# RIO TRANSPARENCY FRAMEWORK

2021

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Urban Analytics and Human- Centered Decision Making

**PLAN6941** 

Fall 2021

#### Table of Contents

```
Executive Summary -- Page 3
Section I -- Page 4
Section II -- Page 5
Section III -- Page 6
Section IV -- Page 7
Section V -- Page 13
```



#### **Executive Summary**

This project represents a concerted three-month long effort to equip Rio de Janeiro's government with the practical technological tools to foster a culture of transparency in their government. Through interviews with key stakeholders, robust analysis of Rio's cultural context, and case study review, the Rio team developed an expertise in human-centered technology, and artfully deployed it to develop an interoperable product for the municipality.

With the dashboard prototype designed by the Columbia student team, Rio can seamlessly deploy a platform to simplify data collection for agency-wide information sharing process. The dashboard provides interactive incentivization and transparency tools to foster better agency-wide decision making. Not only have we provided the platform, but we have outlined a detailed implementation strategy and designed a user guide to ensure that Rio can deploy this product with minimal friction.

#### Section I: Background

Rio de Janeiro's government is eager to improve its public governance processes. In recent years, municipalities and government agencies across the world have incorporated data and technology to improve their planning and policy practices. Drawing from these best practices and tools, Rio de Janeiro will implement new public administration strategies that strive towards a more open government that facilitates collaboration and transparency with citizens. However, the Municipal Public Administration requires guidance to dictate innovations that will optimize the efficiency of its operations. With this guidance, Rio will achieve greater transparency, efficiency, agileness, innovation, integration. Therefore, the increase in accessibility will serve both the internal administration of the municipality, as well as the Rio de Janeiro population.

One of the biggest challenges of the current administration is the implementation of transparency and governance policies with their current technological tools that help them achieve their transparency goals. To help address this situation and contribute to the Public Integrity and Transparency Program of Rio de Janeiro, we aim to deliver a set of indicators, interactive visualization tools and incentivization policies so employees can collectively contribute to a more democratic municipal management culture. These guidelines will be tethered by the principles of transparency, efficiency, respect and dialogue, with a robust focus on citizen participation and engagement.

The dashboard solution will assist the municipality in achieving greater transparency within the Municipal Public Administration. By proposing a dashboard with well-designed parameters that utilizes technology to automate filling and incorporating automatic reminders, we expect to increase compliance with the city's transparency policy. The dashboard can be both an effective public management tool and help foster the development of a culture of transparency and integrity in public administration. It can also potentialy serve as a tool for citizen participation and oversight of Rio de Janeiro's public activities.

The project offers an intervention to move many of SDGS forward, through local development with global implications. By improving transparency in Rio de Janeiro, the country will strengthen the means of implementation fostering new urban projects as well as the possibility to revitalize the necessary global partnership for sustainable development. Transparency, related to the fundamental right of access to information, is one of the pillars of contemporary democracies. Its main objective is to open the information of public organizationtions to all people, promoting a closer state system, generating new spaces for participation, and improving the demands of accountability of public management. Open government is a hallmark of contemporary democratic practice, key for renewing citizens' relationships with public officials and regaining their trust in government.

#### Section II: Goals

When undertaking this project, our group determined several goals to underpin our deliverable. Through communication and consultation with our client, ITS & SEGOVI, policy experts like Mohammed Zia, and our Professor André Corrêa d'Almeida, we set forth several goals.

Our primary goal is to harness data to increase the transparency of Rio's government. This goal is embodied by the creation of a clear transparency index, guidelines for practice, and recommendations for implementation. The index we produce will not only ensure that Rio complies with relevant national laws and guidelines, but improve the integrity and effectiveness of their government.

When designing the dashboard and its accompanying guidelines, we grounded our methodology on logic and implementability. We considered Rio's resources, including the number of staff, their income and time dedicated to other projects. In addition, we considered the political landscape of Rio to best understand the political appetite for this transparency index in the long-term.

Based on our analysis, we determined that this dashboard must be user friendly, inexpensive to implement, and serve a bipartisan purpose. When developing a project in a democratic political environment, securing funding is a perpetual and highly contested endeavor. Given that administrations change, we intend to secure the future of this project by demonstrating our product's value to the municipality and its minimal maintenance cost.

When leaders can access information quickly and clearly, governments can establish a precedent and culture of transparency and information-sharing. Our internal dashboard will equip city employees with the data to inform their decision, and also assuage the impact of siloed decision making. By displaying rates of compliance agency-wide, we expect that Rio will experience a cultural shift facilitated by incentives towards compliance, trust and transparency.

- Offer a platform simplifies the collection of data
- Minimize the effects of agency silos by creating an interface where employees can access agency-wide information
- Provide the tools for better decision-making
- Cultivate a culture of compliance and transparency
- Reduce wasteful spending

#### Section III: Methodology

Our methodology began by taking a close look at three main case studies to inform our design and framework of the Rio Dashboard. While many countries have engaged in transparency initiatives, we engaged Mohammed Zia to determine which case studies were the most relevant to our case study. The Andhra P<sup>Page 7</sup> India, Mexico state government, and the Singapore state government mented a dashboard that we analyzed in closer detail.

We paid attention to the sociopolitical context of the case studies, the platform/ dashboard design, and the process support in which the dashboard was implemented and managed. This consisted of investigating the types of data that were collected, the transparency framework governance structure, the user design elements of the dashboards,

In 2018, the government of Brazil issued the Brazilian General Data Protection Law, a statute passed to present a unified policy towards data governance. Importantly, the law clarifies definitions of data, presenting clearly defined categories for parameters like sensitive data, sensitive personal data, and anonymized data. Perhaps most relevant for the Rio case, the law offers a definition of transparency. According to the law, the Rio municipality will attain transparency when data subjects receive clear, precise and easily accessible information regarding data processing procedures. Other guidelines pertinent to the Rio case include requirements to ensure data systems.

#### Section IV: Solutions

#### 4.1.1 Dashboard Elements

#### From Singapore Case Study

- Control Panel
- Search Bar
- Monitoring data displayed as visualizations

#### From India Case Study

- Citizen Charter/Service Hand Book: the india dashboard uses this function to integrate all the services provided by the government with specific fees, time cost and application process. Citizens can freely search the services they need and download the form needed to apply for the services.
- Search Bar not only for data, also for service application status
- Media Releases: put all the government-related media link together

#### From Mexico Case Study

- Dashboard monitoring subnational interconnection including normaticity, infrastructure, human capital, mapping and data management, and development of communication mechanism
- Dashboard displayed as line bars, maps, list of icons
- Technical support: a open source library with easy to replicate tools and API to help states contribute data

#### 4.1.2 Decision-Making and Interaction Support

From Singapore Case Study
The Singapore case study successfully
visualized data that is easily accessed and
exported. High searchability functions, including search bars within the main home
page and within the sub pages. This

This dashboard pioneer user engagement and interaction support. There were three separate pages—"Developer Guide," "Blog," and "Data Request"— that were designed to reduce barriers to dashboard use and encourage diverse data engagement purposes.

