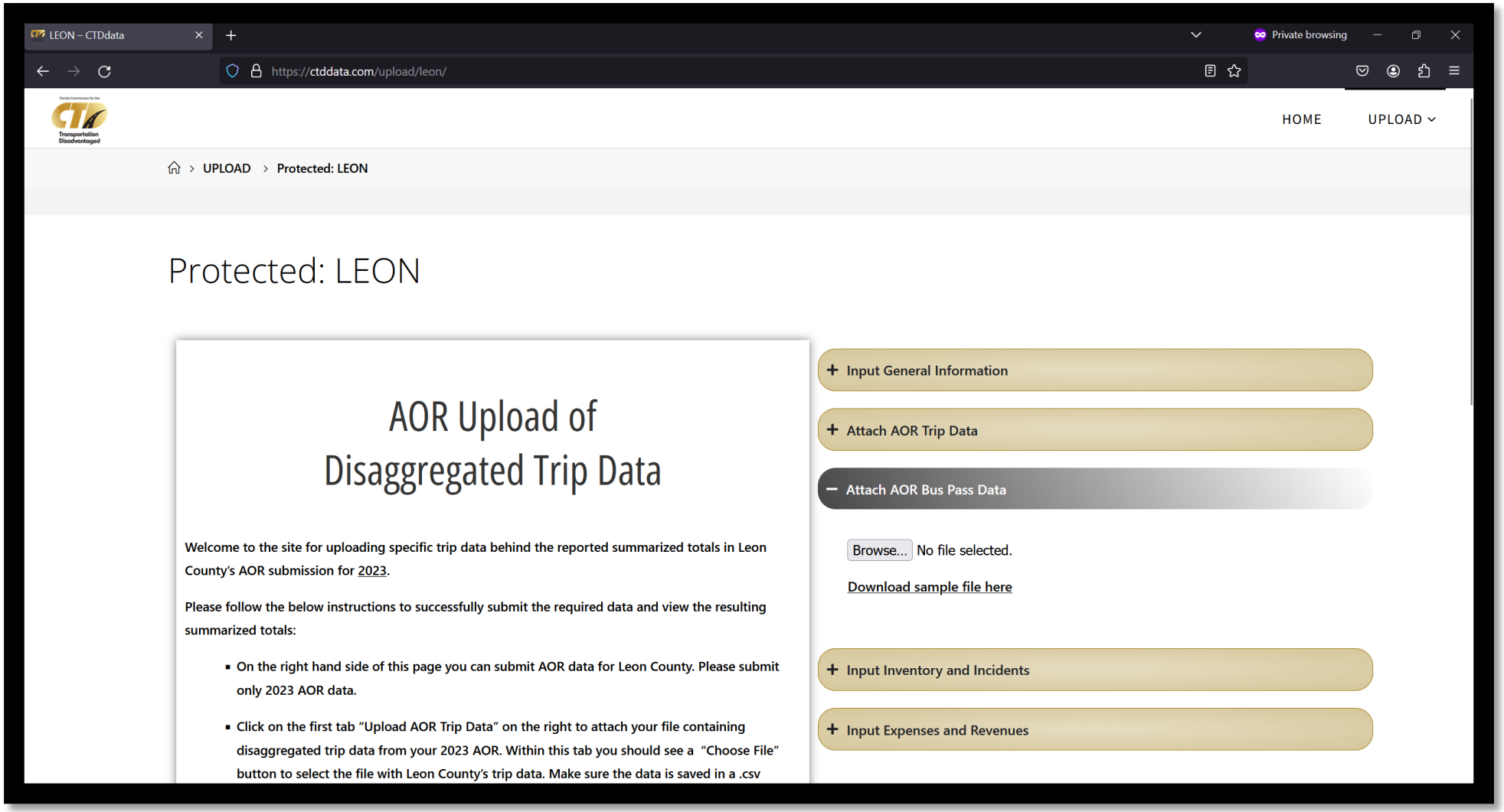
Attach CSV file of trip data

Be sure to attach a CSV file (not an Excel file) or you will not be able to submit any data



