Exhibit to Texas Open Data Portal Master Services Agreement

DIR Contract No. DIR-ESS-ODP-428

Between

The State of Texas, acting by and through the Texas Department of Information Resources

and

Socrata, Inc.

Exhibit 1

Socrata Response to Desired Functionality

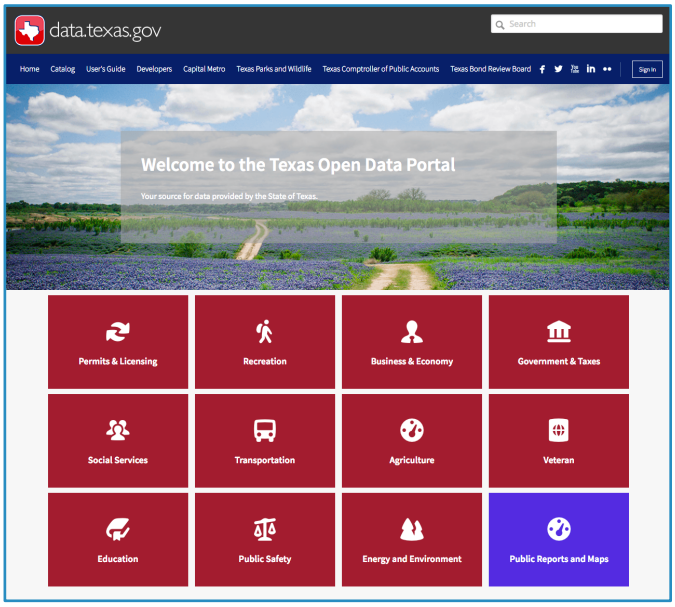
June 26, 2018

2.1 Technical Solution Summary

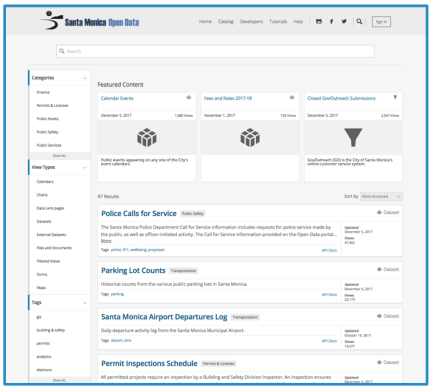
Respondent shall provide a summary description of the technical solution the Respondent proposes to deploy to meet the requirements in the Statement of Work, as defined in Section 2 and providing the functionality stated in Attachment C, Desired Solution Functionality Spreadsheet. This section must address the following items:

1. [Texas Requirement] Description of the overall proposed technology solution and inventory of software components.

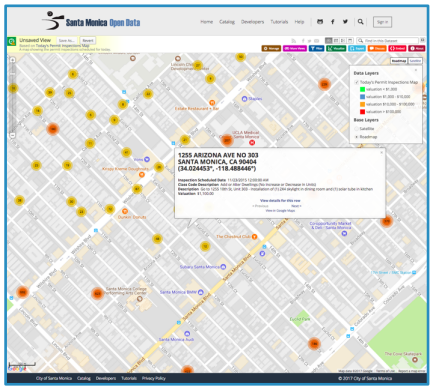
At the core of the proposed solution is Socrata Open Data Portal, which will help expand open and transparent government throughout the State and meet the growing business and technical goals of the Texas. The Socrata Open Data Portal and The Socrata Data Platform provide the foundation to pull data from enterprise systems and connect to the cloud where data can be organized, indexed, and optimized for discoverability and reuse. It helps transform government organizations from one where data is in thousands of disparate systems that cannot be inventoried - much less accessed - to one where all data is in a single place - fully synchronized with the source systems, and in a structure whereby everybody with authorized access can find and use that data.



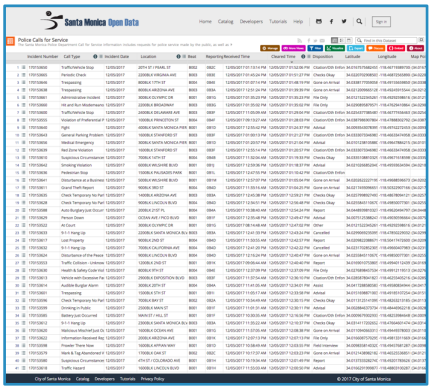
The State of Texas Open Data Portal will be a one-stop-shop for contextualized city data across all the State's departments and citizens (the above image is from the existing data portal, not the proposed, updated design).



The catalog is where citizens can search using free text and metadata categories to find the datasets they are looking for.



Maps, charts, and APIs can be found in the Open Data Portal, like this one of the City's daily permit inspections around Santa Monica.



Raw data can be explored in the Data Portal or exported to CSV or XLS or even connected directly to Excel, R, or Tableau via the ODATA connector.

The Socrata Open Data Portal has been built with the following data-sharing technical capabilities:

- **Elastic cloud data store**, offers the flexibility and scalability the State of Texas needs to manage all enterprise data: geospatial, operational, indicator data, line-of-business data, and documents.
- **Publishing workflow management**, a suite of intuitive User Interfaces (UIs) and Application Programming Interfaces (APIs), to manage the data lifecycle from source systems to consumable data asset. The collaborative workflow also includes scheduling and update automation, pipeline monitoring, error and data quality reporting.
- **Turnkey connectors** and third-party ETL integrations, a suite of easy-to-use tools that automate the flow and aggregation of enterprise data to the cloud. Examples: Safe FME Socrata Connectors, Socrata DataSync Data Automation, Open Source Kettle + Pentaho Kit.
- **Robust metadata management system**, augmented with semantic annotation and classification of data based on government-specific machine-learning algorithms. Metadata management is provided both through user interfaces and application programming interfaces.
- **A high-performance, distributed data query engine** exposed to developers as an open, expressive SQL-like query API, we call SODA, which is short for the Socrata Open Data API.
- **Enterprise-grade security** and user management offer strong authentication, fine-grained permissioning, and auditable access controls.
- **Built-in APIs** for search and discovery, federation between government organizations, and syndication to the Consumer Web.
- **Fully brandable, 508 compliant, and mobile-responsive** open data catalog that matches any style and branding guide so the catalog meshes seamlessly with the .gov sites.
- **Highly intuitive search and visualization features** that allow any citizen or internal employee to find, understand, and explore city datasets beyond what traditional tabular interfaces allow.
- **Permissions based security model** that allows for public and private data to be stored securely on the same platform to accomplish public and internal data-driven objectives

- **Usage analytics** to track usage metrics of loaded metadata and data resources. Socrata provides a platform- and dataset-specific analytics console that will enable Administrators to see an array of reports and dashboards summarizing specific metrics for datasets, views, visitors, total datasets, total rows, embeds, API calls, and more.
- **Admin Activity Feed**, to provide visibility and tracking of all the meaningful change events that users trigger on the site when they create a new asset, update an existing one, or change access controls.
- **Developer community enablers**. Internal and external data developers can create bespoke data exploration, analysis, web collaboration experiences and mobile data access apps by leveraging self-documenting APIs, template apps, SDKs, etc. on the Socrata Developer Network at dev.socrata.com.
- **Interoperability and Extensibility** with Enterprise Systems. Socrata's platform provides out-of-the-box connectors to common and powerful tools like Esri, Tableau, PowerBI, R, to enable data analysts and statisticians to use their (power) tools of choice to analyze data.

Texas Open Data V2. - Upgrading to Socrata Connected Government Cloud Environment

As an important part of the proposed solution, Socrata's response includes upgrading (and migrating) the State of Texas' existing Open Data Portal to the new Socrata Connected Government Cloud Environment. This upgrade addresses all of the existing stated concerns the State of Texas has expressed and includes significant additional functionality that will help with transparency, data access, and accountability that the State will benefit from but has not specifically asked for in this solicitation.

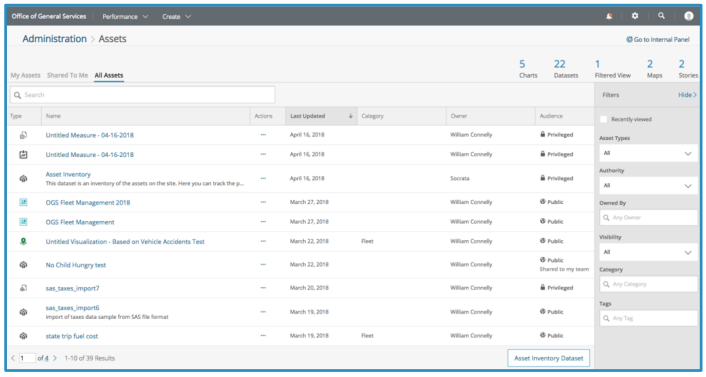
Included in Socrata Connected Government Cloud, and the proposed solution are a number of new capabilities not yet seen or experienced by the state. A non-inclusive list of those capabilities is identified below:

- **User Analytics Dashboards**. The proposed solution will include three dashboards in addition to the out-of-the-box analytics that the platform provides. These dashboards will better describe user engagement across the portal. One dashboard will show agencies who is accessing and using their data. The second will allow DIR to see similar usage across the ODP, and the third will allow for users to see analytical metrics on data they are interested in.
- **Improved Privacy (FedRAMP) and Workflow.** The Socrata Connected Government Cloud is hosted in a FedRAMP certified environment, allowing it to host more sensitive data. In addition to a certified infrastructure, the Socrata Connected Government Cloud has enhanced user controls for designating data as private or public. As an example, all data uploaded to the portal is private by default. Texas has the ability to assign configurable approval workflows that ensure private data isn't accidentally made public by clicking a private/public flag, as in the State's existing Open Data Portal.
- **Included Test Environment.** The Socrata Connected Government Cloud includes enhanced features around dataset draft functionality, the ability to publish data privately before publically, and other collaboration features that lessen the need for a test environment across our customer base. However, we have included a test environment in our response and will work with the state to determine if maintaining a parallel environment is the best solution based on the state's needs.
- **Merging Public Datasets for Further Analysis.** The Socrata Connected Government Cloud now allows users to join public datasets for further analysis. Often times datasets are related and best seen together, a common enhancement request of our customers. In response, we have added "join"

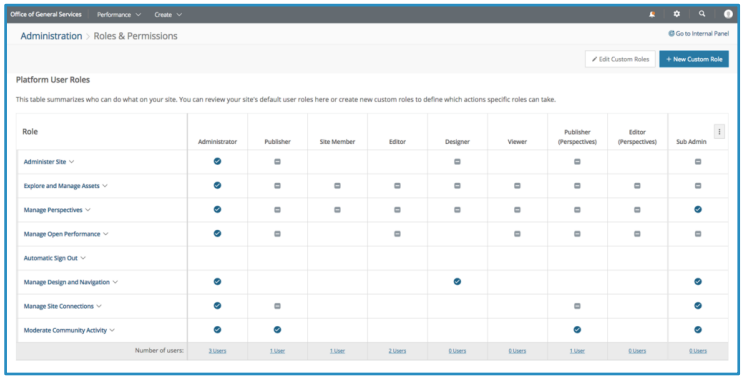
functionality to the Open Data Portal via the Socrata Connected Government Cloud.

- **Better Auditing, Permissions, and Dataset History (for deleted datasets).** The Socrata Connected Government Cloud includes an Activity Log that allows users with administrative rights to see and track a variety of platform events. Administrators can see changes to user rights, modification of datasets, the status (success/failure) of data refresh jobs, and the creation or deletion of datasets. In the case of dataset deletion, administrators will have the ability for a limited time to restore deleted datasets and associated derived views. Administrative users can also set up specific user roles that allow or disallow permissions to delete datasets using the new role configuration editor.

- **Data Governance Capabilities.** As part of the proposed upgrade, the Socrata Open Data Platform now provides out-of-the-box data governance capabilities that will allow system administrators to create structures and processes to transform, harmonize, administer metadata, create team and user structures to govern access to that data, establish approval workflows, and provide internal consumers, contributors, data stewards, and auditors to access their system assets (reports, graphs, combined datasets) in a single location. This easy-to-use data governance capability will ensure Texas can configure the access controls needed to maintain cross-program privacy, while still empowering its various users with the data and collaboration space needed to perform their daily tasks involving data.



*SCGC **Asset Inventory** gives users and stakeholder groups a single location to manage their own (and shared) datasets , reports, visualizations, metadata, workflows, transforms, and all other object entities within the platform. From here, owners, data stewards, and data auditors can perform their job functions and collaborate with others.*



*SCGC **Roles, and Teams Permissions Editor** ensures data governance and privilege management controls are in place. Texas Administrators will define roles, assign permissions, and allocate those roles to teams as appropriate. The permissions editor allows for over highly granular assignment permissions per role, including over 40 different read/write/create/delete style controls.*

- **Included Licenses to the Entire suite of Socrata Products.** Although the proposed implementation scope is limited to the Texas Open Data Portal, the Socrata Connected Government Cloud includes licenses to the entire suite of Socrata products. This means that the State of Texas will be able to add internal or external versions of the following Socrata technologies in the future without any additional subscription cost:

  - Socrata Perspectives
  - Socrata Performance Cloud
  - Socrata Open Data Network
  - Socrata Finance Suite (Open Checkbook, Open Budget, Open Payroll)

➢ Socrata "X" Apps (Citizen Connect, Capital Projects Explorer, Grants Explorer, etc)

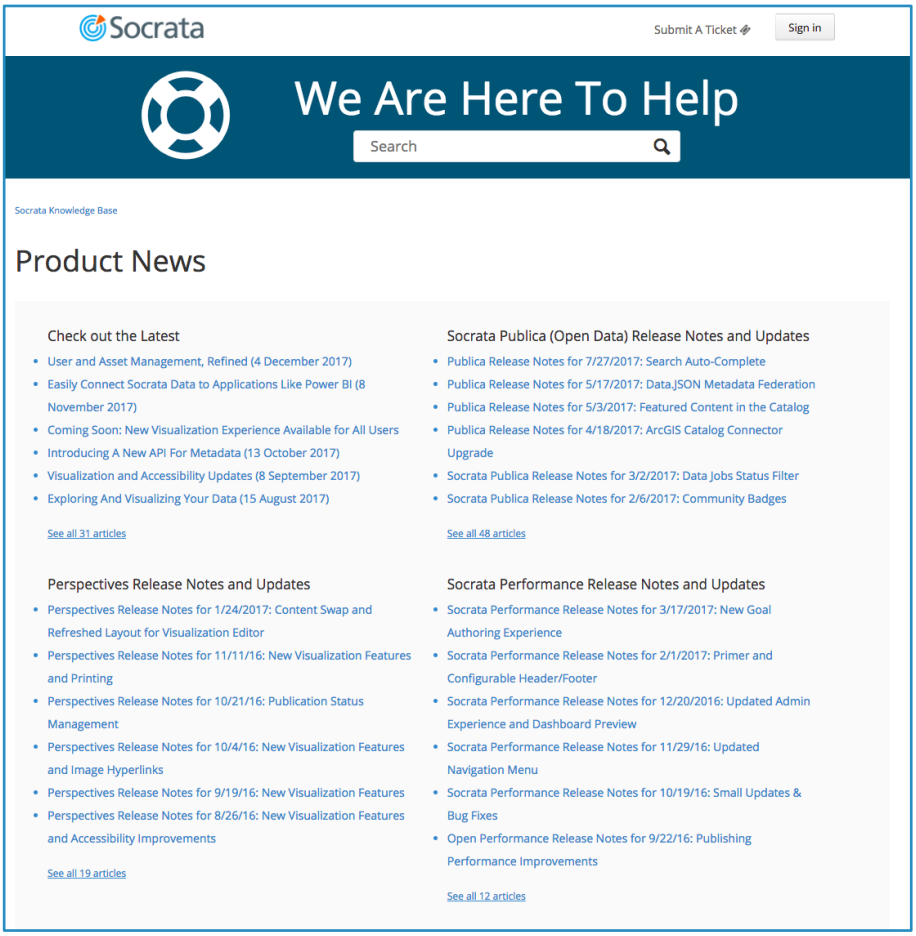
2. [Texas Requirement] Describe any major new releases within the next year that may be of interest to DIR (Development Roadmap).