#### From India Case Study

The India case incorporates citizen engagement and feedback through real-time complaint tracking systems. Citizens can either access the online portal through the citizen service center to report their issues or download the app to geo-tag pictures of service delivery problems. Also, the user can track the status of their complaints at any time through a website or smartphone. Through the complaint system, the city manager can make data-driven decisions based on the problem proposed.

#### From Mexico Case Study Mexico has 32 states, and

Mexico has 32 states, and obtaining high quality from all of those states is difficult. To evaluate the progress of each state's commitment to open data. The National Anti-corruption System Secretariat (SESNA) has created a dashboard embedded in the National Digital Platform (PDN) to monitor the contribution of anti corruption data of each state and to illustrate where success had been achieved and where more progress was needed. Convenient tools such as an open source library associated with API, systems, and documents have also been created to help users upload, search and download data.

Data.gov.sg. "Data.Gov.Sg." Accessed November 19, 2021. https://data.gov.sg/.

#### 4.1.3 Institutional structure

The Global Smart Cities Alliance policy roadmap informed the recommended institutional structure of the Rio transparency framework. We recommend at least one or two staff members with job descriptions that are dedicated to the stewardship of the transparency dashboard. As the dashboard scales up, a "City Data Team" may be considered that will have multiple members including a Chief Technology Officer.

#### From Singapore Case Study

The Singapore case study collects from over 70 agencies. Each agency contributed about an even amount of contribution

#### From India Case Study

To advance the smart governance transformation, the DataSmart Cities Strategy requires that each city designates one city data officer (CDO) to take charge of the city governance and formulate the city data policy. The CDO is supported by a pool of data champions and coordinators in various city departments and governance agencies. The CDO is also mandated to establish a city data office that functions as the city-level data analytics and managing skilled staff. Besides, each city is recommended to form the city data alliances to create data-led partnerships with citizen, industry and academia stakeholders. The similar institutional structure is also set at national and state level. These structures at the three levels of government are non-hierarchical and intended to complement each other. means for the exchange of government anti-corruption data. Each state also has its local subnational anti-corruption system secretariat responsible for open data related and coordination work.

The implementation of PDN has policy support as well. The normative framework of the PDN is composed of the General Law of the National Anticorruption System (LGSNA), the General Law of Administrative Responsibilities (LGSNA) and the Bases for the Operation of the National Digital Platform.

#### From Mexico Case Study

National Anti-corruption System Secretariat (SESNA) aims to provide technical support to the Coordinating Committee of the National Anticorruption System. It is responsible for coordinating the work at the local level as well as designing, promoting and evaluating the national anti corruption policy, and for managing the National Digital Platform (PDN), which is a means for the exchange of government anti-corruption data. Each state also has its local subnational anti-corruption system secretariat responsible for open data related and coordination work.

The implementation of PDN has policy support as well. The normative framework of the PDN is composed of the General Law of the National Anticorruption System (LGSNA), the General Law of Administrative Responsibilities (LGSNA) and the Bases for the Operation of the National Digital Platform.

"Open Data - GSCA V2." Accessed December 3, 2021. https://globalsmartcitiesalliance.org/?p=463.

#### 4.2 Incentives

For the incentivization and compliance for transparency, the framework operates on the basis of social engineering to promote transparency without explicitly trying to coerce the departments and of the municipal government to participate. This approach was taken largely due to the fact that the transparency dashboard will involve new tools and behaviors that employees will have to adopt, and social engineering and incentives are relatively low cost compared to financial or political benefits. Additionally, previous federal laws to promote transparency have not been as effective in the local context for Rio. Furthermore, looking into the culture of Brazil and consulting with ITS, many people in Brazil are less likely to comply with a rule if they are told to. Incentivizing transparency through social engineering will involve using the dashboard to create competition and cooperation pressures on employees and within departments to achieve the highest level of transparency that they can. In addition to this, social and cultural rewards will be given to employees and departments with high levels of transparency and motivation due to having something to gain. Brazil is a country with extremely high uses of social media such as Instagram and Whatsapp, and the rewards for transparency lean into this love and comfort with social media.



#### 4.2.1 Dashboard Incentivization Elements

- 1. Create links for social media sharing, which allows the municipality to share accomplishments in transparency and documents disclosure. The general public is more interested in figures rather than text. Therefore, it is recommended that accomplishment and achievement are displayed through images or graphs in the sharing social media.
- 2. Visualization of goals setting up appropriate goals improves performance and increases motivation.
- 3. Create a section that displays the progress of other agencies or the progress of the leading agency. Letting the participating agency know the performance of the others, especially the well-performing ones, will raise the expectation of the participating agency. It also creates pressure for the agency to keep up with others.
- 4. Create a ranking system that evaluates performance.
- 5. In this ranking system, high scores(high ranking) will be assigned to each participating agency first, and scores(ranking) will be reduced when the agency has poor performance. This is based on a psychological effect called loss aversion. Research shows that people are more sensitive to losing something than acquiring the very same thing. Therefore, giving high scores(ranking) at the beginning motivates the agency to maintain the high scores they own.
- 6. Create the customized schedule and timeline page for each municipality. Add notifications feature to let the staff easily keep track of things.
- 7. Lists of different prizes, including tickets or coupons to things like early access to festivals, museums these prizes could be relating to goals accomplishment.
- 8. Conduct survey to collect data on desired rewards the more input from employees on the types of rewards they'll appreciate, the more effective your program will be.



#### 4.3 Proposal: Transparency Dashboard

Once exported, the 'Transparency Dashboard' prototype will be featured on the City Hall of Rio de Janeiro Prefeitura website for internal use. All 51 offices will internally participate in managing an individual user profile to add information related to SEGOVI's six priority transparency areas on behalf of their agency on a daily to weekly basis.

After every login, the user will be able to view their data entry progress, their agency's overall ranking, the amount of points and potential rewards earned, and visuals on how to improve their ranking to comply with the transparency requirements. The remaining prototype was modeled after SEGOVI's public agenda transparency indicators such as:

- Active events
- Secret events
- Cancelled events
- Says without agenda
- Events registered after hours
- Days without complying with time rule
- Time established to make the appointment available in the Agenda correctly

About four graphs (pie chart, progress pie chart, and double line and bar graph) were chosen to alternatively measure and visualize the indicators to make users comprehend their progress over time. Additionally, calendar and drop-down features were added to display reminders about municipal events and meetings, invitees, and an attachment button to quickly add meeting agendas. Doing this, allows for any internal employee to view past and future meetings of other offices, and to interact with the municipality's compliance requirements through the colored icons. Finally, notifications, reminders inbox, report error form, and FAQ will be additional features to the dashboard to troubleshoot any questions or concerns from employees.