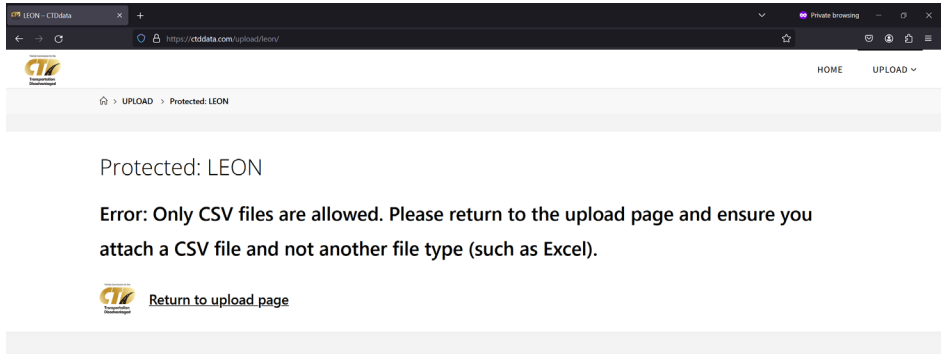
Attach CSV file of bus pass data

** This Bus Passes tab will only appear for applicable counties*



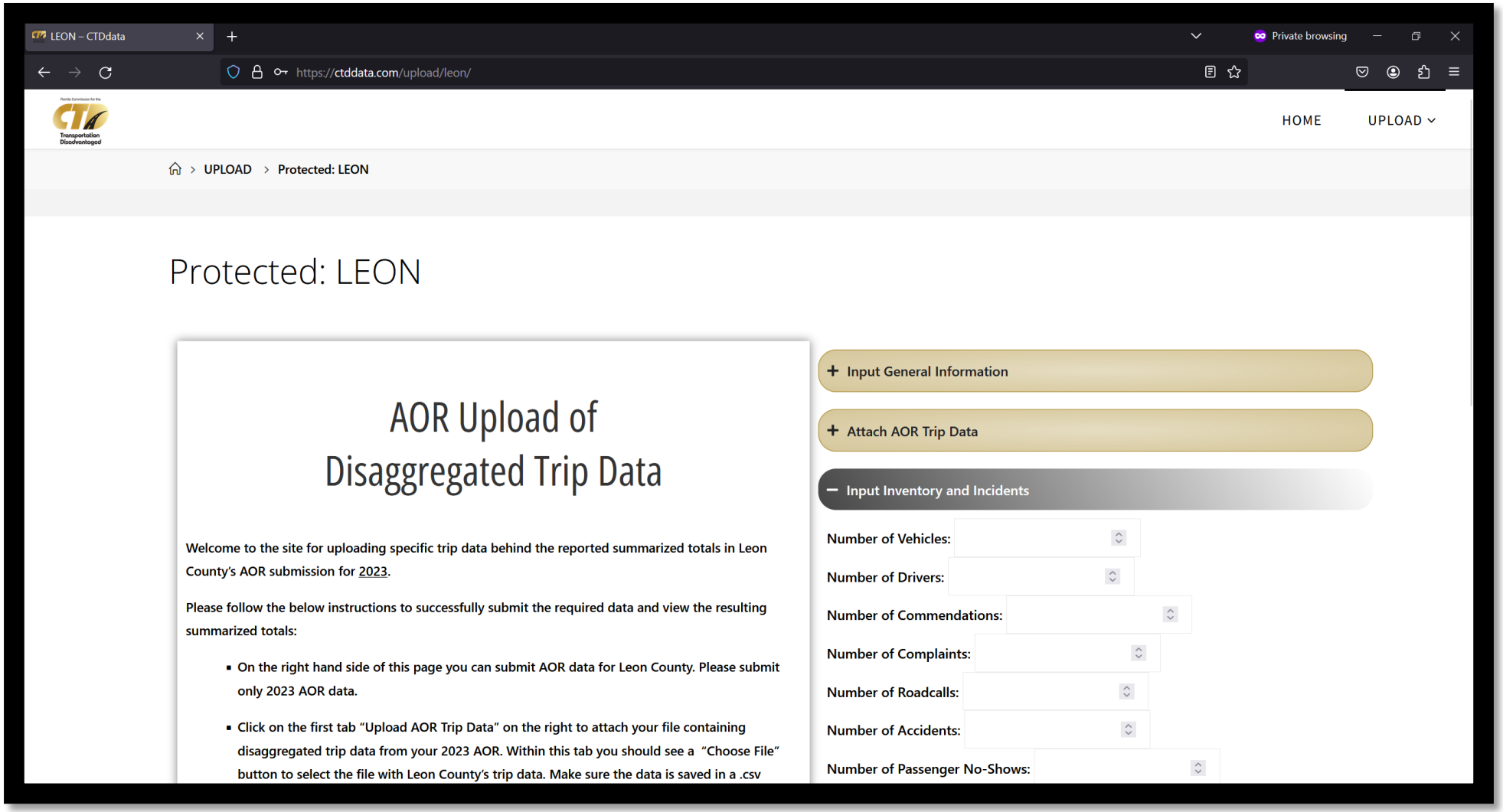
*Notes on CSV files

- **First, be sure you have attached a CSV file or you automatically will be redirected back to the start upon submission (see image right)**
- **Be sure your CSV file is in the same format as the sample file (that is, same columns)**
- **All distinct passenger names (2nd column) are automatically replaced with unique identifiers and are not saved. For example, if your file has three distinct passengers, their identities will show up in the submitted data as ‘Passenger 1’, ‘Passenger 2’, and ‘Passenger 3’ instead of their actual names.**



