

# TraCSS Data and Information Policy

Updated March 6, 2025

## 1. Introduction

The Traffic Coordination System for Space (TraCSS) is being developed by the Office of Space Commerce to provide space situational awareness (SSA) data, information, and services that support global spaceflight safety, space sustainability, and international coordination. This data and information policy was developed to support these objectives and to align with national and agency guidance, including Space Policy Directive 3 direction to enable greater SSA data sharing, consistent with national security constraints. This updated policy also incorporates feedback provided by the space safety community on the earlier drafts of the TraCSS Data Policy.

This policy describes the conditions under which TraCSS data will be made available, either openly to the general public, or on a more restricted basis to registered TraCSS users (i.e. spacecraft owner/ operators and national governments). The document also addresses the types of information that TraCSS will request from users registered in TraCSS.

This policy emphasizes the importance of transparency and open data sharing to best promote spaceflight safety. In addition to furthering Space Policy Directive 3, this aligns with the:

- Foundations for Evidence-Based Policymaking Act (Evidence Act), Public Law 115-435, which describes responsibility of U.S. government agencies to make data “open by default,”
- NOAA Data Strategic Action Plan, which states: “Sharing NOAA data as openly and widely as possible, maximizing its utilization by NOAA partners, stakeholders, and the public, is foundational to NOAA’s mission,”<sup>1</sup>
- American Institute for Aeronautics and Astronautics (AIAA) Satellite Orbital Safety Best Practices, which state, “predicted ephemerides with covariance should be generated and shared without restriction.” They also note, “if a feature or approach is discoverable after launch, then it should be shared explicitly before launch.”
- Space Safety Coalition Best Practices for the Sustainability of Space Operations, which encourage “spacecraft owners, operators and stakeholders to exchange information relevant to safety-of-flight and collision avoidance, including, at a minimum operator points-of-contact, ephemerides, ability to maneuver, and maneuver plans”
- World Economic Forum Space Situational Awareness Data and Information Sharing Principles, which state, “SSA data and information should be made open by default while remaining consistent with national laws and regulations.”

Sharing TraCSS data openly to the maximum extent possible consistent with national security and applicable law ensures that data is available for all spacecraft owner/ operators, government and commercial space situational awareness (SSA) service providers, researchers, and members of the general public. Open sharing of this data:

- Promotes spaceflight safety and international cooperation by enabling straightforward and efficient coordination among spacecraft operators and global SSA providers,

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<sup>1</sup> NOAA Data Strategic Action Plan 2022

- Enables research and innovation that can lead to improved SSA techniques and improve spaceflight safety and sustainability in the future,
- Promotes the growth of the commercial SSA sector, which can build on these basic data and information to develop and provide innovative new products and services,
- Supports public awareness of key issues of space safety and sustainability.

## 2. TraCSS Open Data

The majority of data, information, and products generated and used by the TraCSS system will be made openly available. Open data will be made publicly available with no restrictions on use under the Creative Commons 0 Public Domain Dedication (CC0 1.0), eliminating the need for a separate user agreement. This data and information will be made available on the TraCSS website and will not require users to sign in or register for a TraCSS account. TraCSS intends to leverage the NOAA Open Data Dissemination (NODD) Program, so this data will reside in, and be available in, the cloud.

The following data, information, and products will be made openly available by the TraCSS Program:

- DoD public element sets catalog (aka two-line elements (TLE) catalog)
- TraCSS-generated special perturbation (SP) ephemerides catalog without covariance
- DoD public satellite catalog (SATCAT), *including satellite name and NORAD ID, launch date, launch location, international designator, apogee, perigee, period, inclination, and size (binned RCS) provided by the DOD*
- NASA mass and size catalog, *developed by NASA based on U.S. sensor data and additional sources*
- Satellite attributes provided to TraCSS by satellite owner/ operators
- Satellite ephemerides with covariance and maneuver plans provided to TraCSS by satellite owner/ operators
- TraCSS conjunction notifications (TCNs) *for all events that meet “alertable criteria” defined by TraCSS, including events involving operational objects and/or debris.*
- Other publicly-available information, as relevant

Some of this data may be incorporated into a publicly-available database that includes information on spacecraft that can be queried to generate a wide range of derived products.