The prototype interface was created through an industry standard application called Figma. Figma was chosen due to it's Inspector and Plugin features that will generate design elements into code for Android (XML), iOs (Swift), Web (CSS), and HTML options without the need for a third party software. Since the team had limited time and experience, the team made sure to thoroughly design every feature for a software engineer to create and code effortlessly into life for the SEGOVI team.

#### 4.3.1 Transparency Dashboard Prototype

The prototype pages of the Transparency Dashboard are shown in the attached appnedix, with instructions pop-up bubbles along the side. These instructions pop-up bubbles should appear next to relevant sections when a user hovers their mouse over it on a live website page. Elements of the Transparency Dashboard prototype are informed by the Case Study and Incentive Framework section of this report. All works are original to the Columbia Students team.

Page 12

# Part V: Appendix





**Employee Login** 

# Transparency Dashboard Search Municipal Body



**Public Agendas** 



Contract





Purchase & Biddings



**Public Construction** 





**Public Servant** 



Trips



A. The main landing page is the first page a user will see when accessing the transparency dashboard. The page includes a search function and icons of priority indicator groups. Employees of Rio will log in by clicking the login button in the upper right corner..

# **Welcome to Rio's Transparency Dashboard!**

#### **Employee Login**

Email \_\_\_\_\_

evelyn.riley@itsrio.org

Log in with your Rio municipal email.

Password \_\_\_\_\_

. . . . . . . . . . .

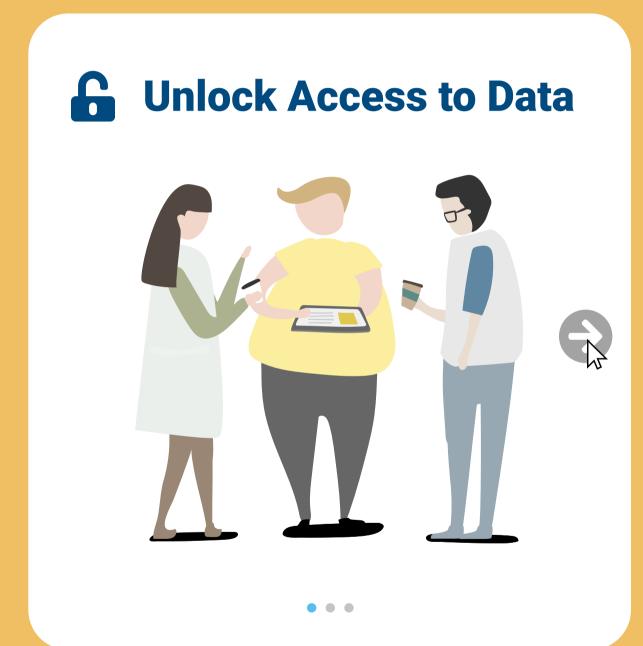
0

Remember me

Forget Password?

Sign In

# **First Time User?**



**Take the Tour** 

B. The login page allows city employees to log in with their city email. Users will also be offered a tour option if they want to learn more about utilizing the dashboard.

#### **Unlock Access to Data**

This is Rio's first comprehensive and interactive Transparency Dashboard. We are excited to have you here. The dashboard allows you to access data of all government bodies in Rio with a few simple searches/clicks. Take the Tour to see how you can access the data and add new information.

#### Take the Tour

If you want to learn about this dashboard, take this tour to explore the different pages and sections in Rio's Transparency dashboard.

# **Welcome to Rio's Transparency Dashboard!**

**Employee Login** 

**Email** 

evelyn.riley@itsrio.org

Log in with your Rio municipal email.

**Password** 

• • • • • • • • • • • • •

0

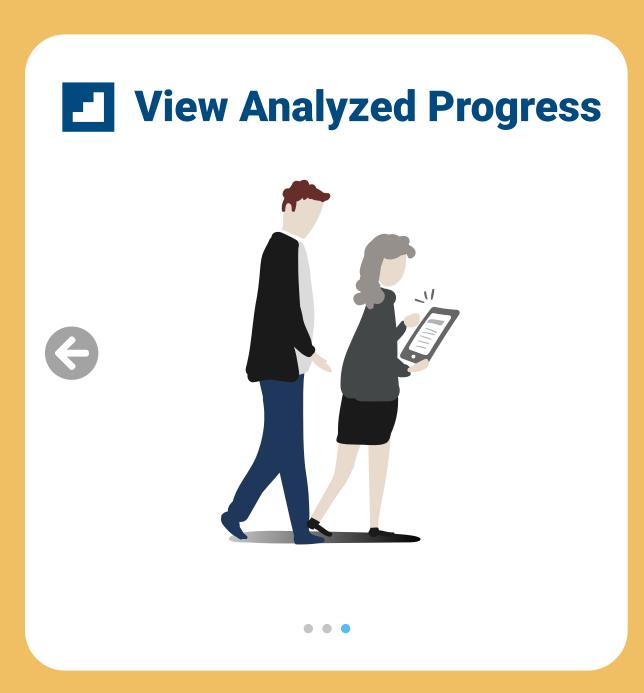
Remember me

Forget Password?

Sign In



### **First Time User?**



**Take the Tour** 

#### View Analyzed Progress

This dashboard will show you the progress of your belonged agency's transparency performance and your data entry progress. To view this analyzed progress, go to your **Profile** page. To view the overall performance of all Rio Bodies, go to the **Performance** page.

#### **Employee Login**

Use your email ending in @itsrio.org and the same password to log in and access the dashboard.

# **Welcome to Rio's Transparency Dashboard!**

#### **Employee Login**

Email \_\_\_\_\_

evelyn.riley@itsrio.org

Log in with your Rio municipal email.