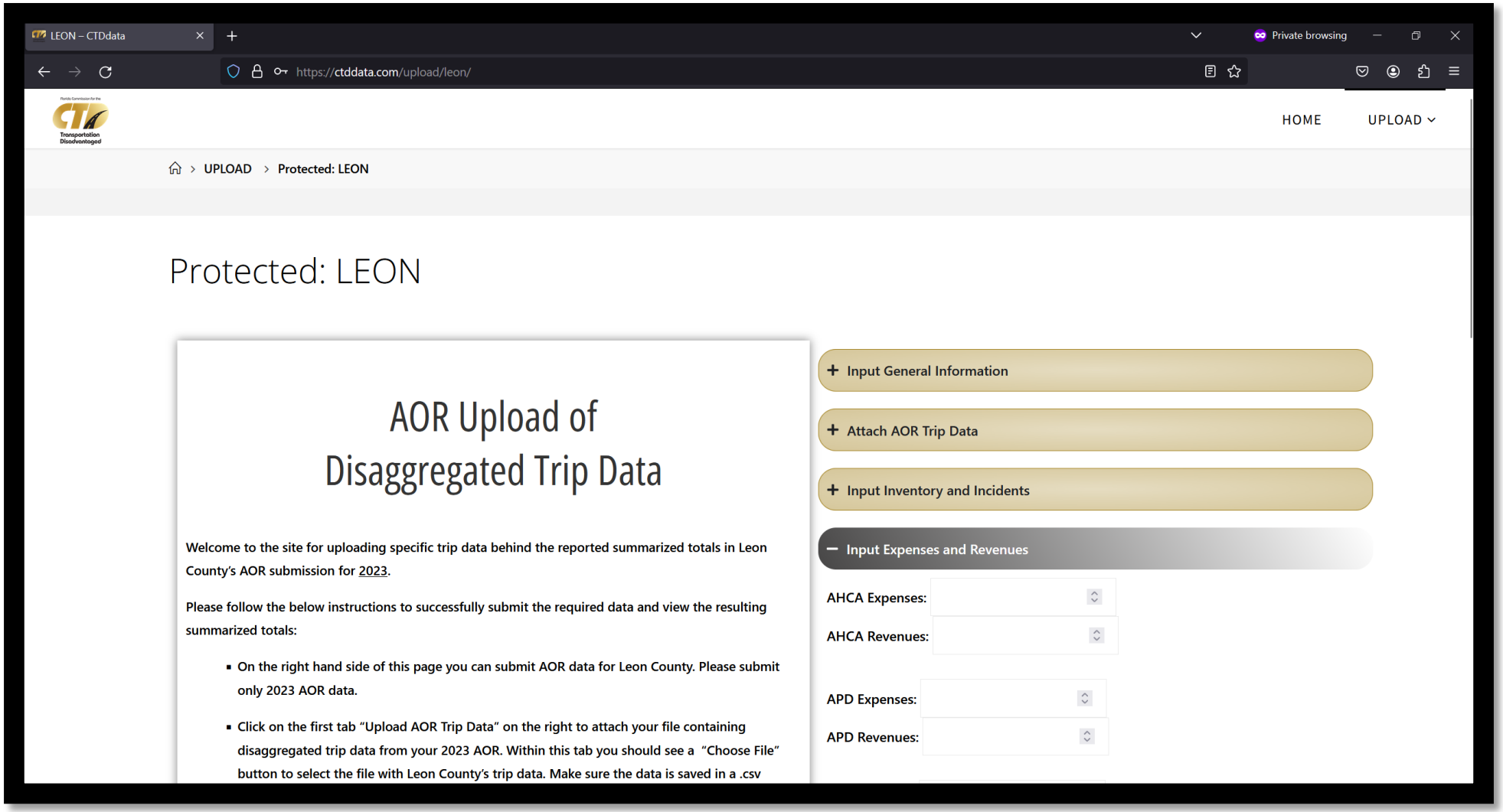
Input inventory and incidents

Be sure to complete all fields or you will not be