As a company, we are dedicated to constantly improving features and capabilities to stay ahead of industry trends, which means our technologies today go far beyond what they were as recently as 12 months ago[1]. This trend will continue with the ongoing improvements to our own internal roadmap, allowing the State of Texas to continuously stay on the leading edge of open data best practices and innovation.

Unfortunately we are not able to publish our forward-facing product roadmap due to confidentiality reasons and the public nature of government procurements and FOIA policies. However, our staff would be happy to provide a roadmap preview to your leadership during the demonstration round.

In the bullets of the previous requirement, we have outlined last quarter's product release highlights to demonstrate the updates that each of our Socrata Connected Government Cloud customers automatically benefited from as software-as-a-subscription partners of ours.

Additionally, all of Socrata's news is posted at https://support.socrata.com/hc/en-us/categories/202630927-Product-News (image below).



[1] All of Socrata's product news and updates are posted here: https://support.socrata.com/hc/en-us/categories/202630927-Product-News

In-line Requirements

3. [Texas Requirement] Address the following areas:

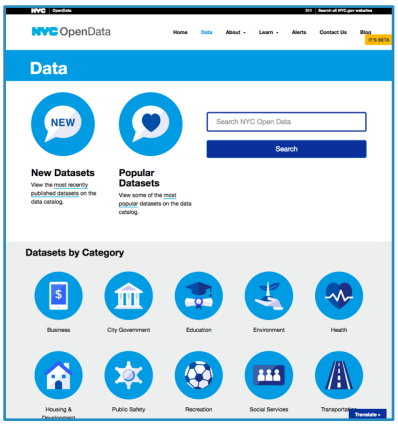
Socrata has addressed all requirements in-line below.

a. [Texas Requirement] Is the proposed solution 'out of the box' meaning it requires minimal configuration to reach full functionality?

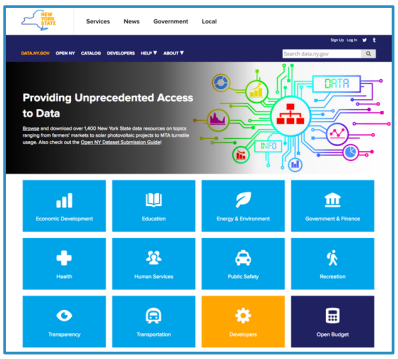
Yes, the proposed solution is delivered as a configurable-off-the-shelf solution meaning that it requires minimal configuration to reach full functionality.

b. [Texas Requirement] Does the proposed solution allow branding and customization for the State of Texas?

Socrata fully supports the customization of styling to align with the existing branding guidelines of an organization. This includes specifying colors, fonts, icons, and other visual iconography to retain continuity across all visual assets. The examples highlighted below show different Socrata customers and demonstrate the variety of configuration options available to our customers.

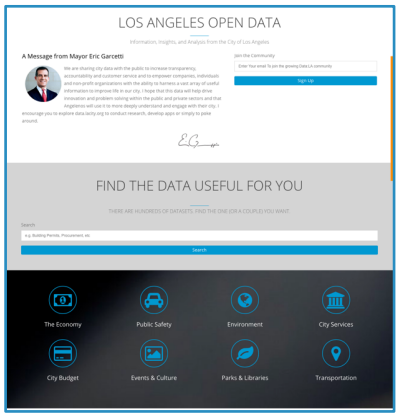


http://opendata.cityofnewyork.us/data/



https://data.ny.gov/

https://data.brla.gov/



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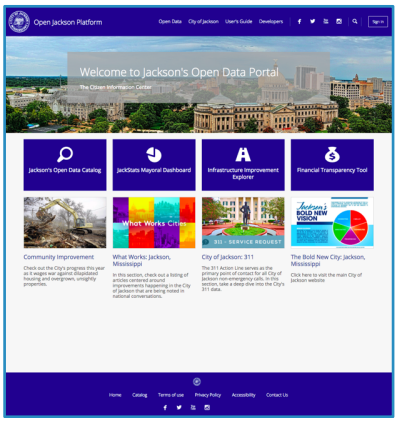


https://data.jacksonms.gov/

https://data.cincinnati-oh.gov/

c. [Texas Requirement] Is the proposed solution scalable to meet additional customer demand?

The Socrata platform is hosted on Amazon Web Services infrastructure and provides users with an elastic, on-demand experience that automates costly infrastructure (i.e., memory and processor) configuration processes.

Because we've teamed with the world's leader in scalable cloud computing, Socrata's Data Platform is provided as a utility service that can scale to tens of thousands of concurrent users as well as datasets containing millions of records on demand. The shared platform hosts hundreds of thousands of datasets and responds to millions of API calls monthly, and still provides real-time response throughout for visual filter queries on datasets over 100 million rows.

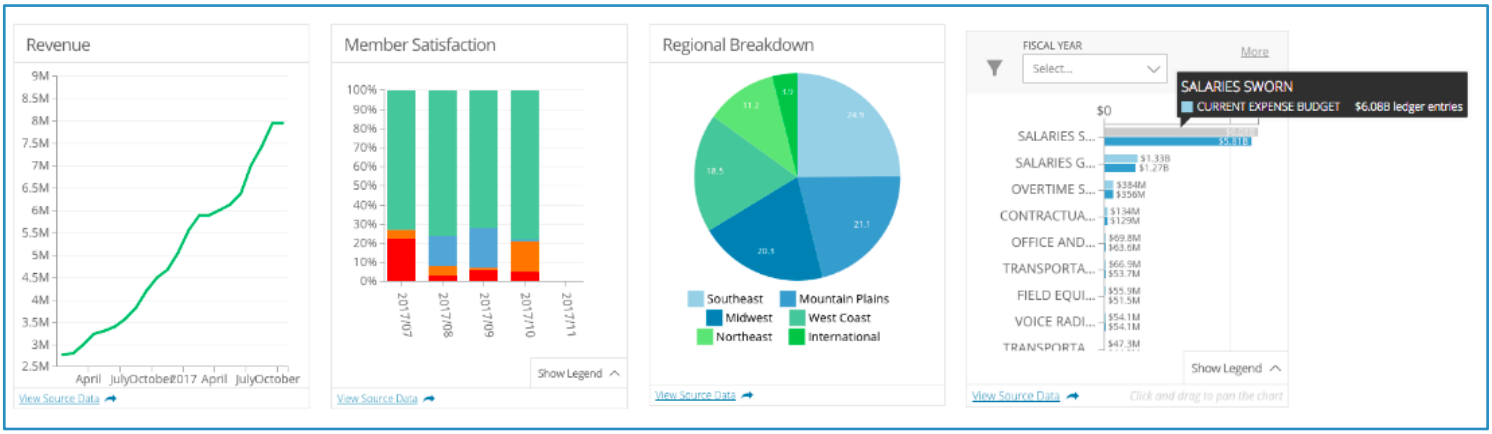
d. [Texas Requirement]

N/A. No requirement listed in RFP.

e. [Texas Requirement] Does the proposed solution provide a full Customer analytics suite?

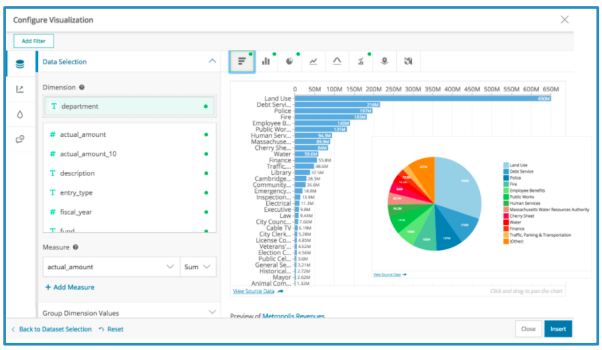
The Socrata Data Platform is expressly designed to accomplish the requirement detailed here. The paragraphs below describe how the Socrata Data Platform provides the capability to turn data into visual information through the use of intuitive features.

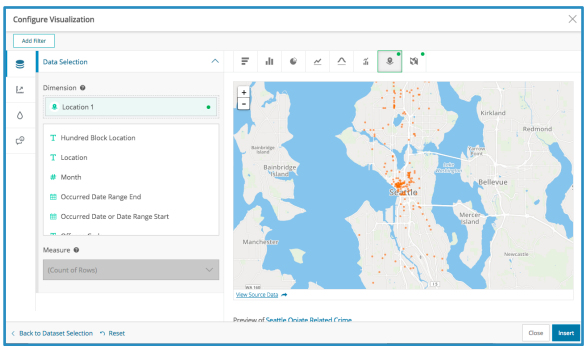
Socrata Visualizations. Using the Socrata Visualization Suite from within Socrata Perspectives, employees and public users can create and share stunning, interactive chart and map visualizations within Socrata, or embed within Office documents and across the web. Socrata offers 13 different visualization formats available out-of-the-box, which can be dynamically applied to datasets for maximum flexibility in displaying critical information.



Socrata visualizations are able to be configured to over 13 different types of chart, graphs, and maps.

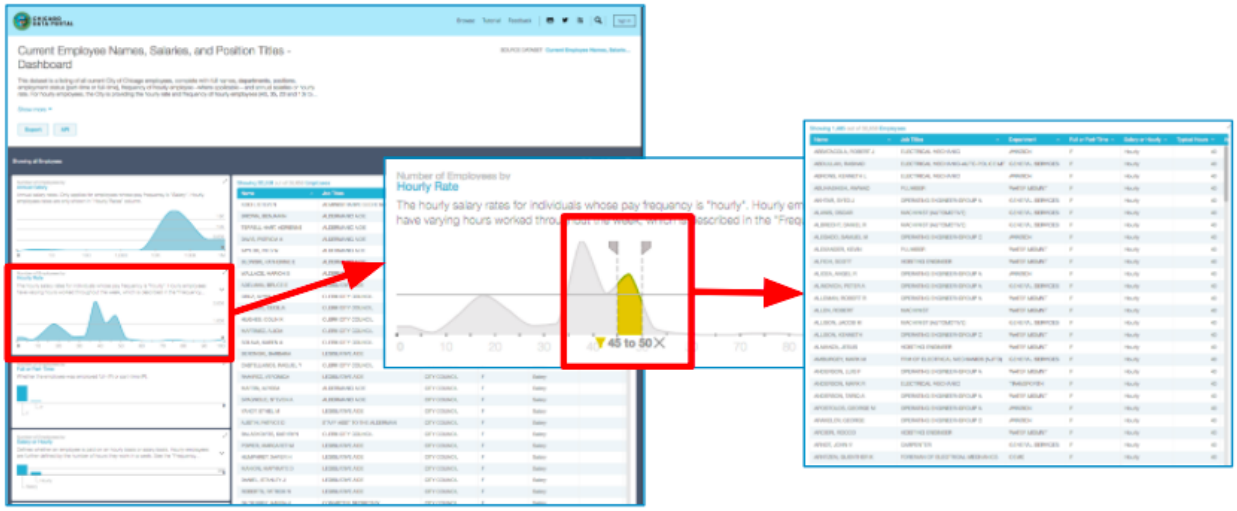
The Socrata Visualization Editor allows users to easily (within three clicks) create charts graphs, maps that can be inserted into dashboards and reports.





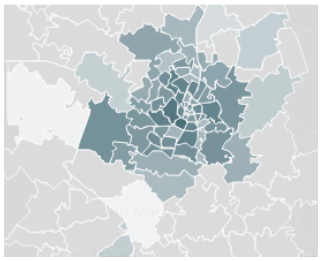
The Socrata Visualization Editor prompts a user to select a column and then suggests visualization types based on the dimensions and metadata within the dataset. The user then can easily choose colors, scale, legends and labels before inserting into a dashboard or performance report.

Socrata Lenses. Developed around the latest breakthroughs in user-centered design, data science, and spatial technologies, Socrata Lenses automatically transforms a dataset into a visual, interactive information experience that everyone can use to understand data, regardless of their technical sophistication. Socrata Data Lenses make it easy for users to explore datasets by allowing them to highlight a sections of a timelines, clicking on a category, and drill into regions of a map to see a resulting set of data that matches what they are looking for. No other government platform in the world offers this intuitive way to go beyond rows and columns and explore datasets visually.

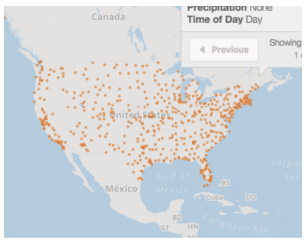


The City of Chicago's "Current Employee Names, Salaries, and Position Titles - Dashboard" allows users to dig deep into the raw data, beyond the app interface. In the image above, a user can take a look at the top earners in the city by clicking the "hourly rates" graph and seeing the resultant list of payrolled employees that meet that filter criteria.[2]

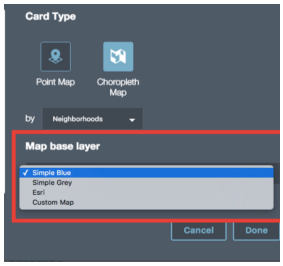
Socrata Spatial. Socrata offers an integrated and extensible stack for geospatial analysis and visualization. The focus is on empowering non-GIS experts to understand and use geospatial data. Socrata Spatial Lens™ takes any location data and automatically geocodes and 'region-codes' it to all applicable polygons on a customer domain. For example, a national complaints database with addresses can easily be visualized as a point map, or as a variety of choropleth maps corresponding to state boundaries, county boundaries, census tracts, etc.



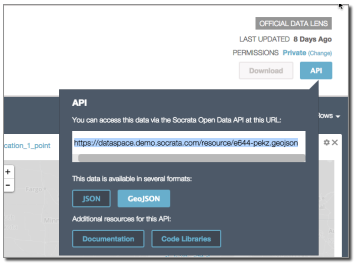
Choropleth Map
Allows users to visually interact with the data in geospatial terms



Point Map
Distribute individual data point rows on a map. This



Base Maps
For both Point Maps and Spatial Lens choropleths,



GeoJSON
For datasets that include a location column will present an endpoint for a

[2] https://data.cityofchicago.org/Administration-Finance/Current-Employee-Names-Salaries-and-Position-Title/aned-ke5c

relevant to them, such as school districts or neighborhoods.

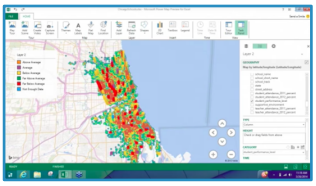
makes it easy for users to see the density of incidents or locations in the context of a map.

the publisher as the option to modify the base map.

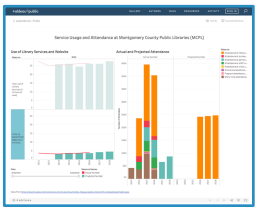
geo.json API for further analysis in alternative mapping analytics tools.