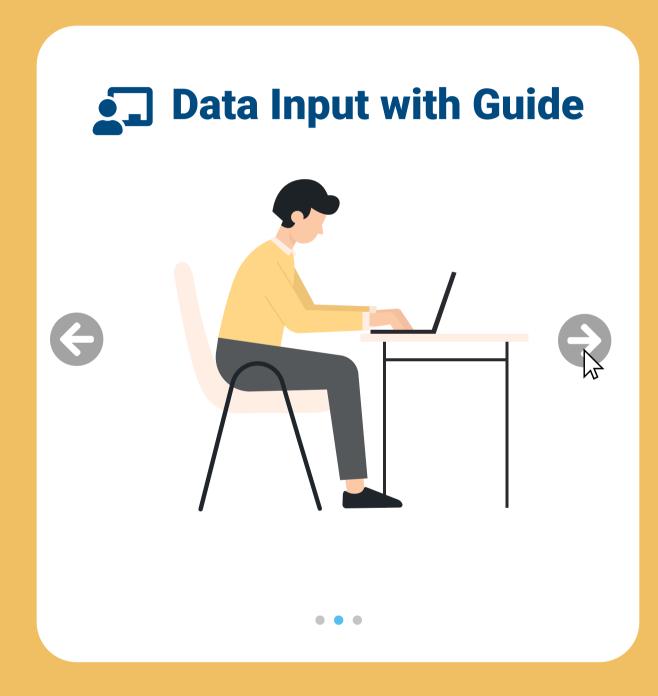
Password \_\_\_\_\_

Remember me

Forget Password?

Sign In

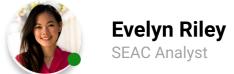
## **First Time User?**



**Take the Tour** 

#### **Data Input with Guide**

This dashboard will provide you with embedded data entry instructions. Try hovering your mouse over to a title you have questions about; an instruction bubble like this should pop up. If no instruction pop-up has appeared or you have any additional questions, please use the Contact Us form on the Support Resources page to let us know.





#### Dashboard

- Public Agendas
- Contract
- Purchase & Biddings
- > Public Construction
- Public Servant
- **>** Trips
- Data Upload

**Q** Performance

··· Notification

**≗**≡ Profile

**Support Resources** 

#### **PROFILE**



**Evelyn Riley**SEAC
Analyst

evelyn.riley@itsrio.org(555) 555-5190

Rua Afonso Cavalcanti, 455, Cidade Nova, 20211-110, Rio de Janeiro

**Edit** 

#### Your Agency's Performance

Edit your profile if your information

**Edit Profile** 

has changed.

This section indicates your agency's performance. This includes your current progress in data entry and your agency's transparency ranking amongst the 52 bodies in Rio, both in last month and your agency's current ranking this month.

#### Record

Join Date

March 2018

Status

Full Time

Department

Mayor's Office

Report To

Madaline Robbins SEAC Director

Time Off

Past

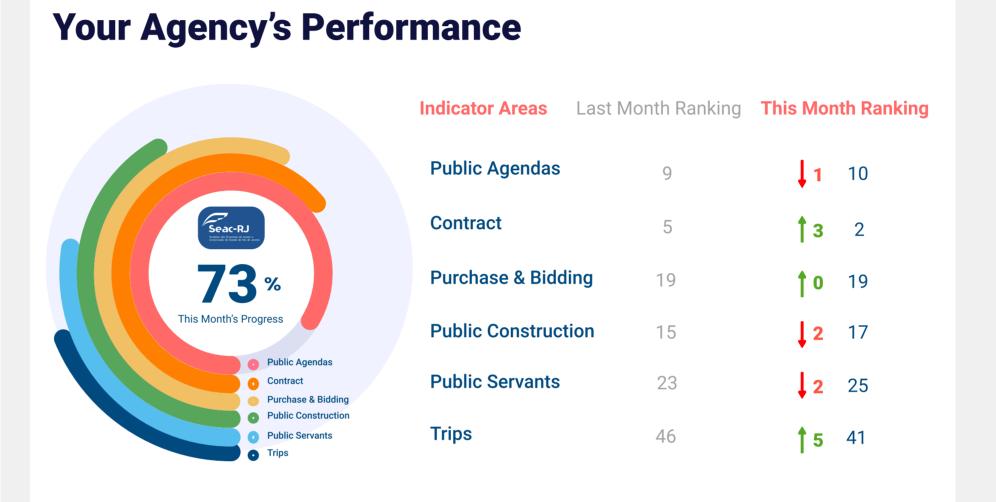
July 1 - 14, 2021

Approved by Madaline Robbins

Future

December 20 - 23, 2021

Waiting for Approval



# Your Data Entry Responsibility

As an **Analyst** for **SEAC**, you are responsible to complete the following data entry every month:

Upload Agendas for New Events

Due This Friday at 5pm EST!

Update Contract Database

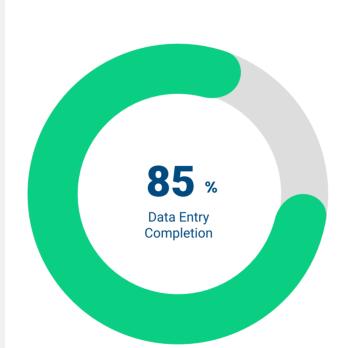
Due This Friday
at 5pm EST!

Update SEAC Purchase Records

Update Public Construction Docs

Update Your Public Servant InformationAdd Body Trip Receipts

# **Your Progress**



#### To-do:

Public Agendas

Contract

Completed

Purchase & Bidding

To Start

Public Construction

Completed

Public Servants

Completed

Trips

Completed

#### Your Data Entry Responsibility

Every employee in the Rio office plays a role in the city's transparency dashboard. Your specific responsibilities in data entry for your agency are listed in this section. Please use the Support Resources page if you encounter any issues or questions.

#### To Finish

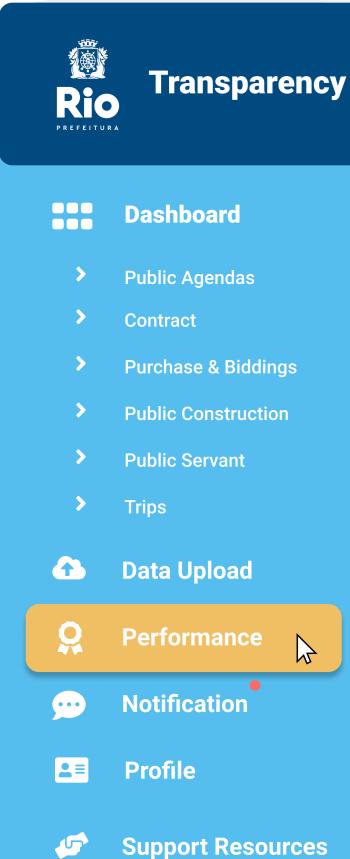
You have started the data entry process for this section, but it has not been completed yet. To finish the process, click here.

#### To Start

You have not started the data entry process for this section. Please begin entering data for this section by clicking here.

#### Completed

The data entry for this section is completed! No further action is needed for now. Thanks for contributing to Rio's Transparency dashboard!