able to submit any data



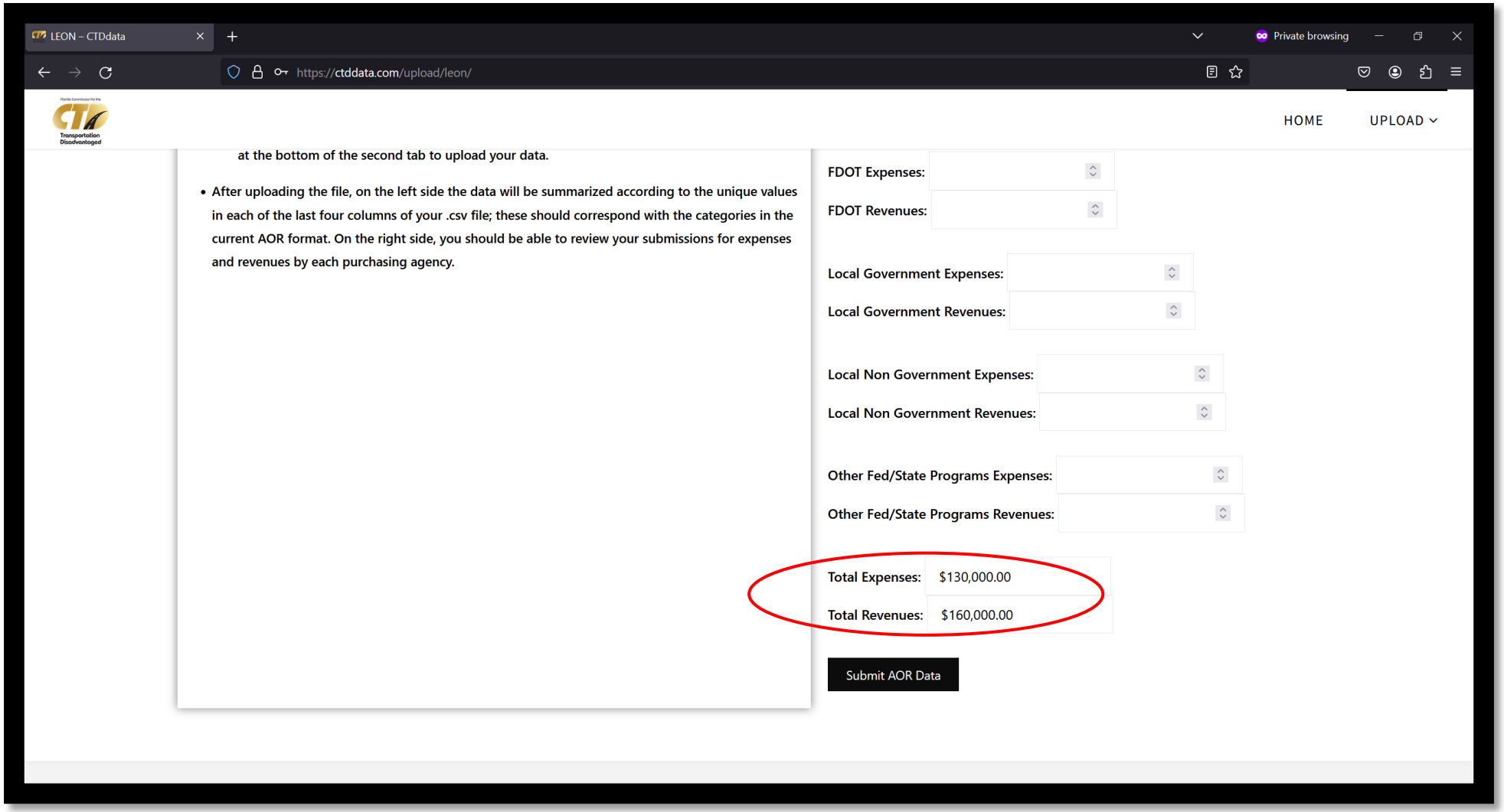
Input expenses and revenues

Be sure to complete all fields