Extensibility of Analytics: The visualization capabilities are also easily extended with built-in extensions for third-party systems like Plot.ly, Tableau, R, PowerBI, Office 365, and Google Spreadsheets for an even richer analysis experience:

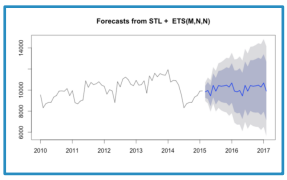
- **Reuse existing advanced analytical models** - Leverage existing technologies and models that plug-and-play into the Socrata data-as-a-service platform, using our pre-built connectors or APIs to reduce the burdensome data collection and cleansing required for advanced analytics.
- **Technical flexibility** - The preferred technologies of individual analysts will vary greatly, and given the rate of development, will likely evolve over the coming years. Socrata allows these advanced users to leverage their tools of choice today and into the future.
- **Interoperability and collaboration** - The resultant data of these advanced analytics models will be easily integrated back into the Socrata platform leveraging our APIs, subsequently enabling the use of Socrata data visualization and contextualization tools for broader dissemination.



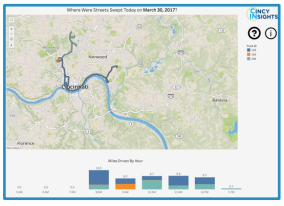
Using the ODATA connector, users can link Microsoft 365 applications like Excel, or Microsoft Power BI to the data portal and perform analysis on live data.



This Tableau Public Dashboard uses Attendance dataset for Montgomery County Public Schools. Dashboards like this can be created with exported data or via the ODATA connector.

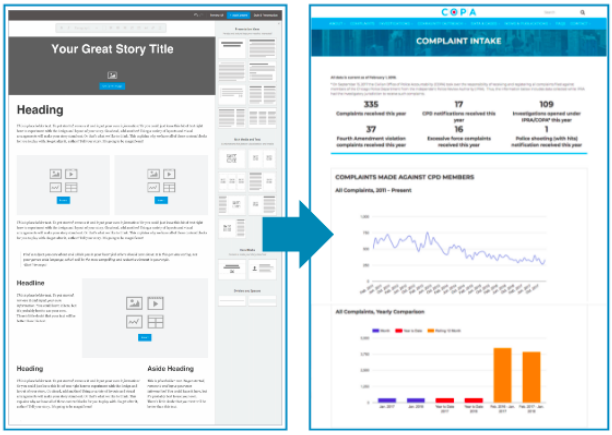


The image above is an example of third party reporting software "R" running off of a Socrata dataset: Forecasted EMS incidents using RSocrata endpoints for datasets.



Socrata allows for embedded third-party visualizations that query our data APIs. This City of Cincinnati view shows where the streetsweeper has been for the day via a transportation report that leverages the JSON endpoint for a Socrata dataset and visualizes in Tableau.

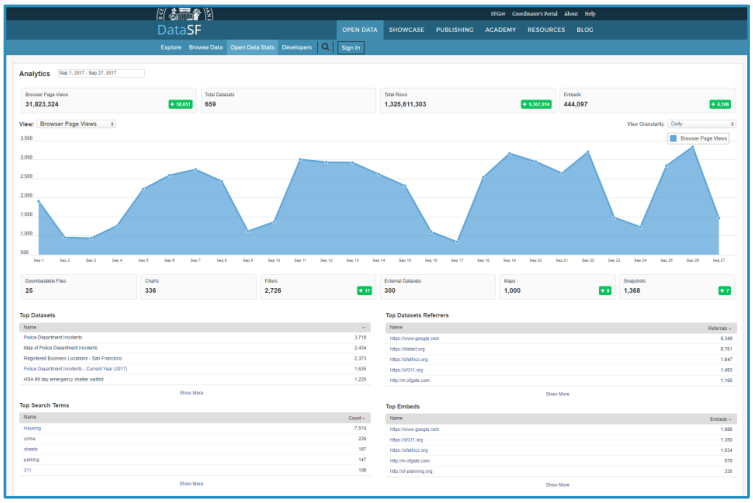
Socrata Perspectives: To bring these visualizations together into a contextualized information asset, the proposed solution provides a user-friendly report building capability called Perspectives. Perspectives allows users to create ad-hoc reports, internal and external stories around their data that lets subject matter experts share the insights they've derived. Authors can place dynamic Socrata-powered visualizations on a page and enrich them with textual narration; add third-party content like images, videos and advanced visualizations; and then publish the finished story to internal or external audiences.



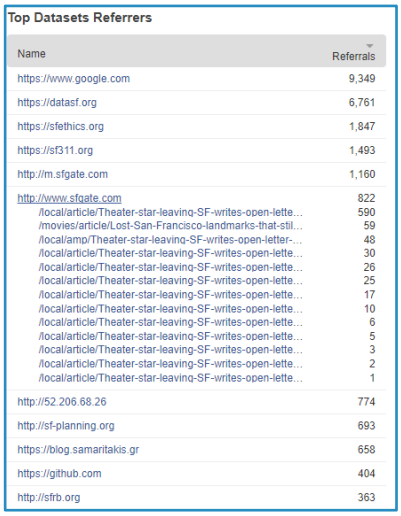
Usage Analytics: The Socrata solution supports the ability to monitor usage on the platform using a variety of metrics. Our platform includes timely analytics on usage, distribution, and traffic patterns across all assets published on one's site, and key metrics can be reviewed by browser type (Internet Explorer, Chrome, Firefox, etc) and asset type (dataset, visualization, data catalog, etc). Data can also be sliced by time and reviewed for each separate dataset, as well.

The solution tracks the following metrics by default: page views, total datasets, total rows, data rows added/removed, views from web embeds, and snapshots created, as well as data on one's top datasets (by view traffic), top web referrers, top search terms, number of API requests, downloads by dataset, and more. Socrata's solution makes it easy for site administrators to understand the *impact* of their work - to see what data is being used, when, and from where.

Additionally, site metrics can be optionally shared with the public, a capability which numerous customers take advantage of to pursue full and open transparency with their citizens.



Screenshot: The City of San Francisco chooses to make their site usage data available to the public, an option SF data consumers appreciate and reference often.



Top Datasets Referrers

Name	Referrals
https://www.google.com	9,349
https://datasf.org	6,761
https://sfethics.org	1,847
https://sf311.org	1,493
http://m.sfgate.com	1,160
http://www.sfgate.com	822
/local/article/Theater-star-leaving-SF-writes-open-lette...	590
/movies/article/Lost-San-Francisco-landmarks-that-stil...	59
/local/amp/Theater-star-leaving-SF-writes-open-letter-...	48
/local/article/Theater-star-leaving-SF-writes-open-lette...	30
/local/article/Theater-star-leaving-SF-writes-open-lette...	26
/local/article/Theater-star-leaving-SF-writes-open-lette...	25
/local/article/Theater-star-leaving-SF-writes-open-lette...	17
/local/article/Theater-star-leaving-SF-writes-open-lette...	10
/local/article/Theater-star-leaving-SF-writes-open-lette...	6
/local/article/Theater-star-leaving-SF-writes-open-lette...	5
/local/article/Theater-star-leaving-SF-writes-open-lette...	3
/local/article/Theater-star-leaving-SF-writes-open-lette...	2
/local/article/Theater-star-leaving-SF-writes-open-lette...	1
http://52.206.68.26	774
http://sf-planning.org	693
https://blog.samaritakis.gr	658
https://github.com	404
http://sfrb.org	363

Administrators can track where their data consumers are coming from across the web, including referrals from specific websites and

pages.

New User Analytics Dashboards. The proposed solution will include three dashboards, in addition to the out-of-the-box analytics that the platform provides. These dashboards will better describe user engagement across the portal. One dashboard will show agencies who is accessing and using their data. The second will allow that allows DIR to see similar usage across the ODP, and the third will allow for users to see analytical metrics on data they are interested in.

f. [Texas Requirement] Does the Customer dashboard for the proposed solution include:

i. [Texas Requirement] Multiview datasets to provide dashboards for each agency with a roll-up of a complete site view.

Yes. This capability will be delivered as part of the proposed solution.

ii. [Texas Requirement] Reporting on datasets, downloads, visits,

Yes. This capability is provided out-of-the-box via the usage analytics capability described above.

iii. [Texas Requirement] Reporting on top sites, top downloads, top searches.

Yes. This capability is provided out-of-the-box via the usage analytics capability described above.

g. [Texas Requirement] Describe where the Open Data Portal data will be hosted.

The Open Data Portal is hosted on Amazon Web Services infrastructure and provides users with an elastic, on-demand experience that automates and scales costly infrastructure (i.e., memory and processor) configuration processes. This allows the State of Texas to focus on the performance of their open data initiative and have confidence that the underlying infrastructure will scale with the success of the program (and corresponding increasing data amounts).

i. [Texas Requirement]If the Respondent is proposing to host the data as part of a true SaaS solution, please confirm that all data will reside in the continent United States at all times.

Yes, all data is hosted within the United States at all times.

ii. [Texas Requirement]If the Respondent is proposing to host the data as part of a true SaaS solution, please provide a full description of all security certifications held by the hosting data center.

In May 2017, Socrata achieved FedRAMP-Moderate Authority To Operate (ATO). Socrata's FedRAMP compliance information is available on the CSP page on the FedRAMP website.

Certifications are inherited by the world class AWS DataCenter and can be found here https://aws.amazon.com/compliance/

Security

4. [Texas Requirement] Address each of the following Security related areas:

a. [Texas Requirement] Does the proposed solution have a security conscious design adhering to modern best practices?

Yes. Socrata has invested heavily in security and privacy programs to meet the strictest availability, confidentiality, and integrity requirements. With a dedicated team of security analysts continually monitoring for vulnerabilities and attacks, all customers, including State and Local governments, benefit from these increased security measures. We've also brought in outside assessors to review our security controls,

environment, and approach, and have created and deployed a bug-bounty program, to encourage security researchers to test our systems. All this work has culminated in our ATO, becoming one of the earliest software-as-a-service providers to achieve a FedRAMP certification.

b. [Texas Requirement] Is the proposed solution Fedramp authorized?

Yes. In May 2017, Socrata achieved FedRAMP-Moderate Authority To Operate (ATO). Socrata's FedRAMP compliance information is available on the CSP page on the FedRAMP website.

c. [Texas Requirement] If the Respondent is proposing to host the data for the Open Data Portal, Respondent shall provide responses to the following items:

i. [Texas Requirement]Describe the proposed hosting environment(s) including the location of the primary and any secondary hosting environments.

Socrata hosts the Open Data Portal on AWS infrastructure. Socrata replicates data between three different AWS Availability Zones, each of which can power the entire Socrata platform; as well as replicate the database write-ahead logs in near-real-time and take full backups every three days. Those backups are retained for 30 days.

The current availability zones are us-east-1a, us-east-1c, and us-east-1d. All three are located in Northern Virginia.

Socrata takes the following steps to ensure that data is fully protected from unauthorized access:

- **Identity and Access Control.** Socrata uses AWS Identity and Access Management (IAM) tools to enforce policies of least privilege. Individuals have separate IAM accounts, and multi-factor authentication is enabled for all IAM users. Permissions are assigned via roles and groups, and credentials are rotated at least once every 60 days.
- **Security Groups and Network ACLs.** Socrata maintains strong logical isolation and visibility/control between functional tiers. Security groups provide stateful filtering at the instance level. Network ACLs acts like a firewall by controlling traffic in and out of a subnet, and thus provides an additional layer of security.
  Socrata's security groups are configured to "allow-all." Service-specific security groups can be used to "deny-by-exception."

  Network ACLs are used to restrict inter-VPC and inter-subnet traffic. For example, network ACLs isolate a VPC's DMZ. The network ACLs of internet-facing DMZs are configured to mitigate common DDoS attack patterns.
- **Data at Rest.** Data at rest is encrypted. This includes the following data stores:
  - Databases
  - Amazon S3 buckets
  - Amazon EBS volumes

  Socrata relies on AWS to manage both the encryption method and key management infrastructure (KMI). AWS uses the industry-standard AES-256 algorithm, and master encryption keys are stored in Amazon Key Management Service (KMS), which uses Hardware Security Modules (HSMs) to protect the

security of keys. Decryption of key data on individual EC2 instances is allowed based on IAM policies, where access is granted based on IAM role. AWS's encryption systems and processes have strong access controls that minimize the chance of unauthorized access, and these systems are verified by third-party audits to achieve security certifications including SOC 1, 2, and 3, PCI-DSS, and FedRAMP.

The following data at rest is not encrypted. First, AWS's tools do not allow you to automatically make a trusted key available to the boot volume at startup, so each EC2 instance boots from an unencrypted file system that is built into the AMI. Second, instance, or "ephemeral," storage may be unencrypted, and all such volumes go into a pool to be scrubbed before the blocks may be reused. Socrata relies on AWS to reset storage before it is reused.

iii. Provide any certifications currently held by the proposed hosting environments.

Socrata's Platform is authorized by FedRamp with Authority to Operate Moderate Environment. Please go to https://marketplace.fedramp.gov/#/products?status=FedRAMP%20Ready&sort=productName to review further details.

d. [Texas Requirement] Describe how the proposed Open Data Portal solution provides multiple level security, completely contained within the portal(s) infrastructure.

Socrata isolates management and infrastructure functions in separate Virtual Private Clouds (VPCs), as follows.

- **Management VPC:** The dedicated Management VPC isolates security and configuration management functions from other VPCs, yet allows visibility and control of other VPCs. Socrata logs and monitors platform and site usage patterns, authorized and failed logins, time and date of login, actions taken during authenticated sessions, system errors, system load, unusual traffic origins or patterns, and overall platform availability via Socrata's cloud-based log storage provider, Sumo Logic. Logs are immediately stored and retained for 24 months, to aid in analysis as required. Security scanning is centralized in the Management VPC.
  In the FedRAMP environment, all remote access to the development environment must pass through the Management VPC, where it is tracked, monitored, and authorized. To minimize the attack surface, a bastion host is used to access all other resources:
  1. Each administrator has their own account;
  2. Access is logged and audited via Sumo Logic;
  3. Multi-factor authentication to the perimeter VPN is required;
  4. Network access on the bastion is limited to SSH and Remote Desktop Protocol (RDP);
  5. SSH login to the bastion host is via SSH keys, not username/password. An SSH agent is used on the client to allow an administrator to connect from the bastion to another instance without storing their private key on the bastion;
  6. RDP login to the bastion host is via username/password stored in LDAP (OKTA); and
  7. Commands run on all instances, including the bastion host, are logged and audited via Sumo Logic.
- **Infrastructure VPC:** The dedicated Infrastructure VPC isolates Internet-facing services such as DNS and NTP.
- **Production VPC:** Socrata runs its production systems in a dedicated environment that is entirely isolated from all development and testing resources. This environment contains all of the services that make up Socrata's product offering. Security Groups and Network ACLs provide isolation and filtering at the

server and subnet levels of the VPC.