# PERFORMANCE

# **Agency Performance Ranking**

Search

19<sup>th</sup> Place: Your Agency: SEAC

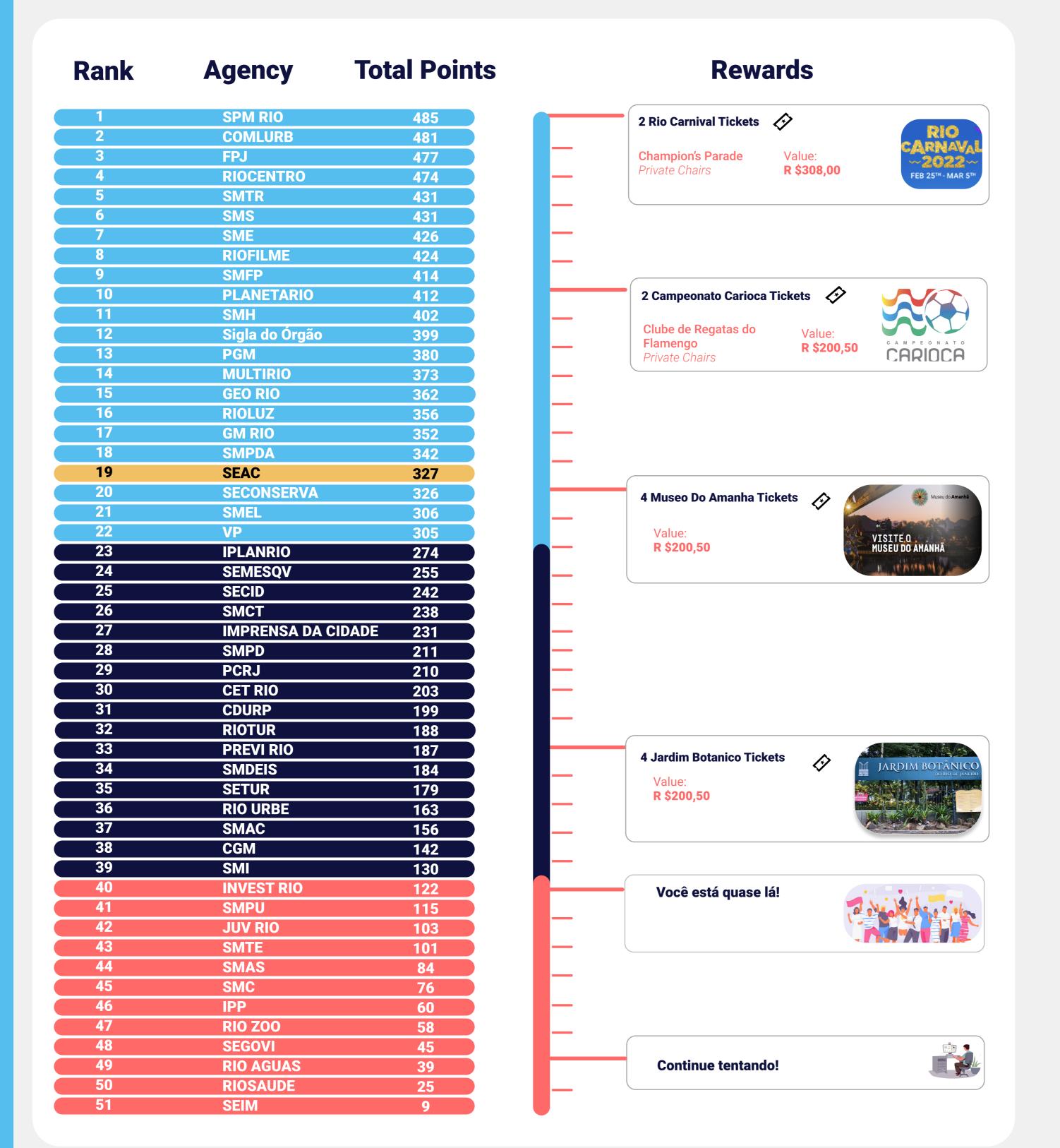
# **Total Points Earned by Your Agency**



45

March

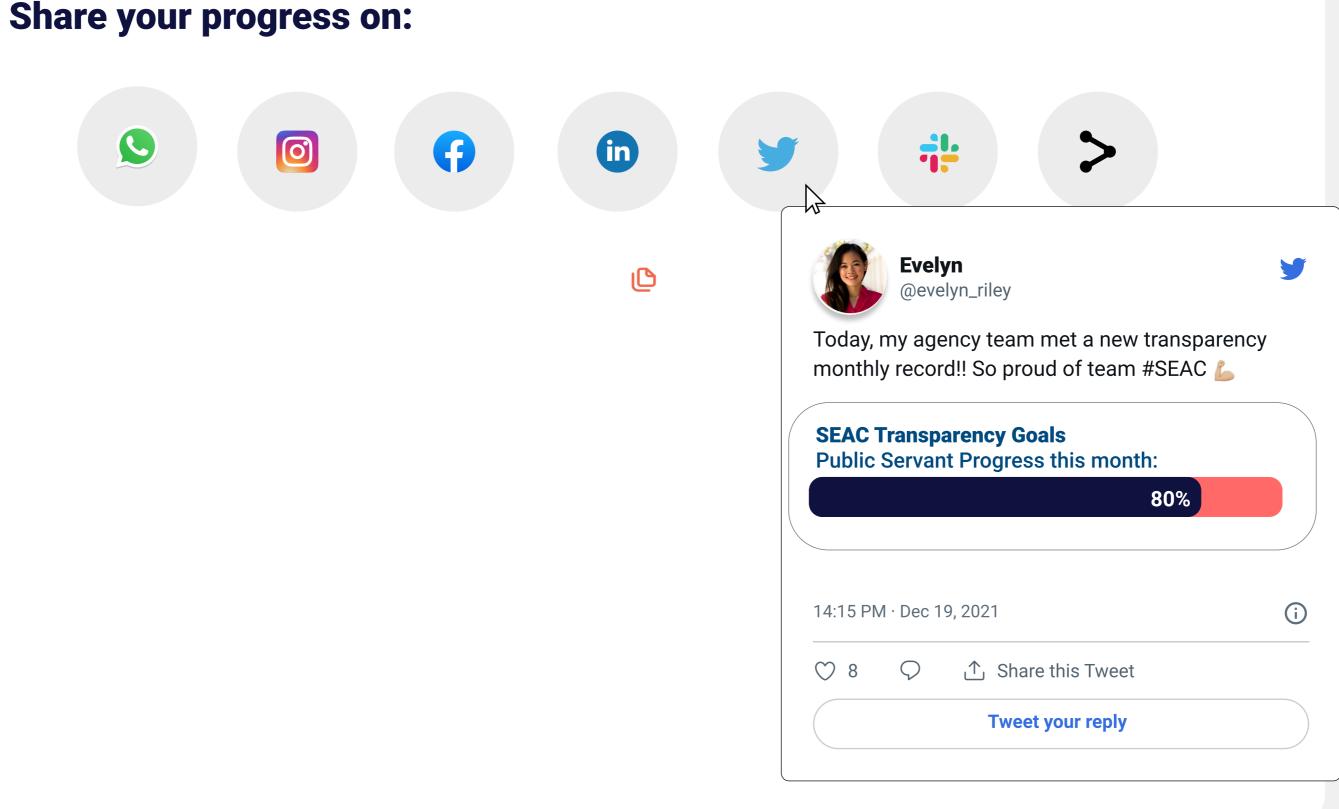
#### **Your Agency's Performance** Indicator Areas Last Month Ranking This Month Ranking **Public Agendas** 1 10 Seac-RJ Contract **3** 2 **73**% Purchase & Bidding **† 0** 19 19 **2** 17 **Public Construction** 15 **Public Servants 2** 25 **†** 5 41 Trips 46