or you will not be able to submit any data



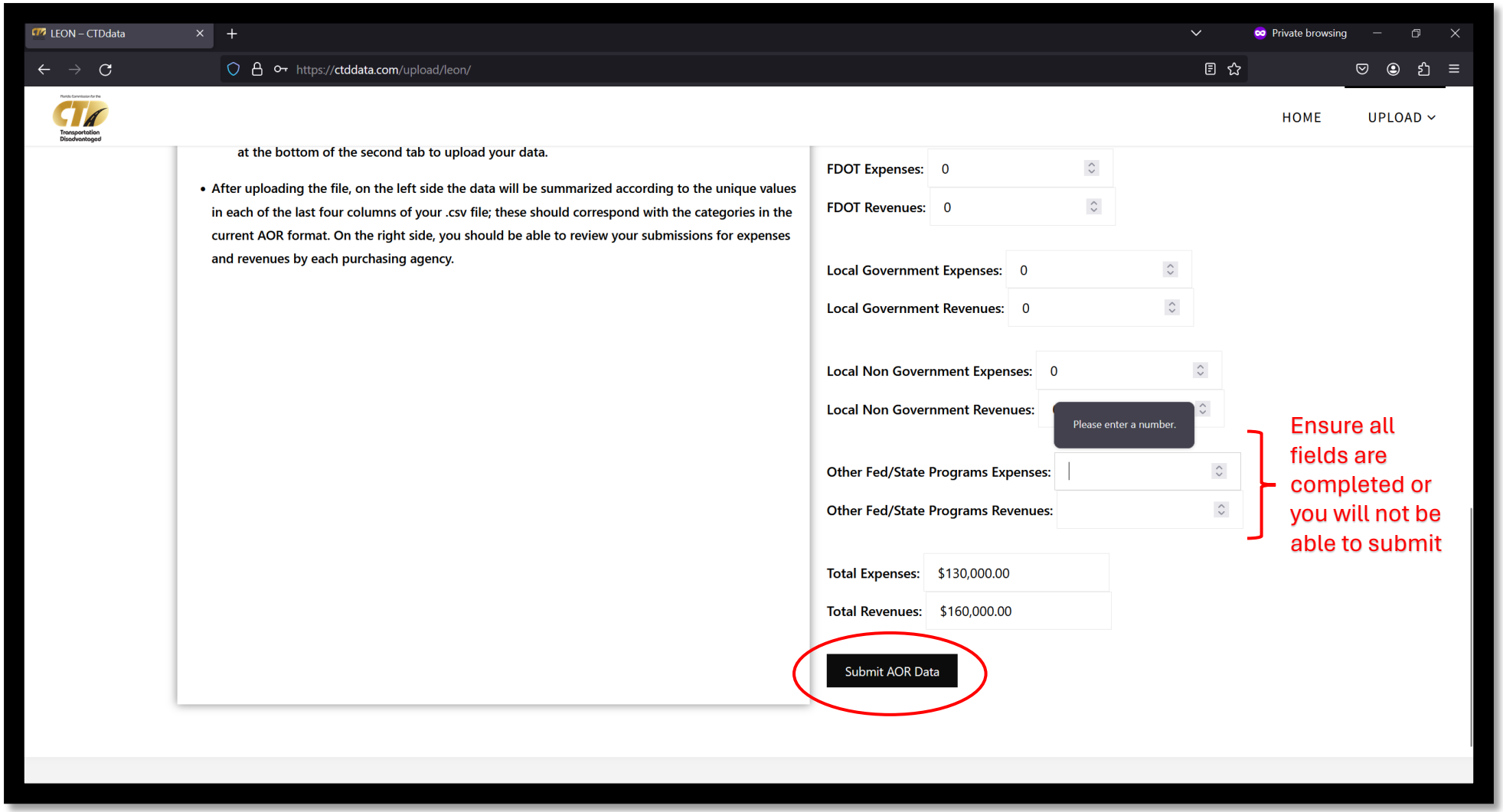
Make sure financials balance