- **Pre-Production VPC:** Changes are deployed to an integration testing environment as soon as they are committed. In addition, Socrata uses a dedicated RC environment to test code and new security mechanisms. This environment is under strict configuration management controls so that it closely resembles the production environment. The promotion of specific changes to RC is managed via Socrata's Change Control process.

e. [Texas Requirement] Describe how the proposed Open Data Portal solution meets the requirement to use up to date Transport Layer Security (TLS) for:

i. [Texas Requirement] account registration;

In order to maintain the highest security standards for our customers, we have upgraded our site security encryption protocols (TLS). We continue to support TLS 1.1 and 1.2, but we have disabled support for TLS 1.0.

ii [Texas Requirement] logging in;

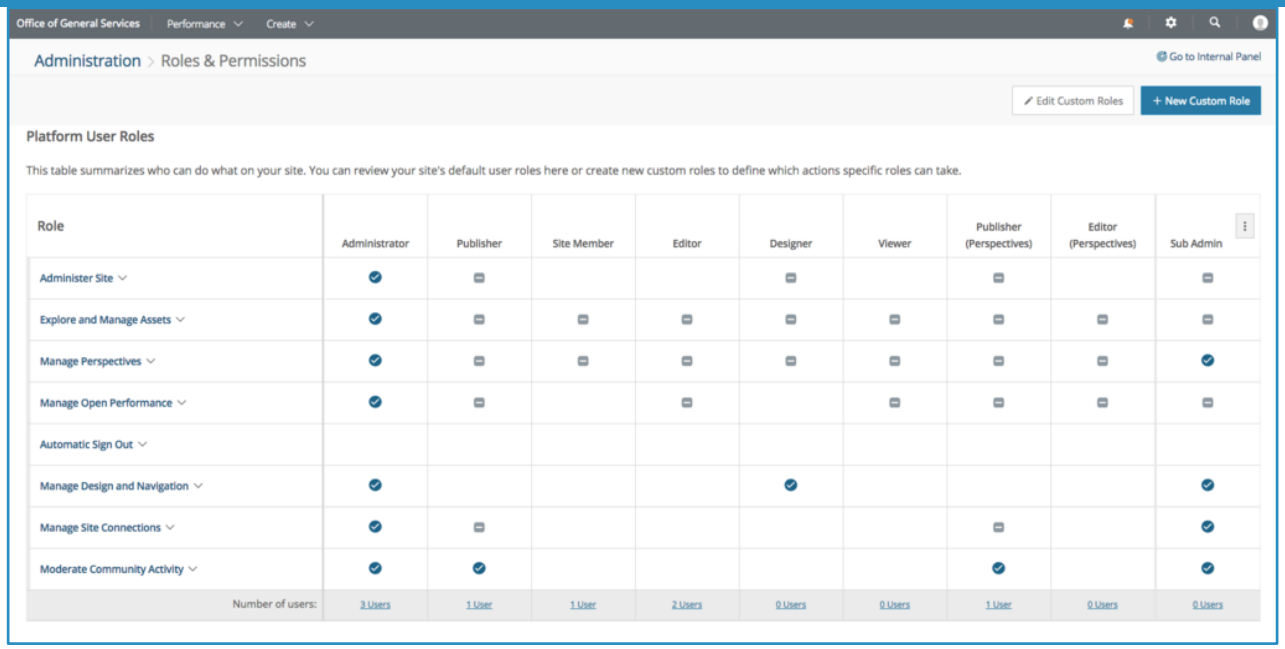
Single Sign-On (SSO) allows you to use your own organization's enterprise user account system in place of the default Socrata authentication and account system. This can be used for provisioning accounts instead of creating Socrata user accounts from the Admin Users page, although user roles and permissions must still be assigned on the Socrata platform.

iii [Texas Requirement] all actions performed by the system by any registered user of any user type; and,

As an Administrator on a Socrata-powered data portal, you can assign a number of special roles to other users. This will allow you to delegate tasks on your site and enable other users to create and manage datasets.

Socrata users can have *roles* on a domain. A role defines the types of actions that someone can conduct for *all datasets and assets* on a domain and the configuration of the domain itself. Examples of these actions include importing data, adding features, or managing users. A Socrata user can only have one role per domain. The set of roles are Viewer, Editor, Designer, Publisher, and Administrator.

Socrata users can also be assigned *permissions* for individual datasets. Permissions define the types of actions available to a user for *each specific dataset.* Examples include editing, viewing and publishing that dataset. Permissions available at the dataset level are Viewer, Contributor, and Owner. These permissions can be granted to users with or without a role on the domain.



*SCGC **Roles, and Teams Permissions Editor** ensures data governance and privilege management controls are in place. Texas DIR Administrators will define roles, assign permissions, and allocate those roles to teams as appropriate. The permissions editor allows for over highly granular assignment permissions per role, including over 40 different read/write/create/delete style controls. Also Administrators can create new roles and assign permissions accordingly.*

iv [Texas Requirement] displaying all web pages.

Unsupported, less secure (older) browsers will be unable to access Socrata sites and may receive a "browser cannot display webpage" message.

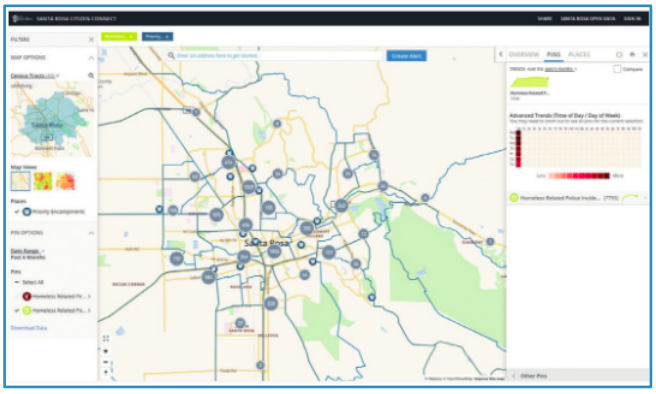
Socrata supports the most recent versions of Google Chrome, Apple Safari, and Mozilla Firefox, and the most recent version of Microsoft Edge and Internet Explorer 11.

5. [Texas Requirement] Any optional vendor offerings DIR should consider that may not be reflected in the desired solution functionality.

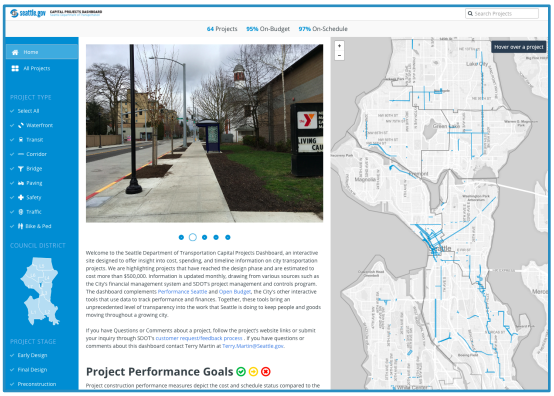
Although the proposed implementation scope is limited to the Texas Open Data Portal, the Socrata Connected Government Cloud includes licenses to the entire suite of Socrata products. This means that the State of Texas will be able to add internal or external versions of the following Socrata technologies in the future without any additional subscription cost:

- Socrata Perspectives
- Socrata Performance Cloud
- Socrata Open Data Network
- Socrata Finance Suite (Open Checkbook, Open Budget, Open Payroll)
- Socrata X Apps (Citizen Connect, Capital Projects Explorer, Grants Explorer, etc)

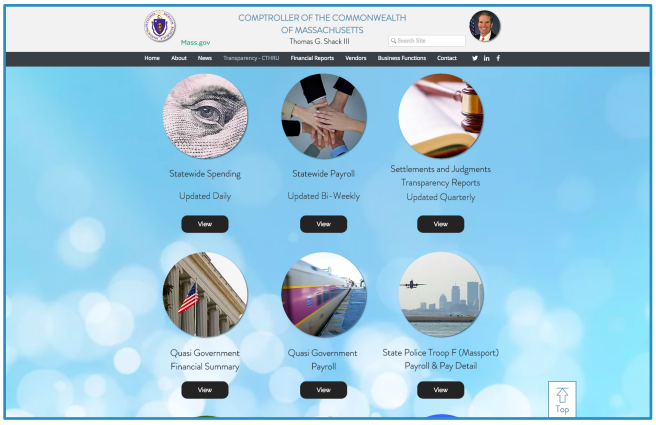
We look forward to demonstrating how the capabilities listed above can integrate and enhance the State's Open Data Portal initiative during the demonstration round of the evaluation.



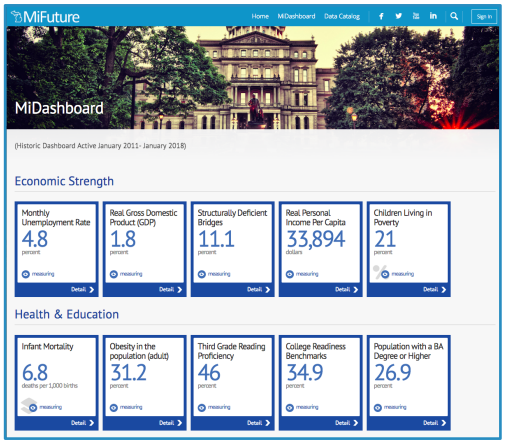
Santa Rosa Citizen Connect App allows citizens to explore the relationship between datasets on a user-friendly geographic interface. http://citizenconnect.srcity.org/



The City of Seattle Capital Projects Explorer tracks and distributes the status, performance, and budget of all of the city's capital projects. https://capitalprojects.seattle.gov/projects



CTHRU Massachusetts tracks all of the state's budget, payroll and spending information in real time, publically. https://www.macomptroller.org/cthru



The state of Michigan Performance Dashboard displays the state's performance across a wide range of key indicators. https://future.michigan.gov/stat/goals/pm2b-gqpn

MSI Support and Integration

RFO Reference: 2.1.6 - It is anticipated that the Successful Respondent will be required to coordinate services with DIR's Multi-sourcing Services Integrator (MSI). The MSI's primary role is to integrate and manage the services of the Service Component Providers (SCPs) in the State of Texas' Statewide Technology Center (STC) program. Among other functions, the MSI provides service level management, service desk support, constituent help desk support, program management, marketplace functionality, performance analytics and financial management. See Exhibit 1, Cross-Functional Requirements, for a description of the Shared Services Operating Model and the anticipated required coordination of the Successful Respondent with the MSI.

Throughout this proposal, we have identified interface points between Socrata, the MSI, and the other SCPs. Through these interfaces, we believe the highest levels of successful collaboration are enabled. In this section, we briefly summarize our approach to interfacing with each of these groups to ensure seamless service delivery to DIR and its customers.

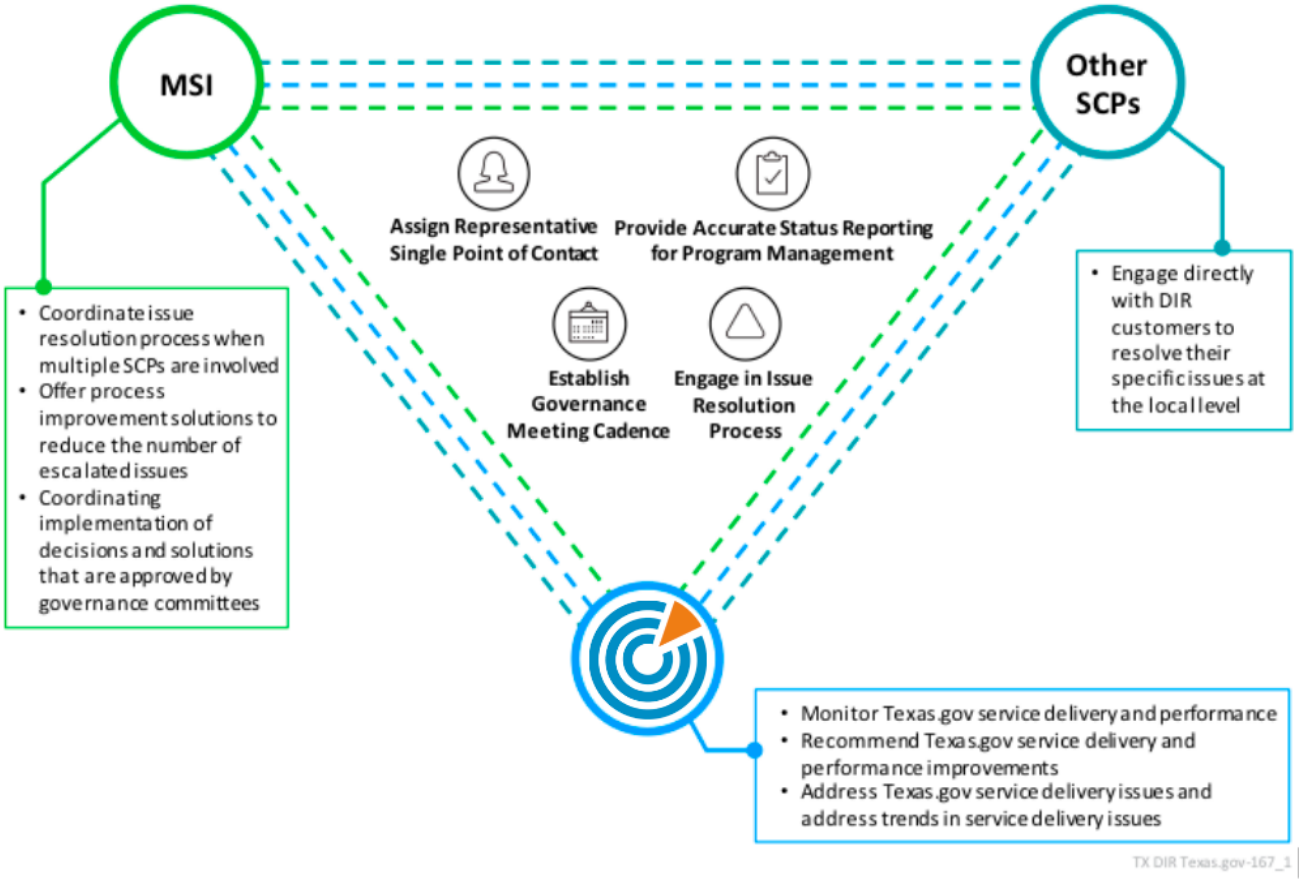


Figure: MSI-Socrata Interfaces.

Effective program governance in a multi-vendor environment relies on a prearranged set of interfaces, expectations, and processes to enhance collaboration. This governance model is designed to facilitate effective resolution of issues and enable strategic decision making across the program. To enable this for ODP, we envision connecting directly with the MSI via established interfaces. These interfaces, at a minimum, include assignment of a representative single point of contact, establishment of a governance meeting cadence, accurate status reporting for program management, and engagement in the issue resolution process. The MSI operated Constituent Help Desk is the single point of contact for Constituents regarding Incidents, requests and questions relating to State provided services (i.e., data.texas.gov). The citizens contacting this help desk are referred to as Constituent Users. Socrata shall be responsible for providing information and scripts to enable the MSI to operate the Constituent Help Desk to support first call resolution.

Socrata's delivery of Information Security Management shall be an integral part of the Services and shall assess all security risks associated with the delivery of Services are appropriately identified, evaluated, assessed and appropriate controls are implemented and maintained. Socrata shall, at a minimum work with MSI in support of the overall cybersecurity risk management program and work with MSI to develop and maintain security procedures and Service Responsibility Matrices, physical and logical access strategies, and standards.

Critical Success Factor	Approach for Success
Close collaboration with the MSI	❖ Socrata participates in regular meetings and stays in close communication with the MSI ❖ Socrata provides input to the MSI regarding the establishment of processes and tools. The MSI provides consideration for Socrata's

recommendations.

Risk: Transition overlap with the MSI transition timelines. The MSI team will be transitioning into their role at the same time that Socrata is transitioning from the incumbent.

Mitigation Plan: We will synchronize the Transition Plan with the MSI to account for overlaps and timing of the MSI's transition activities related to setting up the MSI tools and processes. As part of the migration process, we will work with the MSI to confirm that the documented policies, tools, processes, procedures, and work instructions are relevant, comprehensive and adhere to the MSI-established framework. Throughout transition, we stay in close contact with the MSI to plan and monitor activities that have dependencies on the other party. We also create and maintain an Operating Agreement with the MSI to clarify roles, responsibilities, and expectations.

Role	MSI Coordinator
Skills & Experience Profile	

- Experience with project management principles and working in a multi-vendor environment;
- Ability to prioritize and share information in a timely, easily digestible manner;
- Excellent written and verbal communication skills;
- Ability to build Customer relationships and work with MSI to develop, implement, and support processes for Customer work orders and support requests;
- Experience working with customers to prepare and review work orders; and
- Ability to manage work order backlog and Customer priorities.