# How to Improve My Agency's Points and Ranking?



# Share your progress on:



# C. Performance Page: The performance page provides an overview of the

**Evelyn Riley** 

SEAC Analyst

transparency status of all 52 offices in the City Hall of Rio de Janeiro Prefeitura. The transparency ranking considers indicators of SEGOVI's six priority transparency areas and provides a monthly ranking of the 52 offices based on the result. The performance page further illustrates rewards for offices at different ranking categories to incentivize the dashboard usage. At the bottom of the page, a social media sharing section allows offices to share their transparency performance to their perspective social media medium to share transparency accomplishments and documents disclosure.

Your agency's ranking among all 51 agencies

Based on the points awareded for data entry, your agency is in the 19th best position.

#### **Monthly / Categorical View**

The total monthly points are are broken down into 6 main categories based on the main idicator areas. A comparison of progress from previous months is possible in this view.

#### Rewards

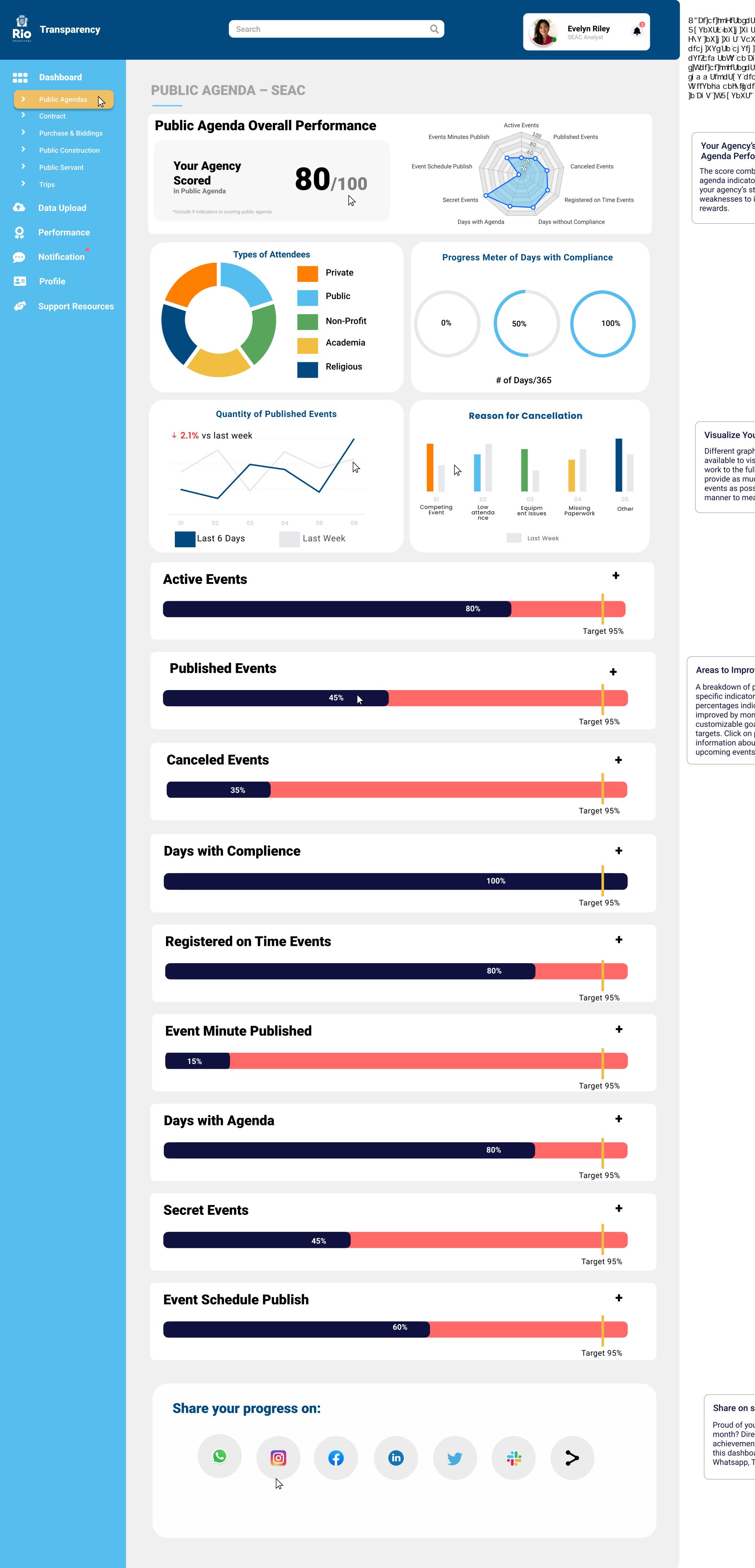
Agencies that reach certain total points targets will be awareded with special gifts, such as event tickets.

# Areas to Improve

A breakdown of progress made in specific indicator categories. The percentages indicate percent improved by month. Refer to this section when creating new goals and targets in order to improve for the next month!

# Share on social media

Proud of your team's work this month? Directly sharly your achievements to social media from this dashboard to Instagram, Whatsapp, Twitter, and more.



8"'Df]cf]hmiHfUbgdUfYbWn5fYU'fDiV']W 5[YbXUL±bX]j]XiU 6cXmGiaaUfmDU[Y. HNY ]bX]j ]Xi U VcXmgi a a UfmdU[Y dfcj ]XYg'Ub cj Yfj ]Yk cZU'dUfh]WV `Uf 6cXmfig dYfZcfa UbW cb Di V`]W5[YbXUzcbY cZh\Y g]Wdf]cf]hmhfUbgdUfYbWhUfYUg"H\]g gi a a UfmdU[Ydfcj]XYgUbU[YbWffig W/ffYbha cbh\figdfc[fYggcbYUW]bX]W/hcf

Your Agency's Overall Public Agenda Performance

The score combines all nine public agenda indicators with visuals on your agency's strengths and weaknesses to improve and win the rewards.