Total expenses and total revenues automatically calculate



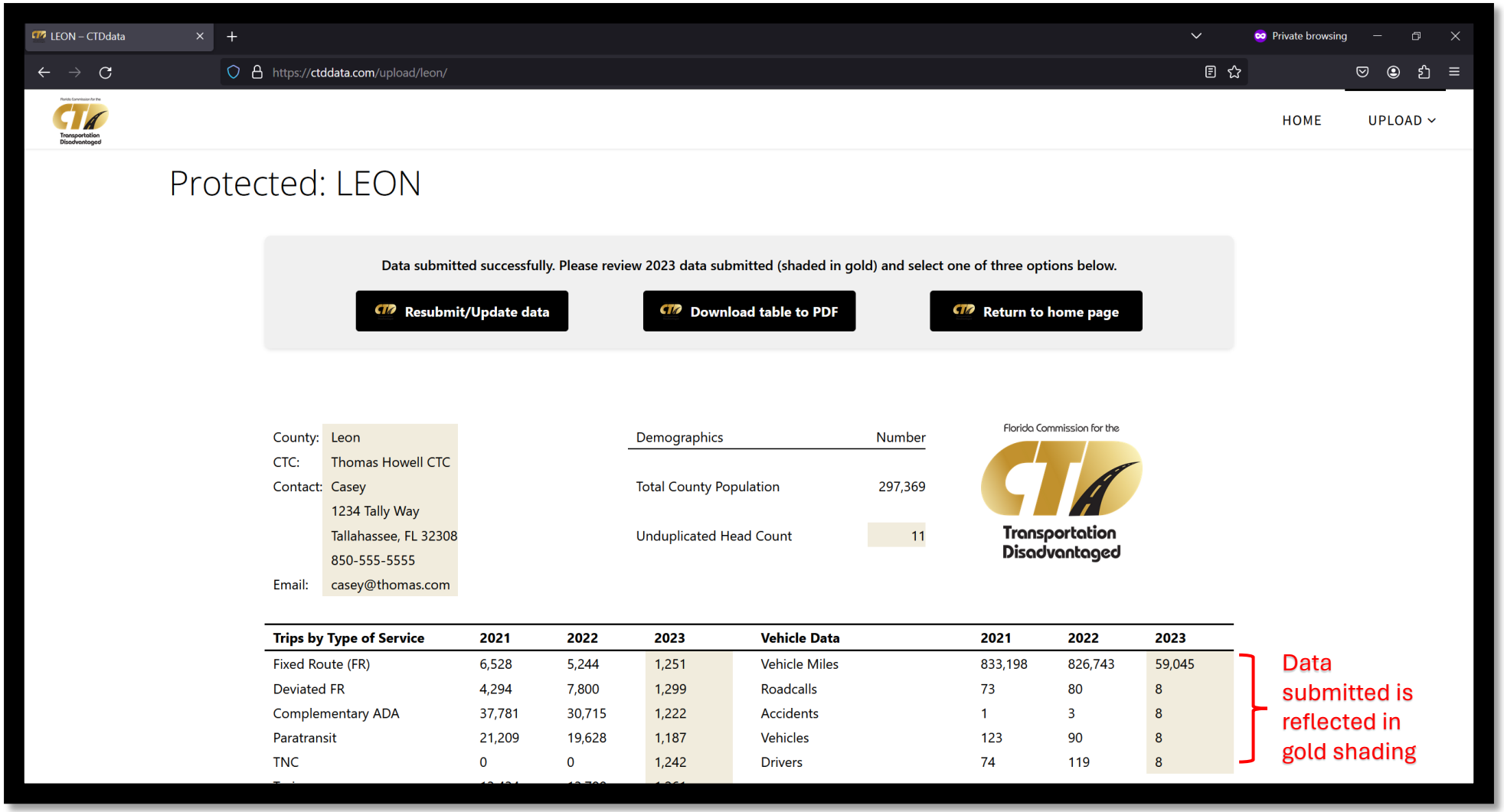
Click “Submit AOR Data”