To support DIR governance as well as customers' needs, Socrata subject matter experts and advisors will be empowered to:

- **Provide timely information.** As requested by the MSI, designated Socrata leadership participate in Governance Committees and Solution Groups to provide information such as perspective on ongoing issues or new technologies and services.
- **Make recommendations.** Socrata works with the MSI, DIR, and other stakeholders to understand customer needs, functions, and processes and advocate for solutions that maximize value to customers and their constituents.

State of Texas

2.3 Desired Solution Functionality Narrative

Submitted To:
Amy Pfluger
Department of Information Resources
300 W. 15th Street, Suite 1300
Austin, Texas 78701
Phone: 512-936- 2353
Fax: 512-936- 6896
Internet: amy.pfluger@dir.texas.gov

Proposal Firm:
Steven Moerbe
Account Executive – State & Local Government
Phone: (512)-743-8608
Email: steven.moerbe@socrata.com

2.3 Desired Solution Functionality Narrative

2.3.1 General

a. [DIR Requirement] Describe the licensing model and licensing options for all proposed components. Describe how license counts can be increased or decreased.

Although the proposed implementation scope is limited to the Texas Open Data Portal, the Socrata Connected Government Cloud includes licenses to the entire suite of Socrata products. This means that the State of Texas will be able to add internal or external versions of the following Socrata technologies in the future without any additional subscription cost:

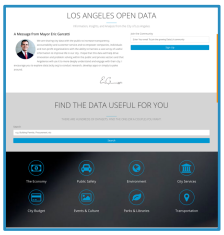
- Socrata Perspectives
- Socrata Performance Cloud
- Socrata Open Data Network
- Socrata Finance Suite (Open Checkbook, Open Budget, Open Payroll)
- Socrata X Apps (Citizen Connect, Capital Projects Explorer, Grants Explorer, etc)
- Socrata Data Pipeline and ETL Toolkit (w SafeFME)

The Socrata Connected Government Cloud includes the following licensing capacities:

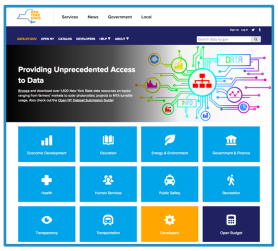
- 25 Monthly Active Users
- 500K External API Calls
- 2TB of Data Storage
- Unlimited Datasets
- Gold Support

b. [DIR Requirement] Describe how your solution supports customized looks/branding and URLs for multiple agencies under one license.

Socrata fully supports the customization of styling to align with the existing branding guidelines of an organization. This includes specifying colors, fonts, icons, and other visual iconography to retain continuity across all visual assets. The examples highlighted below show different Socrata customers and demonstrate the variety of configuration options available to our customers.



https://data.lacity.org/



https://data.ny.gov/

https://data.cincinnati-oh.gov/

Multiple Agency Branding and URLs Under one License

Multiple Agency Branding specifications and URLs are accomplished using sub-catalogs. Each agency would have its own subpath which would be a filtered version of the catalog based on metadata, and would come with its own featured datasets and lightweight branding. Example: https://communities.socrata.com/catalogs/code-michigan/

c. [DIR Requirement] Describe how external agencies submit data sets directly to the portal and any licensing impacts.

To submit datasets to the Texas DIR instance on the Socrata platform, external agencies would need to have user accounts on the portal with permissioned roles that allow them to upload data to the portal. Granting these roles and permission is entirely under the control of Texas DIR site administrators. Once given the permission to upload data, users from other agencies will have the same data ingress options as Texas DIR employees described later in this document under **"2. Features and Usability g. [DIR Requirement] Describe your automation process and how DIR would upload data to the portal.**" If desired, Texas DIR can implement an approval workflow that will require all new data from external agencies to be approved by a Texas DIR admin before it is published and able to be shared publicly.

d. [DIR Requirement] Identify what staff resources you will need from DIR to implement the solution including type of skill set, number of staff, and % of time required by each resource.

In our experience of over 300 Socrata Deployments, the programs that are most successful bring forward the following skill sets:

1. **Executive Sponsorship:** It is important to have someone on the project team who can make decisions and provide thought leadership to ensure that the resulting product is successful. For example, Socrata will work with Texas DIR's team to build the program foundation which includes defining key stakeholders, establishing program objectives and success criteria, and building a program roadmap. We require an individual who can make an informed contribution to these discussions. This individual should plan on being available for ~3 days at

the start of a project, and be available for short check-ins throughout the implementation. We estimate that this might total 5-10% of an Executive Sponsor's time over the period of implementation.

2. **Program Management:** While Socrata provides a Program Manager to coordinate much of the engagement, Texas DIR will need a Program Manager who can coordinate Texas DIR's project team. This person will not only help with coordination, but is typically skilled in using the technology and provides support to Departments and/or Subject Matter experts throughout the implementation. In Socrata's experience, a Program Manager should expect to spend 20-50% of their time on the engagement.

3. **Program Owners:** As the solution will be aligned to key initiatives that Texas DIR is undertaking, it is necessary to have the involvement of departments and program owners who are accountable to the success of those initiatives. They will partner will Socrata consultants and Texas DIR's project team to identify Texas DIR's program objectives and goals that will leverage the solution. We estimate that a Program Owner will spend 5-10% of their time on the engagement.

4. **Subject Matter Experts:** Depending on Texas DIR's data model, Department Leads or SMEs may be required to participate in curating the data and creating visualizations. The level of effort required by the SME will depend on their familiarity with the data, their ease of access to the data, and the number of datasets. Time required of a SME can range from very minimal, e.g. only 2-3 hours total, to 10% of their time for the duration of the engagement.

5. **Data Analyst:** Socrata's best practice includes publishing not only clean and well curated data, but also data that is up-to-date. This means that we will work with Texas DIR's team to automate data publication for applicable datasets. To do this, we will require a team member from Texas DIR to assist in extracting data from source systems and, if applicable, writing transformations. The level of effort required of this person will depend primarily on the ease of access to the sources system(s), their ability to transform the data, and the number of datasets. In Socrata's experience, the Data Analyst can expect to spend 10-50% of their time on the engagement.

e. [DIR Requirement] Describe how your solution promotes public and end user interaction in the system.

The proposed open data portal includes an intuitive, context rich, discoverable user interface that encourages citizens to find, interact, share, and request data from the Open Data Portal.

f. [DIR Requirement] Please provide several examples of current Governmental Agencies that are using your product for an Open Data Portal.

Our work with clients leveraging the same data platform proposed to Texas DIR clients from across public-facing and government organizations. We have provided below a non-exhaustive list of clients who are taking advantage of Socrata's platform in one capacity or another, and we are happy to provide additional details about any of these if valuable to Texas DIR stakeholders in its evaluation of our response. These customers include states: State of California, State of Colorado, State of Connecticut, State of Hawaii, State of Indiana, State of Maryland, State of Michigan, State of Massachusetts, State of Maine, State of New Jersey, State of New York, State of Oklahoma, State of Oregon, State of Rhode Island, State of Texas, State of Utah, State of Vermont, State of Washington - Cities: Austin, TX, Baltimore, MD, Chicago, IL, Dallas, TX, Detroit, MI, Las Vegas, NV, Los Angeles, CA, Memphis, TN, Nashville, TN, New Orleans, LA, New York City, NY, San Francisco, CA, Seattle, WA - Counties: Los Angeles County, CA, Cook County, IL, San Diego County, CA, Metro Nashville/Davidson County, TN, Montgomery County, MD, Fulton County, GA and over 15 Federal agencies.

g. [DIR Requirement] Describe how you assist clients in marketing and promoting community engagement of an Open Data initiative.

Socrata takes our customer success personally and has invested in a Customer Marketing team to accomplish the goals of promotion and community engagement of your deployment. The Socrata Customer Launch Team provides a launch kit of activities that will create the biggest impact for your launch. The activities in the launch kit include:

- Promotion on Twitter;

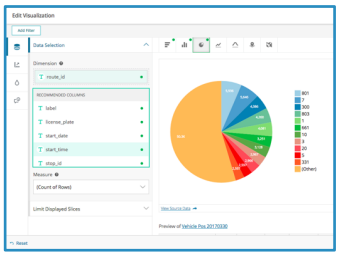
- Promotion on the Customer Community - via forum threads and challenges that incentivize other customers to share the news about the launch via social;
- Announcement in our bi-monthly customer newsletter;
- Featured blog post, (here's a sample) with social promotion;
- A resource kit of best practice guides and templates they can use to promote their launch - including press release templates, social media best practices, and launch ideas.
- *Image: Socrata helps place news stories in major media outlets with consistent success.*

The Launch Kit also include links to how other governments have promoted their sites. For instance, when Massachusetts launched their CTHRU site, they received coverage in a variety of media outlets — like Route Fifty, local publications, and local news. Colorado Springs recently launched their site and gained recognition from the local press as well. Socrata believes launching a site is key to its adoption and success, which is why we partner with so many of our customers during their launch efforts.

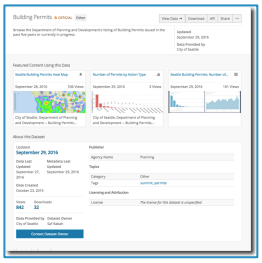
2.3.2 Features/Usability

a. [DIR Requirement] Describe what makes your solution intuitive and easy to use.

Socrata has adopted a persona-based approach to addressing usability for the wide spectrum of data stakeholders including general public users, developers, data set publishers, and administrators. This philosophy allows us to develop software with each persona's goals, workflows, and expected user scenarios in mind. A persona represents a cluster of users who exhibit similar behavioral patterns in their purchasing decisions, use of technology or products, customer service preferences, lifestyle choices, and the like. The result is software designed to align with the user's needs in the most usable manner.

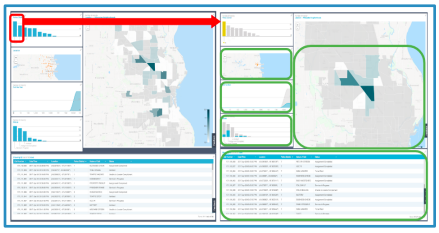


Creating a visualization in real-time in Socrata is simple. You select the dataset and the dimension and the suite recommends the best visualization type for your needs

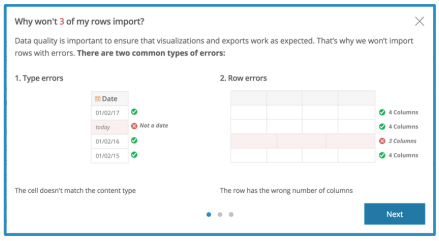


All Socrata datasets include a "Primer" page which provides valuable context and metadata about the data before directing consumers to the raw rows/columns themselves, to ensure consumers understand what they are exploring before diving in.

Socrata Perspectives provides an intuitive drag-and-drop interface for building data-driven narratives using your data, visualizations, and external resources



Socrata's visualization suite supports "visual cross-filtering" of datasets by allowing users to selectively filter, drill-down, and explore key elements of data while the visual context responds to their exploration

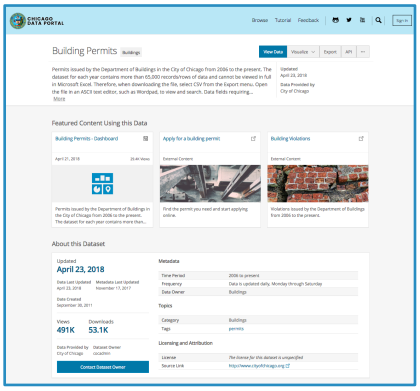


Socrata's data ingress process helps improve the quality of data loaded to the platform with intelligent error identification. Here, problematic data elements are identified and optionally removed from an uploaded file while the dataset continues to process behind-the-scenes.

Customers can configure the branding and navigation of their site to maximize usability and discoverability of their data. Above, State of NY offers quick access to their most-requested data categories and developer resources.

b. [DIR Requirement] Describe the metadata management capabilities in your solution and how metadata is displayed to the end user.

The Socrata platform provides powerful administration capabilities for creating and administering hierarchical metadata. Site-wide and asset-specific metadata can be configured in a wide variety of ways. For instance, all metadata entries (asset title, description, categories, etc) can be created, edited, and modified by asset owners and administrators through a graphical user interface. Asset metadata can include an arbitrary number of tags and custom-configured-metadata fields, and any added fields can be specified as accessible to the broader public or limited to just the internal publishing organization. Additionally administrators can specify which metadata fields are "required" for publishers to fill out and which are "optional" to align with their desired internal processes.



Data owners can also specify "column-level" metadata on applicable assets; for example, publishers can specify column titles and descriptions to maximize understanding of their data, during the initial publishing process or anytime thereafter.

Metadata is displayed to users on the Socrata Dataset Landing Page - the page the user is ushered to after they select a dataset from the catalog.

c. [DIR Requirement] Describe the various methods to search and index data.

Socrata offers automatic, full-text indexing of every dataset, including its metadata attributes and all its data content at the cell level. This enables robust keyword searches across the entire catalog and within datasets. Results identify where instances of the search keywords were found, and provide previews of the individual rows with a match.

Because the platform indexes data down to the row and cell level, a keyword search for information will surface all datasets containing relevant content, as well as display content contained within the data sets (not just the metadata). Datasets and content will also be surfaced by searches across the major search engines, further extending the reach of the data published to the public portal.

d. [DIR Requirement] Describe how large data sets are handled, if any size restrictions exist, and how a user would work with a dataset that is too large to work with online.

There are no restrictions on the size of a dataset that can be uploaded to the Socrata Open Data platform. The flexibility to easily ingest and store different types of data with completely different schemas, without requiring a developer, makes Socrata especially well-suited to large, heterogeneous data sharing scenarios requiring a "self-service" data publishing workflow. Socrata's platform was architected to enable high-performance data ingestion and querying against datasets over 100 million rows. Since all datasets on the Socrata platform are API enabled, in the event that a dataset is too large to work with through the web interface, a user can access the data through the API endpoint and can query it or otherwise manipulate it with any tool or programming language of their choice.

e. [DIR Requirement] Describe how your solution allows for feedback to and engagement of specific datasets.

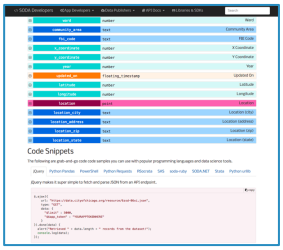
Users of the Open Data Portal can contact dataset owners directly, they can participate in a conversation on a dataset-by-dataset basis, and users can request and vote for additional datasets through the Open Data Portal.

f. [DIR Requirement] Describe how your solution works with unstructured datasets.

Unstructured datasets can be stored on the Socrata Open Data Platform in their original format as linked files that can be downloaded in their entirety, or can be accessed programmatically with a variety of data analysis and transformation tools or programming languages.

g. [DIR Requirement] Describe your automation process and how DIR would upload data to the portal.

Socrata technology has integrated with hundreds of different systems, and we have built connectors and workflows for the most common technologies to make connecting with your legacy systems pain-free. Data can be pulled into the Socrata system in the following ways:



Publisher API

Socrata exposes the entire spectrum of publishing capabilities that are available interactively, via the Publisher API, for programmatic publishing. This includes uploading data, setting metadata, and allowing for append/replace/delete operations without loss of data or metadata. Publishers can populate data in-line, append additional rows and replace the entire dataset rows using the "replace" functionality without affecting the existing metadata.