#### Visualize Your Agency's Work

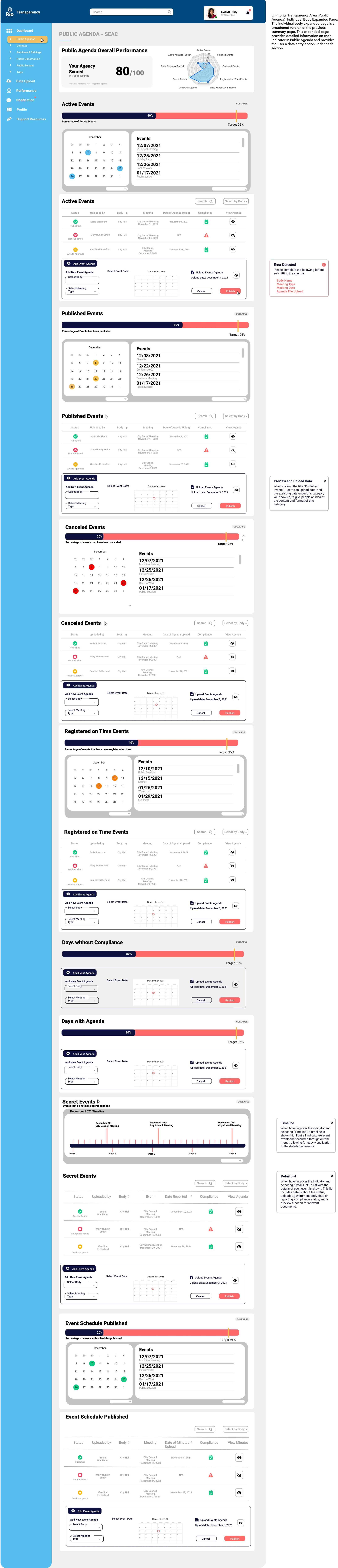
Different graph and chart options are available to visualize your agency's work to the fullest! Make sure to provide as much information about events as possible in a timely manner to measure accurately.

#### Areas to Improve

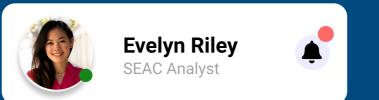
A breakdown of progress made in specific indicator categories. The percentages indicate percent improved by month with a customizable goal bar to meet targets. Click on plus sign to add information about past and upcoming events!

Share on social media

Proud of your team's work this month? Directly sharly your achievements to social media from this dashboard to Instagram, Whatsapp, Twitter, and more.







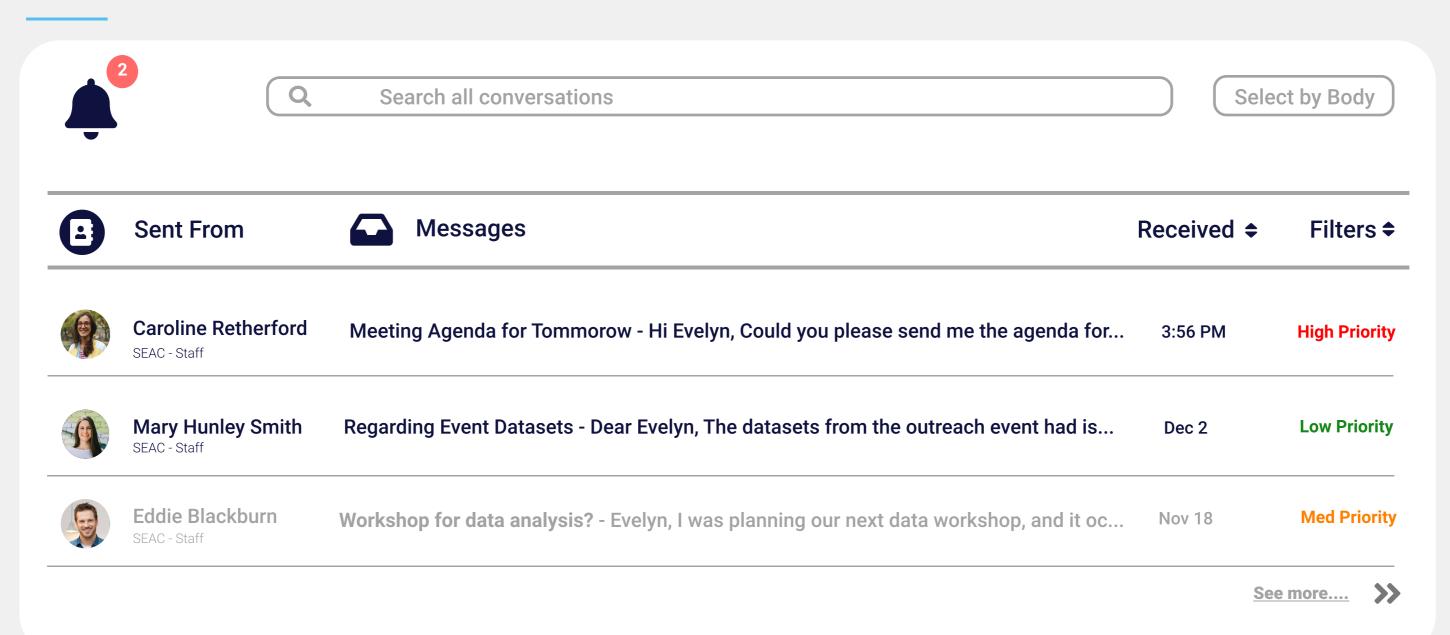


- Public Agendas
- Contract
- > Purchase & Biddings
- > Public Construction
- > Public Servant
- Trips
- **Data Upload**
- **Q** Performance
- Notification
- Profile
- **Support Resources**

A

#### **NOTIFICATIONS**

Search





Messages Sent 20

**Bounced Messages** 

**Responses Received** 

18 h

**View Reminder History** 

Maximum number of reminders per message: 5







			Filt
Email Address \$	Status \$	Original Message Date 💠	Number of Reminders sent
Eddie Blackburn	Email Read/ Unread	12/09/2021 10:45	1
Evelyn Riley	Email Read/ Unread	12/08/2021 11:25	3
Tony Smith	Email Read/ Unread	12/08/2021 08:50	4
Mary Hunley	Email Read/ Unread	11/09/2021 09:33	4
Caroline Rutherford	Email Read/ Unread	11/02/2021 11:45	5

See more....