Clicking this button submits information from all tabs - not just expenses and revenues



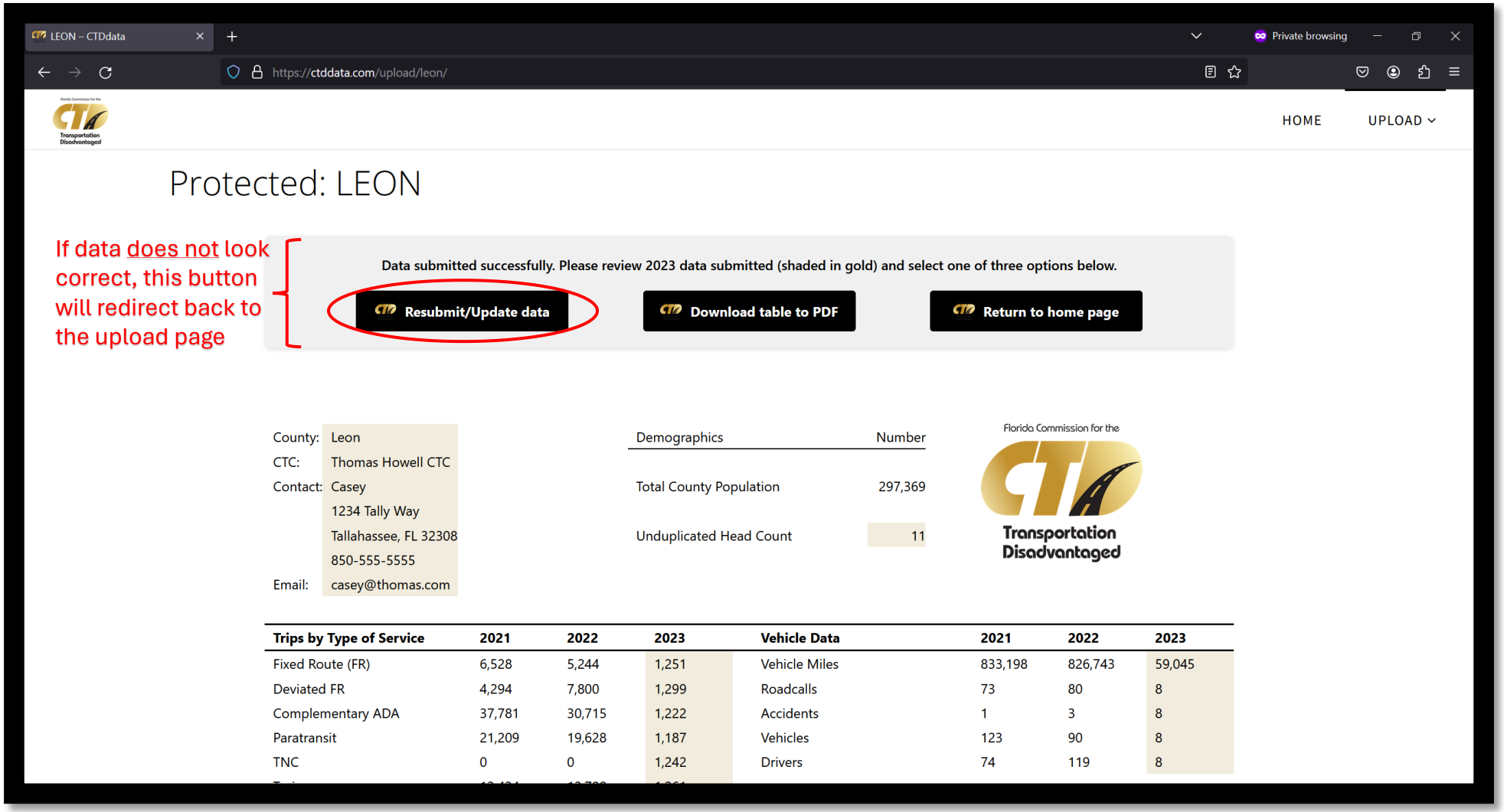
Review submission

Specifically, review information shaded in gold



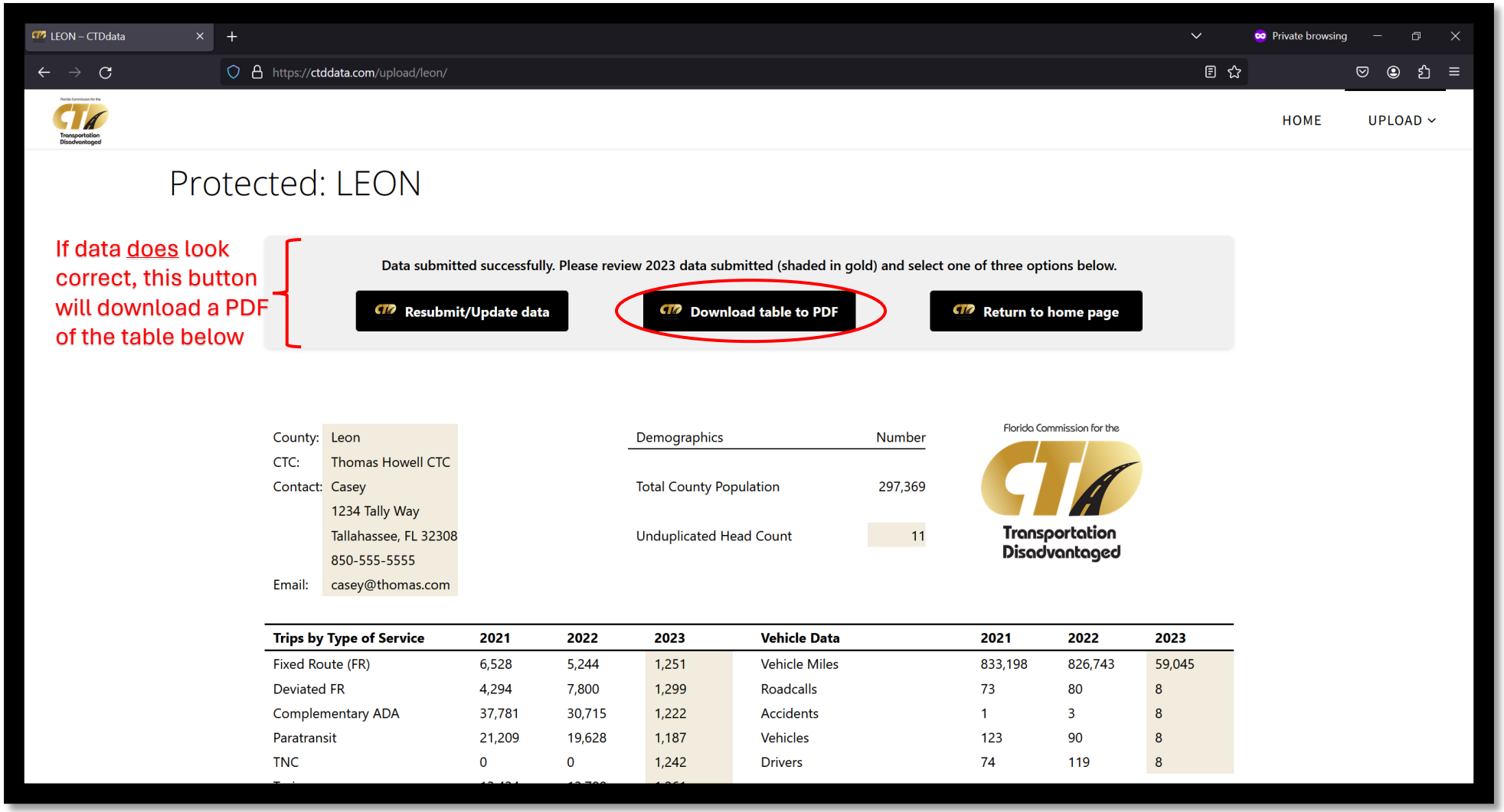
Select to resubmit data…or…

Data can be resubmitted as many times as needed, but all previously submitted data is deleted upon each resubmission



...select to download table...or

PDF copy should open in a new tab or download to your "Downloads" folder



...select to return to home page

Or you can simply leave the site