ETL Tools, Open Source, Safe FME and Others:

In addition to the Manual Upload Wizard and Publisher API, publishers can manage the flow of data to the platform through a variety of other methods. These include the use of third party ETL solutions such as FME Desktop or Pentaho (both officially supported by Socrata). Publishers can also set up FTP Dropbox for regular ingestion of data from a designated location.

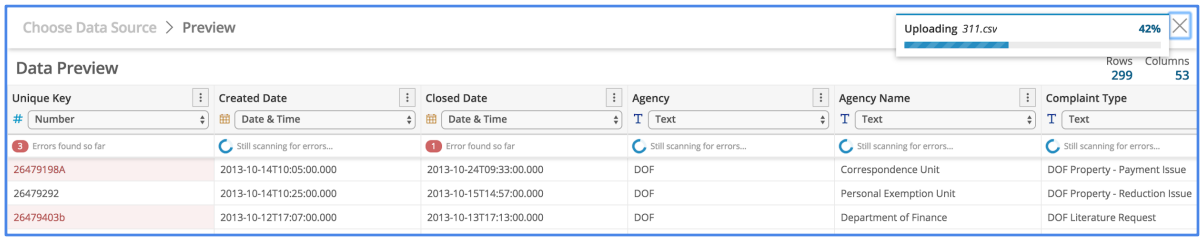
Details of the New Socrata Data Pipeline

Socrata's Data Pipeline tool offers a user friendly, performant, and fault tolerant Graphical User Interface (GUI) for setting up manual and automated data integrations. This capability will enable Texas (IT and non-IT users alike) to focus on their business without spending all of their time on the technology behind data integration.

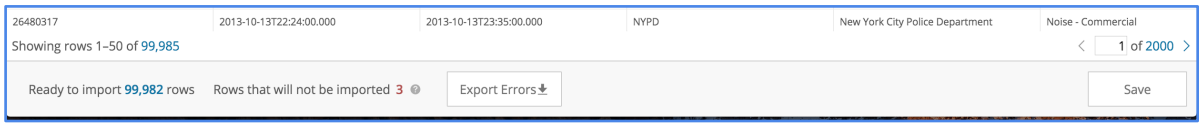
The Socrata Data Pipeline is designed for large-scale, cloud-based distributed processing. Users get feedback about the quality of their data within seconds, even while the file is still uploading to Socrata's platform -- regardless of the file size. Users can interactively explore how their data will look and act on the Socrata platform and apply transformations to their data to harmonize for consumption and reuse. Data transformation libraries allow non-technical users to apply consistent transformations to improve harmonization and interoperability with other datasets. Data pipeline processes can be unique for each data set, enabling jurisdiction and department-specific business rules. Any data pipeline process can be fully automated for subsequent data updates. The GUI easily scales to tens of millions of rows (gigabytes) and supports multiple file formats.

How it works

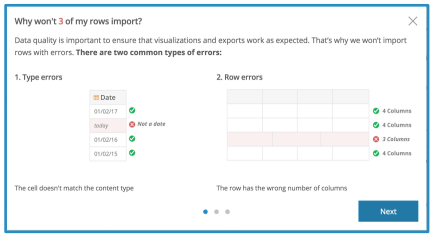
The Data Pipeline tool is powered by an intuitive, powerful, and accessible API. Users have access to the same tools for programmatically publishing data as the engineers who built the UI, enabling them to write automated jobs with the same feature set as the UI. Further, users can leverage this API to easily connect a variety of data sources and extend their applications to communicate with Socrata without using the UI.



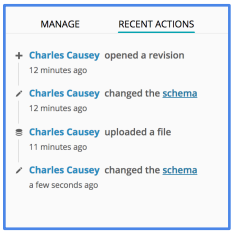
Users get feedback on the quality of their data while the file is still uploading with errors highlighted and the ability to quickly filter down to problematic values.



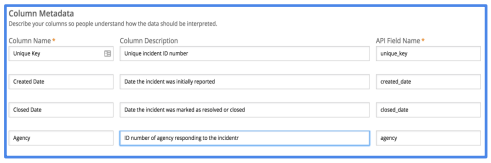
Users can export the rows that contain errors, so they can work on cleaning up those rows, without interrupting the process.



Contextual help suggests potential problems and solutions for users' data.



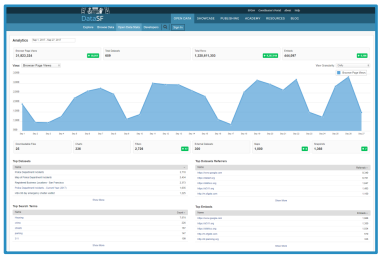
Audit trail of who took actions on a dataset and when. User can revert to previous versions of the dataset in the event of errors.



Streamlined column metadata entry process facilitates data harmonization to all users, and API field names make the data available for application developers.

h. [DIR Requirement] Describe the usage analytics and metrics/reporting capabilities of your solution.

The Socrata solution supports the ability to monitor usage on the platform using a variety of metrics. Our platform includes timely analytics on usage, distribution, and traffic patterns across all assets published on one's site, and key metrics can be reviewed by browser type (Internet Explorer, Chrome, Firefox, etc) and asset type (dataset, visualization, data catalog, etc). Data can also be sliced by time and reviewed for each separate dataset, as well.



The solution tracks the following metrics by default: page views, total datasets, total rows, data rows added/removed, views from web embeds, and snapshots created, as well as data on one's top datasets (by view traffic), top web referrers, top search terms, number of API requests, downloads by dataset, and more. Socrata's solution makes it easy for site administrators to understand the *impact* of their work - to see what data is being used, when, and from where.

The proposed solution will include three dashboards in addition to the out-of-the-box analytics that the platform provides. These dashboards will better describe user engagement across the portal. One dashboard will show agencies who is accessing and using their data. The second will allow that allows DIR to see similar usage across the ODP, and the third will allow for users to see analytical metrics on data they are interested in.

i. [DIR Requirement] Describe how your solution handles real time sensor data (traffic signals, traffic congestion, automated utility meters).

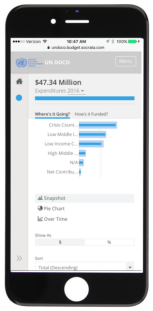
Socrata has experience building applications and data visualizations that use real-time data streaming pipelines built with open source or technology provided by partners. Socrata also has experience building connections between these real-time data sources and the Socrata Open Data platform to enable both the public and internal users access to the most up to date data. Examples of our ability to collect real time data are the Austin Vehicle Positions Dataset (https://data.texas.gov/Transportation/Vehicle-Positions-JSON-File/cuc7-ywmd). These datasets are automatically updated as new data is created using our publisher API.

j. [DIR Requirement] Detail your compliance with website standards such as ADA.

Socrata is committed to making its interfaces as accessible as possible to all users, and our solutions have been developed and are maintained in accordance with Section 508 of the Rehabilitation Act, as well as the World Wide Web Consortium (W3C) guidelines for accessibility.

k. [DIR Requirement] Describe how your solution automatically scales to fit any form factor or screen size (desktop, tablet, mobile, etc.).

All of Socrata's interfaces are designed to be mobile-responsive out of the box so that users can access critical data - including charts, graphs, and other visualizations - across desktop, mobile, and tablet devices, and easily share that information on their personal social channels to maximize the overall accessibility and impact of this data.



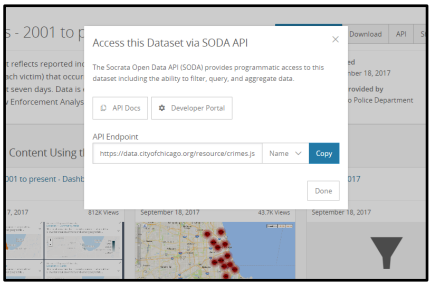
2.3.3 Integration

a. [DIR Requirement] Describe all the methods utilized to upload datasets to the Open Data Portal including file uploads, web service integration, and direct integration with DIR data sources.

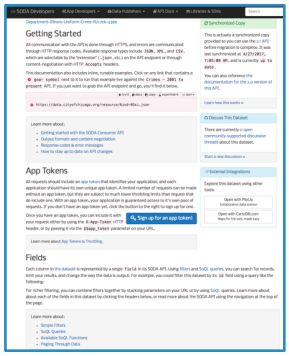
Please see Requirement "**g. [DIR Requirement] Describe your automation process and how DIR would upload data to the portal**" above.

b. [DIR Requirement] Describe how accessible the API is to REST, JSON, and other services.

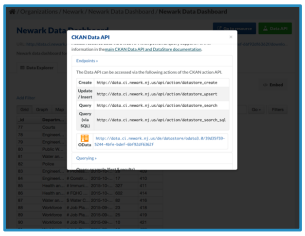
The Socrata API sets the gold standard for government for APIs that developers actually want to use. This includes not just a "metadata" API that allows access to metadata, but API access to the data itself - at scale and for datasets of *any* size (this is an area where platforms like CKAN and DKAN fall short). In fact, every dataset in Socrata is automatically accessible using the Socrata Open Data API (SODA), an open, standards-based and non-proprietary API for public or authenticated access to data (a RESTful JSON endpoint). Since 2010, SODA specifications have been available to the Open Data community under a Creative Commons license. As a result, SODA is now the most widely used open data API in the world, with applications making nearly one billion API calls per month, and pulling 14TB of data per month.



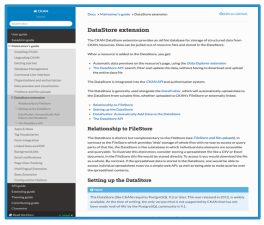
The City of Chicago's API Endpoint is provided when viewing any dataset. Here, a developer has the opportunity to also view customized API documentation and applicable code libraries. https://data.cityofchicago.org/Public-Safety/Crimes-2001-to-present/ijzp-q8t2



Socrata provides the world's best open data API documentation (pictured above left are API docs for the City of Chicago's Crime Incidents dataset), which is a major reason why it is the most widely used and recognized Open Data API in the world. With it, developers can access customized bootstrap code, app tokens, field descriptions, system development kits in multiple languages (pictured right) and a test console to test their code and monitor the code payload response. Compare this rich documentation experience with the limited resources provided by CKAN, described below.



City of Newark's Open Data Portal (CKAN) APIs for datasets, available at http://data.ci.newark.nj.us/dataset/newark-data-dashboard/resource/39d35f59-5244-4bfe-bdef-6bf92df6362f Like all CKAN-hosted datasets, this dataset includes only two brief code samples and limited guidance on required code syntax.



CKAN's linked API documentation for each dataset is a link to generic developer documentation: http://docs.ckan.org/en/latest/maintaining/datastore.html. Contrast this guidance with the dataset-specific resources provided with every Socrata dataset, which developers worldwide love.

c. [DIR Requirement] Describe what mechanisms you have to interface with the ESRI ArcGIS online Open Data Portal.

Socrata offers multiple integration points with Esri ArcGIS products, ensuring that the Socrata data catalog is the central hub for users to search, discover, and explore all of an organization's data -- geospatial or otherwise. Recognizing that departments and users across organizations have different needs met by different tools and workflows, Socrata provides a data-as-a-service platform that puts the choice of how deeply to integrate with Esri products into the hands of administrators.

We know that non-expert data consumers can find it confusing to navigate across multiple sites to find the data they need, and that the organizational reasons which cause certain data to be hosted on a Socrata Publica site, or an ArcGIS Open Data site, or an ArcGIS Server are not important for users to understand (data consumers don't care - they just want to find their data!). Consumers want to discover data efficiently and then use the appropriate software to explore, visualize, and share their data. Socrata makes this a reality by offering a variety of Esri integrations.

Specifically, Socrata provides three types of integrations with Esri tools:

- Geospatial data federation via the Catalog Connector for ArcGIS Server;
- Geospatial data connection and synchronization via the Catalog Connector for ArcGIS Server;
- Asset federation via the Data.JSON Connector for ArcGIS Open Data (as all ArcGIS Open Data sites include a read-friendly data.JSON endpoint. E.g. arcgisopendata.state.gov/data.json).

d. [DIR Requirement] Describe how the API responds to invalid calls.

In the event of an improper API call, Socrata attempts to provide meaningful error messages to help developers form correct requests. For example, if an API request is made against a nonexistent asset, the Open Data API responds with a typical "404: Not Found" response. However, if an incorrect argument is passed to the API, the API responds with an error message identifying the unrecognized element in the query.
In the query below the request is attempting to filter out all data where the field fiscal year is not equal to "2012."

https://data.texas.gov/resource/m4zx-x9af.json?fiscal_year<>2012
- will return the response:

```
{
 "error" : true,
 "message" : "Unrecognized arguments [fiscal_year<>2012]"
}
```

2.3.4 Technical

a. [DIR Requirement] Describe how your solution scales for future growth.

The Socrata platform is hosted on Amazon Web Services infrastructure and provides users with an elastic, on-demand experience that automates costly infrastructure (i.e., memory and processor) configuration processes. Because we've teamed with the world's leader in scalable cloud computing, Socrata's Data Platform is provided as a utility service that can scale to tens of thousands of concurrent users as well as datasets containing millions of records on demand. The shared platform hosts hundreds of thousands of datasets and responds to millions of API calls monthly, and still provides real-time response throughout for visual filter queries on datasets over 10 million rows.

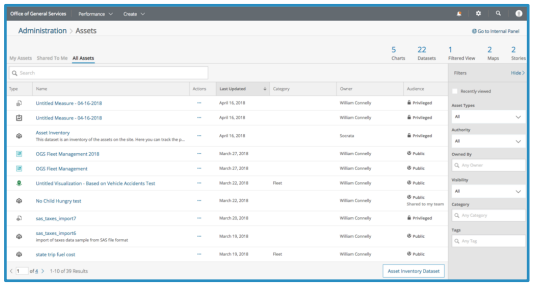
b. [DIR Requirement] Describe your permissions model, security roles, and support of user accounts.

Administrators are able to assign a number of roles to other users allowing the delegation of tasks on the platform and enabling other users to create and manage datasets. Socrata users can have roles on a domain which define the types of actions they can perform for all datasets on the domain, as well as high-level operational control of the domain itself. Examples of these actions include importing data, adding features, or managing users.

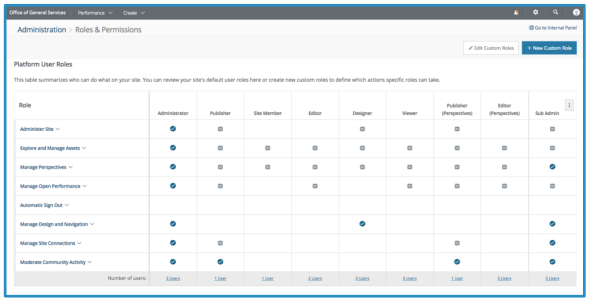
The set of roles are Viewer, Editor, Designer, Publisher, and Administrator. Socrata users also have permissions per datasets -- which define the types of actions that someone is able to perform on a specific dataset. Examples include editing a dataset, viewing a dataset, and publishing a dataset. Dataset-level level permissions can be used to designate Viewers, Contributors, and Owners.

New Permissions Model for Open Data on Socrata Connected Government Cloud

As part of the proposed upgrade, the Socrata Open Data Portal now provides out-of-the-box data governance capabilities that will allow system administrators to create structures and processes to transform, harmonize, administer metadata, create team and user structures to govern access to that data, establish approval workflows, and provide internal consumers, contributors, data stewards, and auditors to access their system assets (reports, graphs, combined datasets) in a single location. This easy-to-use data governance capability will ensure Texas can configure the access controls needed to maintain cross-program privacy while still empowering its various users with the data and collaboration space needed to perform their daily tasks involving data.