## 3. TraCSS Restricted Data: Owner/ Operator Operational Contact Directory

Operational contact information provided by spacecraft owner/ operators registered in TraCSS will be included in a directory made available to all TraCSS-registered satellite owner/ operators and national governments to support spaceflight safety. This information will also be shared with other national and regional SSA systems to simplify and facilitate more efficient coordination among the global spacecraft operator community. It may also be shared with the United Nations Office of Outer Space Affairs, consistent with the Guideline B1 of the UN Guidelines for Long-Term Sustainability of Outer Space. These entities may redistribute data to additional spacecraft owner/ operators not registered in TraCSS to facilitate coordination in the event of a predicted conjunction.

#### **4. TraCSS Restricted Data: Conjunction Data Messages (CDMs)**

CDMs are standard messages including spacecraft conjunction information. Access, use, and redistribution of CDMs will be subject to the following restrictions:

- Spacecraft owner/ operators registered in TraCSS receive CDMs for conjunctions in which their spacecraft are involved.
- National governments registered in TraCSS can access CDMs for all spacecraft affiliated with their nation. (Note that a single satellite may be affiliated with more than one nation.)
- CDMs are to be used to support spaceflight safety and can only be redistributed to entities with whom the TraCSS registered user has a contractual relationship.
- Derived products developed based on CDMs may be redistributed. (Note: Derived products are defined as those that involve sufficient processing and/or modification to ensure that extraction of the principal features and characteristics of the original information is not possible.)

#### **5. Data Provided by TraCSS Registered Users**

To become TraCSS registered users, spacecraft owner/ operators and national governments will need to provide selected information as part of the registration process. They will also be encouraged to provide additional information on an ongoing basis.

***Spacecraft Owner/ Operators:*** Upon registration in TraCSS, spacecraft owner/ operators will be asked to provide basic organizational information (organization name, location, and account contact information), operational contact information, and spacecraft information and attributes. Spacecraft owner/ operators are encouraged to provide predicted ephemerides with covariance and maneuver plans on an ongoing basis. Candidate maneuvers and anomaly reports may also be submitted to TraCSS, as relevant.

Operational contact information, including individual names, phone numbers, or email addresses will be available to a restricted set of entities, as described above. Account contact information, candidate maneuvers, and anomaly reports will only be used internally U.S. government entities. All other information provided to TraCSS, including spacecraft information and attributes and predicted ephemerides with covariance and maneuver plans, must be provided to TraCSS under the Creative Commons 0 Public Domain Dedication (CC0 1.0). TraCSS will facilitate broad public sharing of this information by making it openly available on the TraCSS website without restrictions. Access and use of this information will not require users to sign-in or register for a TraCSS account.

***National Governments:*** Upon registration in TraCSS, national governments will be asked to provide basic organizational information (organization name, location, contact information) as well as a list of spacecraft (with NORAD ID) affiliated with their country, based on criteria defined by TraCSS. (Note that each country will have only one national government account in TraCSS, although each national government account may accommodate users from multiple government agencies. Countries may make their own determination about which government entity creates and manages its TraCSS national government account.)

Information about spacecraft country affiliation will be made openly available under the Creative Commons 0 Public Domain Dedication (CC0 1.0). Data and information with this designation will be made available on the TraCSS website and access and use will not require users to register for a TraCSS account. (Note that government entities that own/ operate spacecraft will need to create a spacecraft owner/ operator account to provide information relevant to their spacecraft.)

#### **6. Commercial SSA Data and Information**

TraCSS is planning to make use of SSA data and information purchased from commercial SSA providers. The policy governing access to and use of this data will be defined in the applicable purchase agreement.