#### F.

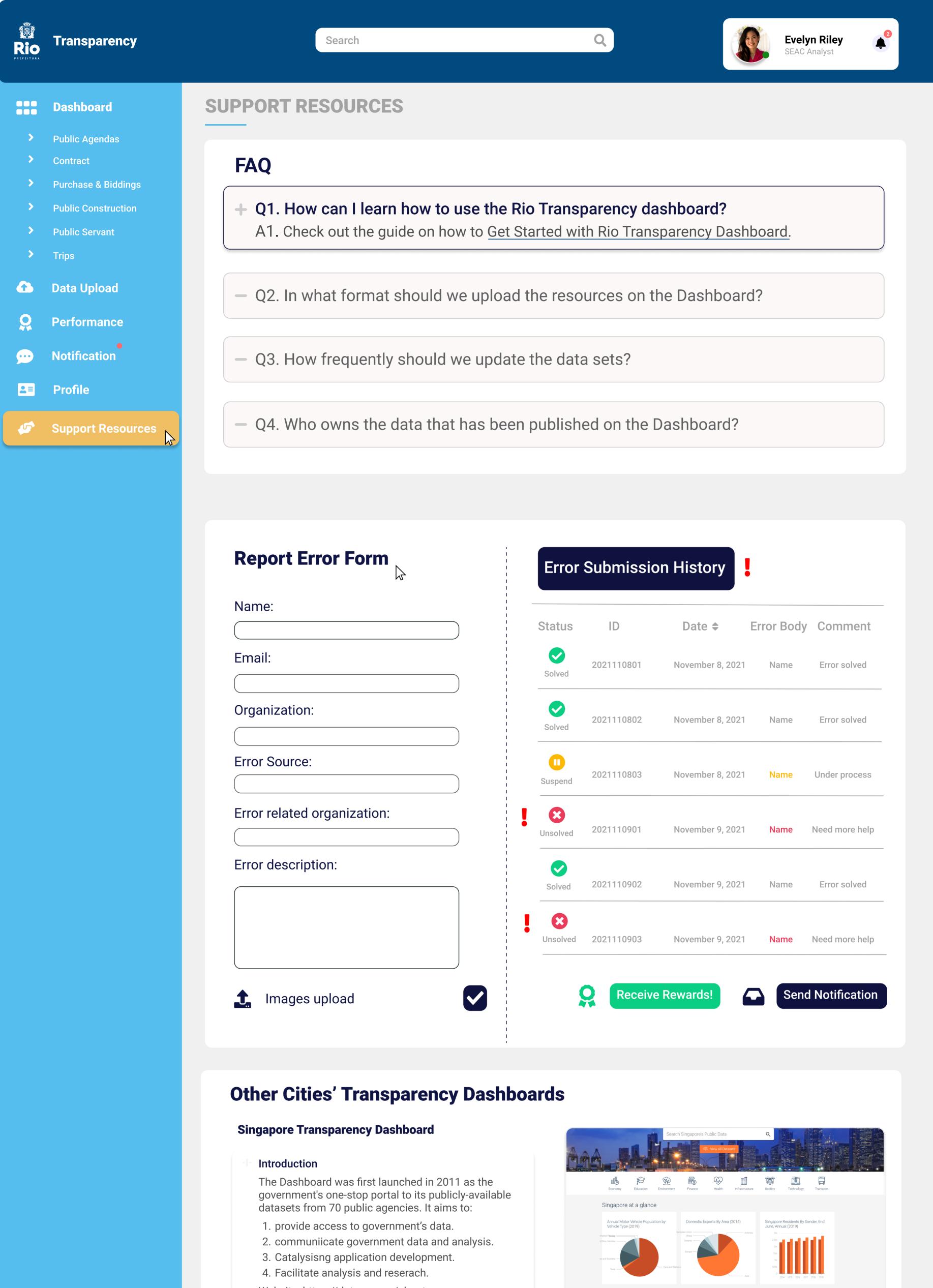
The notification page shows the user's inbox messages and reminders. The inbox messages are categorized by read-unread and high-med-low priorities. In addition, users can send and schedule reminders to themselves or to all team members on a limited basis to incentivize team members to participate in the transparency data entry process.

#### Mesages

Here, correspondance between different dashboard users is possible. Communication tool that may be used to help inter-agency flow of data.

#### Responses

The total no. of responses received.



Website: https://data.gov.sg/about

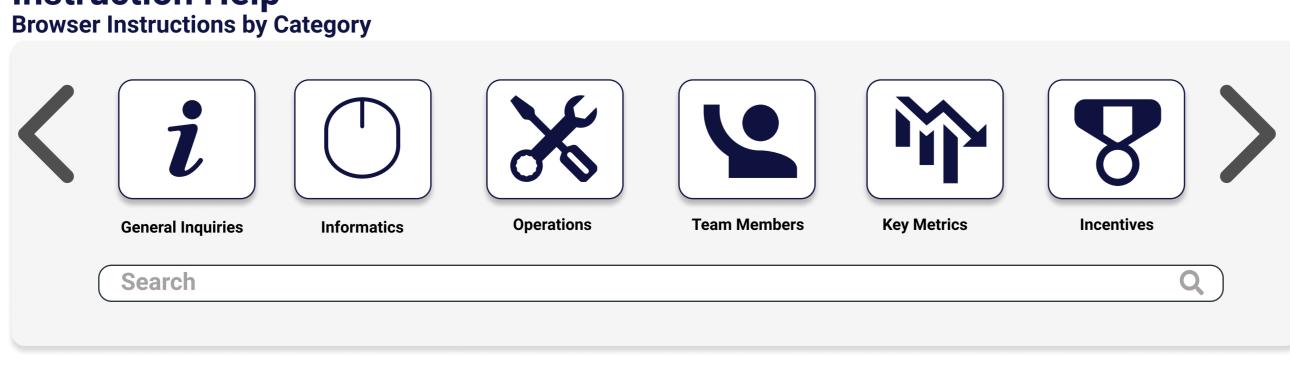


# Contact Us

**Data Visualization** 

Name:		How can we help you?		
		Choose an option.	~	
Email:		Message:		
Organization:				
			Submit	

# **Instruction Help**



G. Support Resources Page: The support resources page provides a frequently asked questions section, a report error section, resources on other cities' transparency dashboards, a contact us form, and an instruction help section. This page is meant to help users troubleshoot and explore resources related to the Transparency Dashboard

## **Report Data Error**

When you find any error in any uploaded data, please fill out this form to report the errors. The Error **Submission History** shows the status of reported errors. Error bodies can leave comments to seek help. If your reported data error are resolved, both you and the error body will get rewards.