*SCGC **Asset Inventory** gives users and stakeholder groups a single location to manage their own (and shared) datasets , reports, visualizations, metadata, workflows, transforms, and all other object entities within the platform. From here, owners, data stewards, and data auditors can perform their job functions and collaborate with others.*



*SCGC **Roles, and Teams Permissions Editor** ensures data governance and privilege management controls are in place. OJP Administrators will define roles, assign permissions, and allocate those roles to teams as appropriate. The permissions editor allows for over highly granular assignment permissions per role, including over 40 different read/write/create/delete style controls.*

c. [DIR Requirement] Describe your approach to pre-published or staging of datasets prior to public release.

The Socrata platform "Approvals" module allows administrators to review datasets prior to public release and also to restrict the ability of other users to make data publicly accessible. When data is loaded onto the platform it can be published as either "Public" or 'Private." If a dataset is "Private" it is accessible only to the owner of the dataset as well as the other users or teams with which the owner has directly shared it. If the dataset is "Public" it is accessible to anyone who can access the domain's data catalog. The owner of the dataset can change the visibility of a dataset or related asset from "Private" to "Public," however the Approvals module will allow named approvers with administrative rights to "Approve" or "Reject" the change. This allows site administrators to control which data is released to the public and creates a level of review to prevent accidental release of information before it is ready for wider consumption.

d. [DIR Requirement] If DIR decides to migrate to a different open data Portal, describe the process on how you will facilitate this move. Include any costs incurred

In the event of a contract termination, Socrata will work with the customer to delete all datasets hosted on the platform and backups within the system. Socrata can provide the data to you in all of the format options that are available for download within the Socrata platform: CSV (Comma Separated Values), XML, JSON, RDF, RSS (with GeoRSS information if there is a Location column in the dataset).No costs would be involved in this exportation.

e. [DIR Requirement] Describe the options to convert DIR's current open data assets to this solution. Include any costs in the pricing spreadsheet.

DIR's current open data assets are currently in Socrata Open Data technology which minimizes the time and risk associated with migrating DIR's current open data assets. We have included a description of our migration plan in section 2.4 Implementation Plan of Response Package 2 of this proposal response.

State of Texas
Department of Information Resources

Attachment C

Desired Functionality Spreadsheet

Texas Open Data Portal
DIR-TSO-TMP-428

INSTRUCTIONS FOR DESIRED SOLUTION FUNCTIONALITY SPREADSHEET COMPLETION
Respondent shall select AT LEAST ONE of the three columns titled: YES/NO, ADDED COST, CUSTOM CODING. Select ALL items that apply. For example, if to meet the desired solution functionality or expectation where an added cost and custom coding is involved, an "X" would be placed in both the "ADDED COST" and "CUSTOM CODING" columns. The column definitions are below:
YES/NO – Enter **YES** if the desired solution functionality or expectation is included in the current available release of the Solution or is part of the implementation. Enter **NO** if the desired solution functionality or expectation is not included in the current available release of the Solution and is **not** part of the implementation.
ADDED COST - Enter an "X" if the desired solution functionality requires an added cost. These costs **MUST** be listed in the price proposal in the Desired Solution Functionality tab. If custom coding is also required, select the custom coding box as well.
CUSTOM CODING – Enter an "X" if the desired solution functionality requires custom coding changes within the solution. If this column is selected and there will be an **ADDED CHARGE** for the custom coding, this charge **MUST** be included in the price proposal in the Desired Solution Functionality tab. A fixed fee cost for performing the custom coding must be proposed.
Comments - Respondent must supply a brief description of how the Solution meets the desired solution functionality or expectation. If the Solution cannot meet the entire functionality or expectation as stated, ANY and ALL exceptions must be noted. A comment is REQUIRED for all line items.

Requirements			Select ALL columns that apply *1 column MUST be selected*			Describe how the functionality is met and list any exceptions. Reference any additional materials in appendices
Category	**ID**	**FUNCTIONALITY OR EXPECTATION**	**YES/NO**	***ADDED COST**	***CUSTOM CODING**	**COMMENTS are REQUIRED for every line item below**
1.0 General	1.1	The Vendor will provide staff to work directly with the DIR project manager to plan the project, lead the requirements definition, implement the solution, conduct training, and provide support during and after the project.	Yes	No	**No**	Socrata's Project Manager will serve as the main POC and will oversee our proposed project team throughout the design, implementation and deployment of the Socrata solution. The Data Analyst and Developer will be heavily integrated into the requirements definition and overall implementation -- and post-launch, our Customer Success Manager will provide ongoing support and consultation for the longer-term success of Texas DIR.
1.0 General	1.2	The implementation should be a turnkey solution with a short configuration and implementation time that meets our schedule of 8/31/2018.	Yes	No	**No**	Socrata's solutions are delivered as Software as a Service (SaaS), meaning the data portal (including all of the existing datasets maintained within the existing State of Texas Open Data Portal) will be provisioned and available for active development on day one. The project schedule we have proposed within this response, which includes upgrades applied to the existing data portal, aligns with Texas DIR's launch schedule of August 2018.
1.0 General	1.3	The Vendor will be the prime owner provider of the complete solution including subcontractor arrangements, if any. The vendor will be responsible for completion delivery and communication	Yes	No	**No**	Socrata is positioned as prime contractor on this engagement, with Deloitte serving as subcontractor across data checking and accuracy, and multi-source servicing integration. Our company will serve as the main POC on this effort, leading all team members to a successful completion of this project prior to August 2018.
1.0 General	1.4	The Vendor will facilitate discussion, provide guidance, and share best practices in setting up and configuring an Open Data platform.	Yes	No	**No**	Socrata's Blueprint project methodology is a seven-step process that spans Planning, Education, Design, Data, Build, Launch, and Evolution. We will actively lead the Texas DIR team in incorporating open data best practices within our solution -- ensuring that it meets both the short-term and longer-term business objectives and data sharing needs of DIR. All design standards and policies that must be addressed will be included in the design and requirements definition of our solution.
1.0 General	1.5	Vendor will provide assistance with developing custom themes that comply with DIR design standards and policies.	Yes	No	**No**	Socrata fully supports the customization of styling to align with the existing branding guidelines of an organization. This includes specifying colors, fonts, icons, and other visual iconography to retain continuity across all visual assets.
1.0 General	1.6	Vendor will utilize the domain name provided by DIR as the URL for all the datasets published in the ODP and the Texas brand associated with the ODP.	Yes	No	**No**	This is supported out-of-the-box with our solution. Launch includes DNS and SSL setup for one (1) custom domain, which we can match with Texas DIR's domain name requirements.
1.0 General	1.7	The Vendor will provide guidance to model, setup, and configure datasets, metadata, visualizations around key performance indicators, and narrative stories.	Yes	No	**No**	The "Design" and "Build" stages of the proposed Blueprint Implementation Methodology provides a comprehensive set of guidance activities detailed in the proposed statement of work that cover all required aspects of the system - including configuration, metadata, visualizations, administrative / permissioning / workflows, etc. - and will be designed for each team member based on their role.
1.0 General	1.8	Vendor will integrate with DIR's Shared Services Operating Model and Multi-sourcing Service Integrator as stated in the RFO Section 2.1.6 and Exhibit 2.1.1, Cross Functional Services Statement of Work.	Yes	No	**Yes**	We have included our response to RFO Section 2.1.6 and Exhibit 2.1.1 Cross Functional Services Statement of work in "Attachment 2.1 Technical Solution Summary" of Response Package 2 -- which describes our approach to meeting this requirement. Our MSI approach is described at the tail end of the reference document.

Requirements			Select ALL columns that apply *1 column MUST be selected*			Describe how the functionality is met and list any exceptions. Reference any additional materials in appendices
Category	**ID**	**FUNCTIONALITY OR EXPECTATION**	**YES/NO**	***ADDED COST**	***CUSTOM CODING**	**COMMENTS are REQUIRED for every line item below**
2.0 Features/Usability	2.1	Solution complies with all applicable Information and Communications Technologies (ICT) accessibility technical standards including 1TAC 206, 1TAC 213, and Web Content Accessibility Guidelines (WCAG) 2.0 Level AA and facilitate accessibility of content authored within the solution.	Yes	No	**No**	Socrata is committed to making its interfaces as accessible as possible to all users, and our solutions have been developed and are maintained in accordance with Section 508 of the Rehabilitation Act, as well as the World Wide Web Consortium (W3C) guidelines for accessibility. Socrata recommends running its own 508 Accessibility Tests on prospective vendors that claim their interfaces are accessible.
2.0 Features/Usability	2.2	Solution provides tightly integrated metadata for all data published to the platform.	Yes	No	**No**	The Socrata platform provides powerful administration capabilities for creating and administering hierarchical metadata, and it comes pre-configured to align with the Project Open Data metadata schema version 1.1 -- allowing additional custom taxonomies and fields specific to US government agencies.
2.0 Features/Usability	2.3	Solution provides robust search functionality and comprehensive indexing to allow users to easily find, manipulate, and filter datasets. Search options include keyword, field name, agency.	Yes	No	**No**	Socrata offers automatic, full-text indexing of every dataset, including its metadata attributes and all its data content at the cell level. This enables robust keyword searches across the entire catalog and within datasets. Results identify where instances of the search keywords were found, and provide previews of the individual rows with a match.
2.0 Features/Usability	2.4	Solution will provide site performance search engine optimization for google, yahoo and other hosted search engines	Yes	No	**No**	Socrata automatically categorizes, classifies, and annotates data to maximize its discoverability for a variety of data consumers. This advanced analysis is an essential part of our technical solution for powering a world-class data discovery experience, and it reduces the burden on resource-constrained data publishers who often struggle to get high-quality metadata from data owners spread out across their organizations. Socrata-added metadata is a large part of what makes Socrata-hosted data so discoverable via search engines like Google and Bing, and what facilitates on-platform discovery of relevant data assets. Socrata's Open Data Network also makes data discoverable through search engines and was designed with search
2.0 Features/Usability	2.5	Solution provides comprehensive dataset indexing with the ability to search by fields within data set	Yes	No	**No**	Because the platform indexes data down to the row and cell level, a keyword search for information will surface all datasets containing relevant content, as well as display content contained within the data sets (not just the metadata). Datasets and content will also be surfaced by searches across the major search engines, further extending the reach of the data published to the public portal.
2.0 Features/Usability	2.6	Solution provides the ability to create a custom view to allow the ability to pre-filter (before display) the dataset, including multiple and flexible criteria options.	Yes	No	**No**	Socrata's catalog view contains a sidebar with clickable filters across several facets of the portal's datasets. The customer-defined categories are listed, and can be clicked to quickly filter the results before that data is displayed. Filters are also present for type of dataset, user entered tags, and can be added for any other custom metadata fields defined by the customer. Filters and search terms can be combined. For example, a user can filter the catalog for datasets of a certain category, then narrow down the resulting datasets with a search term.
2.0 Features/Usability	2.7	Solution will have the ability to download filtered views in such that the on-screen view matches the download. These filtered views include dataset, metadata and site data.	Yes	No	**No**	This requirement is met out-of-the-box with our solution. All data on the Socrata Open Data portal can be filtered directly using the platform provided filtering capability, which appears on the page with each dataset. This can be used to filter the data by values found in any column according to a variety of numeric or text-based criteria. Datasets can also be searched by keyword - which will perform a global search across the dataset and return any rows containing the value. Both filtered views of the data can be saved for future use and will appear as separate assets in the portal catalog. In addition to category filters, users can create filtered views of individual datasets that are also discoverable in the Open Data Catalog. Users have a variety of criteria they can apply to the filters using simple query-building UI controls. These filtered views are downloadable and will download only the dataset rows that match the filter.
2.0 Features/Usability	2.8	Solution provides the ability to save filtered search criteria and custom views for future use.	Yes	No	**No**	Users can save filtered views of the catalog itself by applying search criteria and then copying the URL. This can then be linked from the portal home page or from any domain owned by a customer to grant access to segments or subsets of the catalog, as desired.
2.0 Features/Usability	2.9	Solution provides the ability to store, upload and search datasets that vary in size from small to very large (give size) and include GIS data (size)	Yes	No	**No**	There are no restrictions on the size of a dataset that can be uploaded to the Socrata Data platform. The flexibility to easily ingest and store different types of data with completely different schemas, without requiring a developer, makes Socrata especially well-suited to large, heterogeneous data sharing scenarios requiring a "self-service" data publishing workflow. The Socrata Data Platform holds datasets of over 100 Million Rows like the NYC Taxi Trip Dataset which includes GIS location data.
2.0 Features/Usability	2.10	solution should provide the ability to upload/download very large datasets (10M rows) at [speed].	Yes	No	**No**	Socrata's platform was architected to enable high-performance data ingestion and querying against datasets over 100 million rows. Since all datasets on the Socrata platform are API enabled, in the event that a dataset is too large to work with through the web interface, a user can access the data through the API endpoint and can query it or otherwise manipulate it with any tool or programming language of their choice. Socrata has extensive experience ingressing/integrating massive datasets and having those datasets updated on a daily/hourly basis. We have provided a link to the City of Chicago Crime dataset which is over 15 Million rows and is automatically updated nightly. https://data.cityofchicago.org/Public-Safety/Crimes-2001-to-present-Dashboard/5cd6-ry5g State of Texas Evaluators are encouraged to visit the City of Chicago Crime dashboard and use the mouse to create a filter on the timeline in the upper left to observe the responsiveness of the 15M row dataset. When a user selects a time range, the remaining dataset views will immediately be filtered to match the user's selection, with sub-one-second response times on a very large dataset.
2.0 Features/Usability	2.11	Solutions will include user friendly easy to create modeling and visualization features	Yes	No	**No**	Using the Socrata Visualization Suite from within Socrata Perspectives, employees and public users can create and share stunning, interactive chart and map visualizations within Socrata, or embed within Office documents and across the web. Socrata offers 13 different visualization formats available out-of-the-box, which can be dynamically applied to datasets for maximum flexibility in displaying critical information. The visualization capabilities are also easily extended with built-in extensions for third-party systems like Plot.ly, Tableau, R, Office 365, and Google Spreadsheets for an even richer analysis experience.
2.0 Features/Usability	2.12	Solution provides the ability to associate documentation (attachments, links to other resources) related to a dataset.	Yes	No	**No**	Any number of files can be attached to a dataset to allow for full documentation to accompany that dataset. A data dictionary or a document with detailed description of the dataset and its metadata can be attached in this way, and this will always accompany the dataset.
2.0 Features/Usability	2.13	Solution provides the ability to automate and schedule the ETL (extract transport and load) data publishing process.	Yes	No	**No**	Yes - In addition to the Manual Upload Wizard and Publisher API, publishers can manage the flow of data to the platform through a variety of other methods. These include the use of third party ETL solutions such as FME Desktop or Pentaho (both officially supported by Socrata). Publishers can also set up FTP dropbox for regular ingestion of data from a designated location.
2.0 Features/Usability	2.14	Solution provides the ability to automate publish/append incremental updates to data.	Yes	No	**No**	Yes - Socrata's automation capabilities include publishing tools that lets you easily update/upsert/replace/etc data programmatically and automatically (scheduled), without writing a single line of code.
2.0 Features/Usability	2.15	Solution provides the ability to have a dataset that provides different views with redacted and full data (production vs non-production)	Yes	No	**No**	Yes. This feature is provided by the Socrata solution out-of-the-box.
2.0 Features/Usability	2.16	Solution provides user friendly interactive Data Visualization capabilities that are easy to generate and manage by non-technical individuals.	Yes	No	**No**	Using the Socrata Visualization Suite and Socrata Perspectives, users can create visualizations on top of datasets within a few clicks and embed them in the data catalog or onto drag-and-drop web-pages or reports. The Socrata Visualization suite has been built for non-technical individuals and leverages artificial intelligence to understand the data and guide the user on which chart/map types to choose based on that understanding.
2.0 Features/Usability	2.17	Solution provides a host of user friendly flexible, built-in visualization options (full range of chart options) including but not limited to changing legends, use of gauges or ...	Yes	No	**No**	Socrata offers multiple custom visualizations outside of the core library, and our datasets are fully extensible into
2.0 Features/Usability	2.18	Solution provides the ability for an end user (administrator, state agency, constituent to create and save personalized visualizations including filtered data. User friendl	Yes	No	**No**	Authenticated users can create and save visualizations and filters on the proposed Socrata Open Data Portal
2.0 Features/Usability	2.19	Solution provides the ability for both geospatial and non-geospatial datasets to be portrayed in dashboard and narrative views	Yes	No	**No**	In addition to our expertise in tabular/non-geospatial data, Socrata offers an integrated and extensible stack for
2.0 Features/Usability	2.20	The system will have the ability to geocode addresses and locations for mapping	Yes	No	**No**	Yes. Socrata provides a native geo-coding service or can sit on top of the State's geo-coding service. Data geocoded
2.0 Features/Usability	2.21	Solution provides analytics that show the popularity, general use, and trends related to published datasets	Yes	No	**No**	The Socrata solution supports the ability to monitor usage on the platform using a variety of metrics. Our platform
2.0 Features/Usability	2.22	Solution provides detailed usage and statistical metrics including but not limited to the following with the purpose of guiding engagement (# of views at a dataset level, #	Yes	No	**No**	Socrata's built-in analytics will provide detailed metrics for all of this information. As stated in the requirment above
2.0 Features/Usability	2.23	Solution provides the ability to support other languages including Spanish. Describe how a Spanish only speaker can utilize the portal	Yes	No	**No**	Socrata currently offers localization services to customers at no extra charge for some languages. Spanish is currently
2.0 Features/Usability	2.24	Solution provides the ability to benchmark data with other organizations using the system	Yes	No	**No**	Yes, this requirement is met out of the box via the Open Data Netowork (www.opendatanetwork.com). The Open
2.0 Features/Usability	2.25	Solution meets Texas Administrative Code Chapter 213. http://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac_view=4&ti=1&pt=10&c	Yes	No	**No**	The Socrata platform meets standards as defined in the Texas Administrative Code Chapter 23 broadly and
2.0 Features/Usability	2.26	website	Yes	No	**No**	Yes. Texas DIR staff can include any information within the ODP to guide users on how best to use the tools and
2.0 Features/Usability	2.27	System will have the ability to 'undo' last 5 steps	Yes	No	**No**	Yes. The Socrata Data Portal maintains a audit log and version history that allows a user to "undo" and revert to

Requirements			Select ALL columns that apply *1 column MUST be selected*			Describe how the functionality is met and list any exceptions. Reference any additional materials in appendices
Category	**ID**	**FUNCTIONALITY OR EXPECTATION**	**YES/NO**	***ADDED COST**	***CUSTOM CODING**	**COMMENTS are REQUIRED for every line item below**
3.0 Integration	3.1	Solution provides an Open API that allows full feature access to the portal (datasets, visualization, metadata, etc.).	Yes	No	**No**	Yes. The Socrata Open Data API provides an open, standards-based, RESTful application programming interface for datasets (includes data and metadata). By offering programmatic access to data, we allow developers to combine datasets and web services to create new applications and mashups. All datasets uploaded to the Socrata platform are automatically provided with a RESTful JSON and GeoJSON endpoint, allowing developers to leverage data within the platform through a familiar and powerful API built on open standards. This API endpoint is used for both publishing and consuming data. As a demonstration of the power and usability of our Open APIs, Socrata builds all of its user interfaces, including the
3.0 Integration	3.2	Solution provides ability to integrate and embed access to external data sets.	Yes	No	**No**	Yes. External datasets can be automated into the Socrata Open Data Portal as raw data or linked to external locations. External datasets will be discoverable through the Open Data Catalog and APIs.
3.0 Integration	3.3	System provides ability to integrate easily with GIS and handles GIS formats (mapping).	Yes	No	**No**	Yes. Socrata integrates with a variety of GIS providers and GIS formats including GeoJSON. Specific functionality notes on ESRI GIS Integration via the Socrata Catalog Connector: Geospatial data that is connected via the Socrata Catalog Connector creates a native dataset on Socrata, offering all of Socrata's mapping, visualization, and API functionality for geospatial datasets originally hosted on an ArcGIS Server. Socrata provides three types of integrations with Esri tools: 1. Geospatial data federation via the Catalog Connector for ArcGIS Server; 2. Geospatial data connection and synchronization via the Catalog Connector for ArcGIS Server; and 3. Asset federation via the Data.JSON Connector for ArcGIS Open Data (as all ArcGIS Open Data sites include a read-friendly data.JSON endpoint. E.g. arcgisopendata.state.gov/data.json). Broadly, Socrata administrators can choose to federate all (or a subset of) geospatial assets from an Esri ArcGIS Open Data site or public Esri ArcGIS Server into their Socrata data catalog. Doing this allows disparate geospatial assets to be discoverable via a "one stop shop" of a Socrata data catalog. Additionally, Socrata administrators can choose to connect all/specific geospatial assets from a public Esri ArcGIS Server into Socrata, allowing these assets' data to be loaded and synchronized into a Socrata site. This also allows data consumers to combine this data with additional Socrata-provided datasets, and to explore maps using Socrata's powerful visualization tools, among other things. All of these integrations are automatically updated every 24 hours, ensuring data and metadata always remain up-to-date.
3.0 Integration	3.4	Solution provides ability for integration of social networking like commenting on datasets, sharing datasets, and ability to rate/rank/nominate datasets.	Yes	No	**No**	The Socrata Data Platform facilitates collaboration around data, through commenting, sharing, and regular updates. End users are also able to share what they find and/or create on social networks, and on their blogs.
3.0 Integration	3.5	Solutions provides the ability to embed views, web page and links	Yes	No	**No**	Yes. Users can embed links, web pages, images, and other resources on the data platform.
3.0 Integration	3.6	The ability to integrate training/ educational videos or link within the main page of the ODP and at the agency level.	Yes	No	**No**	Yes. Videos can be embedded on any page of the ODP to provide training and high-level educatin for specific users.
3.0 Integration	3.7	System will have seamless integration with ESRI products	Yes	No	**No**	Yes. Socrata offers multiple integration points with Esri ArcGIS products, ensuring that the Socrata data catalog is the central hub for users to search, discover, and explore all of an organization's data -- geospatial or otherwise. Recognizing that departments and users across organizations have different needs met by different tools and workflows, Socrata provides a data-as-a-service platform that puts into the hands of administrators the choice of how deeply to integrate with Esri products.

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Category	**ID**	**FUNCTIONALITY OR EXPECTATION**	**YES/NO**	***ADDED COST**	***CUSTOM CODING**	**COMMENTS are REQUIRED for every line item below**
4.0 Technical	4.1	The system provides the ability to define user groups with varying security levels for (Create, Read, Update, Delete) interactions with the system.	Yes	No	**No**	Administrators are able to assign a number of roles to other users, allowing the delegation of tasks on the platform and enabling other users to create and manage datasets. Socrata users can have roles on a domain which define the types of actions they can perform for all datasets on the domain, as well as high-level operational control of the domain itself. Examples of these actions include importing data, adding features, or managing users. The set of roles are Viewer, Editor, Designer, Publisher, and Administrator. Socrata users also have permissions per datasets -- which define the types of actions that someone is able to perform on a specific dataset. Examples include editing a dataset, viewing a dataset, and publishing a dataset. Dataset-level level permissions can be used to designate Viewers, Contributors, and Owners. With the proposed upgrade to the Socrata Connected Government Cloud, the State of Texas will see significant improvements in configurable permissions modeling of groups and roles. This includes the ability to create new roles with granular permissions management, and the ability to create groups which give users the ability to share data privately within their department before sharing to the global private organization or publishing publically.
4.0 Technical	4.2	The system provides automatic date and timestamp by user ID for all activity in the system and keeps an audit trail of all activity in the system (edits, deletions, etc.).	Yes	No	**No**	In the administrative panel, "Recent Actions" provide dataset owners with an audit trail of who took actions on a dataset and when. This functionality also allows the user to revert to previous versions of the dataset in the event of errors.
4.0 Technical	4.3	The system will provide the ability to filter activity specific to the agency so that the agency can see only the agencies activity.	Yes	No	**No**	Yes. This feature is provided out-of-the-box with our solution.
4.0 Technical	4.4	The system will have the ability to customize forms and/or websites to require waiver/ disclaimer prior to viewing data.	Yes	No	**No**	Yes. This feature is provided out-of-the-box with our Forms solution as well as our ability to configure the Open Data Portal website pages. Users are also allowed to define usage license types on an individual dataset basis.
4.0 Technical	4.5	Vendor will not purge data without written consent from DIR.	Yes	No	**No**	Socrata fully complies with this requirement.
4.0 Technical	4.6	Solution provides the ability to support private (controlled access) and public (non-controlled access) portals along with production and non-production environments.	Yes	No	**No**	Yes, in this proposal Socrata has included a production and non-production instance of Socrata for private and non-controlled access. In addition to the option to use multiple instances, the proposed upgrade to the Socrata Connected Government Cloud allows the State to manage controlled and non-controlled access to the portal using permissioning controls provided by the platform.
4.0 Technical	4.7	This requirement has been withdrawn. Respondents do not need to answer this requirement.	Yes	No	**No**	n/a
4.0 Technical	4.8	Solution provides the ability to interpret and process data such that dates are detected as dates, numbers as numeric values, etc.	Yes	No	**No**	Yes. This requirement is met out-of-the-box with our solution.
4.0 Technical	4.9	Solution provides the ability to be branded with DIR name and logo in the open data portal and mobilized application.	Yes	No	**No**	Socrata fully supports the customization of styling to align with the existing branding guidelines of an organization. This includes specifying colors, fonts, icons, and other visual iconography to retain continuity across all visual assets.
4.0 Technical	4.10	Solution provides user privilege levels at minimum for administrator, publisher and consumer (view)	Yes	No	**No**	Yes. This is an out-of-the-box feature, allowing site administrators full access to dictate user permissions across various user roles on the system.
4.0 Technical	4.11	Solution provides self service for new user account creation with appropriate permissions, excluding administrator privileges	Yes	No	**No**	Yes. This is fully supported out-of-the-box with our solution.
4.0 Technical	4.12	Solution allows publishers the ability to add, modify, delete only their own datasets	Yes	No	**No**	Yes. This will take place via User Permissioning, in which administrators can assign a number of roles to other users allowing the delegation of tasks on the platform and enabling other users to create and manage datasets.
4.0 Technical	4.13	Solution provides the ability to manage, view and store GIS data along with mapping and data access through geocoding	Yes	No	**No**	Socrata offers an integrated and extensible stack for geospatial analysis and visualization. It allows for the management, viewing, and storing of GIS data through geocoding.
4.0 Technical	4.14	Solution provides publishers the ability to enable permissions for other publishers or consumers to view private data or nonpublished data	Yes	No	**No**	Yes. This is an out-of-the-box feature, allowing site administrators full access to dictate user permissions across various user roles on the system.
4.0 Technical	4.15	Solution will retain historical data on deleted datasets	Yes	No	**No**	The new features of the Socrata Plaform include an activity log as a basic feature that records actions on the portal, such as dataset creation, deletion of datasets and dataset records, addition of records to datasets, and changes to dataset schemas. This allows administrators to review changes (and deletions) to datasets and approve or reject edits (and deletions) and additions to data on the platform.
4.0 Technical	4.16	Solution will allow GUI form creation with access to store data in a 'backend' dataset	Yes	No	**No**	Users can automatically create html forms for all datasets on the Socrata platform. This form can be embedded on any website and can be used to submit (add rows) to the existing dataset and will be reflected in the "back-end" dataset as it is on the Socrata platform.
4.0 Technical	4.17	System on screen view will match the download screen and data format when data is exported. Fields (columns and rows) will be in the same order	Yes	No	**No**	Yes. This requirement is met out-of-the-box with our solution.
4.0 Technical	4.18	System will have the ability to automatically create a form for future use based on usage patterns.	Yes	No	**No**	Users can automatically create html forms for all datasets on the Socrata platform. The automatically generated html for each form can be embedded on any internally or externally accessible website and can be used to submit data to the Socrata dataset.

Requirements			Select ALL columns that apply *1 column MUST be selected*			Describe how the functionality is met and list any exceptions. Reference any additional materials in appendices
Category	**ID**	**FUNCTIONALITY OR EXPECTATION**	**YES/NO**	***ADDED COST**	***CUSTOM CODING**	**COMMENTS are REQUIRED for every line item below**
5.0 Support	5.1	DIR will retain full access and control of all datasets on the Open Data Portal even if the data is migrated to a different platform at a later time	Yes	No	**No**	Yes. Texas DIR will fully own all access and control over all datasets.
5.0 Support	5.2	DIR expects the Vendor to provide a dedicated client representative who has strong working knowledgeable of their product, and to have a support process to log issues, track status and request system enhancements.	Yes	No	**No**	Socrata's Project Manager will serve as the main POC and will oversee our proposed project team throughout the design, implementation and deployment of the Socrata solution. Post-launch, our Customer Success Manager will provide ongoing support and consultation for the longer-term success of Texas DIR.
5.0 Support	5.3	At the conclusion of any resulting contract, Vendor will assist DIR with transition of the Open Data Portal to the awardee of any subsequent Open Data Portal contract.	Yes	No	No	platform and backups within the system. Socrata can provide the data to you in all of the format options that are available for download within the Socrata platform: CSV (Comma Separated Values) XML JSON RDF RSS (with GeoRSS information if there is a Location column in the dataset)
5.0 Support	5.4	Vendor will provide 150 training hours per year to be used at the administrator/ SWDC choosing	Yes	No	No	High-Level Training Plan & Delivery Format At the outset of our Plan stage, Socrata's Program Manager will create an in-depth program plan that includes all activities, timelines, and resources to deliver the defined outcomes within the project. This is augmented by an Education / Training plan, which outlines every live and online course that we recommend Texas staff take, based upon their role within the organization. There is no limit to the number of times classes can be taken, allowing users to repeat classes when they need a refresher or update on new features. There are no seat licenses either, so you can onboard new Socrata users at any time as your program grows to include new team members, departments, or agencies. Some of the instructor-led, recorded, and in-person courses that will be available as a part of this project include: Publish and Visualize Using Socrata Open Data Portal Design Session Basics for Socrata Open Data Portal Socrata Open Data Portal Site Administration Tell a Story with Socrata Perspectives Build Goals and Dashboards Using Socrata Performance Socrata Performance Site Administration Introduction to Automated Publishing Advanced Data Integration Configure Your Socrata Public Finance Site Discover the Open Data Network (ODN) Launching & Promoting Your Data Program Make the Most of the Latest Features Socrata follows a "train the trainer" model as part of our delivery of all education services. This enables our team to help each customer create a strong base of power users that can go on to train additional administrators with ease. Our focus on this type of model leads to repeatable process and will enable Texas to scale its data administration with ease. Beyond the training included here, an additional 150 hours annually has been included in the pricing section of the
5.0 Support	5.5	Vendor will provide ongoing technical support and account management staff through the life of the contract	Yes	Yes	No	We are committed to helping you make your Socrata solution a success. We understand that each organization has unique needs, and our Customer Support Programs are designed to let you choose the right program to meet your team's needs. This includes varying levels of online / phone support, coaching hours, education and ongoing training, and SLAs.