



**wde**

## SIF Data Transparency



## Transfer Mechanisms

When we talk about transfer mechanisms, we are referring to data moving electronically between a district and the Wyoming Department of Education (WDE). Two basic types of transfers occur: 1) **Push** - the data transfer is initiated by the district (usually automatically) and pushes the data to WDE. In one case, the WDE will also push data back to the district. This is done to assign a WISER ID to a student or staff member. This is currently the only data that is sent back to the district. 2) **Pull** - data transfer is initiated by WDE (automatic or manual) and pulls the data from the district. Currently, the WDE usually requests an entire class of objects from the district when pulling. It is possible to request data for a single ID, but this is only used rarely and usually for diagnostic purposes.

## SIF Push Events

District school information systems (SIS) have a real time event driven data push to the state. This is triggered on all new record creations and updates of existing records. The state currently listens to events generated by StudentPersonal, StudentSchoolEnrollment, StaffPersonal and StaffAssignment record types. While some SIS agents may publish additional events, these are currently ignored by state processing.

These events are crucial to the timely publication of state WISER IDs back to the district SIS. This workflow can be reviewed in the **workflow** section below.

## SIF Pull Requests

On a daily basis, data is requested from the district each SIS using a data pull strategy. During the pull, all records from the district are requested for both the StudentPersonal and StudentSchoolEnrollment objects. This full pull is essential for ensuring that a full student roster is available daily for the WYTOPP assessment roster. While event driven data can be helpful, communication issues may cause discrepancies or incomplete data to be received by the state. The full pull ensures we capture an entire snapshot of a district's enrollment data. Please refer to the **WYTOPP Roster workflow** below for more details.

## SIF Ad Hoc Pull

In the event that the state requires updated information throughout the school year, an ad hoc manual request for data can be pulled from the district SIS. This is performed as needed, but there are basically three situations in which data is requested: 1) At the beginning of each term of the school year. This allows association of students to new schools, school calendars and other associated data in the SIS. 2) As needed when school information is expected to update. 3) While diagnosing issues with connectivity to the district's SIS.

The specific SIF data objects requested ad hoc may include CalendarSummary, CalendarDate, LealInfo, SchoolInfo, StaffPersonal, StaffAssignment, StudentPersonal, StudentSchoolEnrollment, and StudentAttendanceSummary.

## Data Filtering

### SIF Zone Filtering

Before data is stored by WDE in the state data store, it must pass some validation in the SIF zone server. There are two basic types of filtering that can occur: 1) Validation filtering checks the SIF message for valid field values in each of the various fields. If basic validation fails, the data will be rejected and not saved. 2) Data omission of specific fields strips the SIF message of specific data elements before it is saved.

### Data Omission - Private Fields

These fields are stripped because they are considered confidential and should not be stored:

- StudentDemographic - Social Security Number
- StudentLocator - Social Security Number
- EmployeeCredential - Social Security Number
- EmployeePersonal - Social Security Number
- EmployeeRecertification - Social Security Number

### Data Omission - Unused Fields

These fields are stripped because they are not needed by WDE data collections or downstream systems. In many cases, districts use these values inconsistently, so they are not useful and cause zone validation issues. This often mistakenly filters students from the database.

- StudentPersonal - OnTimeGraduationYear
- StudentPersonal - ProjectedGraduationYear
- StudentSchoolEnrollment - Homeroom
- StudentSchoolEnrollment - FTPTStatus

## Validation Based Filters

After a student passes through the zone, their data is then stored in the WDE operational data store (ODS). The student's record must then pass WDE validation rules in order to be considered valid for other uses. Currently, this includes the WISER ID issuance and the WYTOPP roster. Additional data collections may add additional validation as they are developed for use. If a record does not pass validation, details on this issue can be reviewed in the data validation dashboard available to each district.

Errors identified during validation should be corrected in the SIS. The district SIS is considered the authoritative record for all state student and staff education data. Once the data is corrected by the district, the event based transfer will update the record at the WDE and the record will be revalidated. Once all validation is completed and successful, the student is removed from the dashboard and becomes active for downstream applications.

## SIF Data Workflows

### WISER ID Issuance

#### Student ID Provisioning

Students added to the SIS can be provisioned with state WISER IDs through a semi-automated process. In the situation where a student cannot be matched to an existing student, manual intervention is required to mediate the match.

#### ID Workflow

1. District/School personnel add a student to the local SIS system. This generates events that transmit the student's personal data to the state automatically.
2. Required student data needed by the state to perform ID matching is verified using an automated validation process. If any information is missing or invalid, the student record is marked invalid and correction information is sent to the validation front-end. Once the student is corrected and resubmitted, the process continues when the student is verified.
3. Student information is sent to the WISER ID matching system. Students are matched primarily on first name, last name and birthdate. Additional fields such as middle name, gender and grade help to strengthen the match.
4. There are three outcomes that the matching system will generate:
  - a. **MATCH:** The student exists, and has an ID. This ID is associated with the student and sent back automatically to the district SIS for population.
  - b. **NO MATCH:** The student does not match any other student. A new ID is generated for the student and this is assigned. The data is sent back automatically to the district SIS for population.

- c. **AMBIGUOUS:** The student partially matches one or more students already in the database. This record is marked for manual resolution and the district is notified that the student should be reviewed in the dashboard. The student is reviewed by district personnel to determine whether to accept the match or issue a new ID. The student information is then sent back automatically once this decision is made.

Note, there are also some manual upload methods to submit students to the matching system. These are used for bulk management of IDs. However, the automated ID passback to the SIS is not supported by this method.

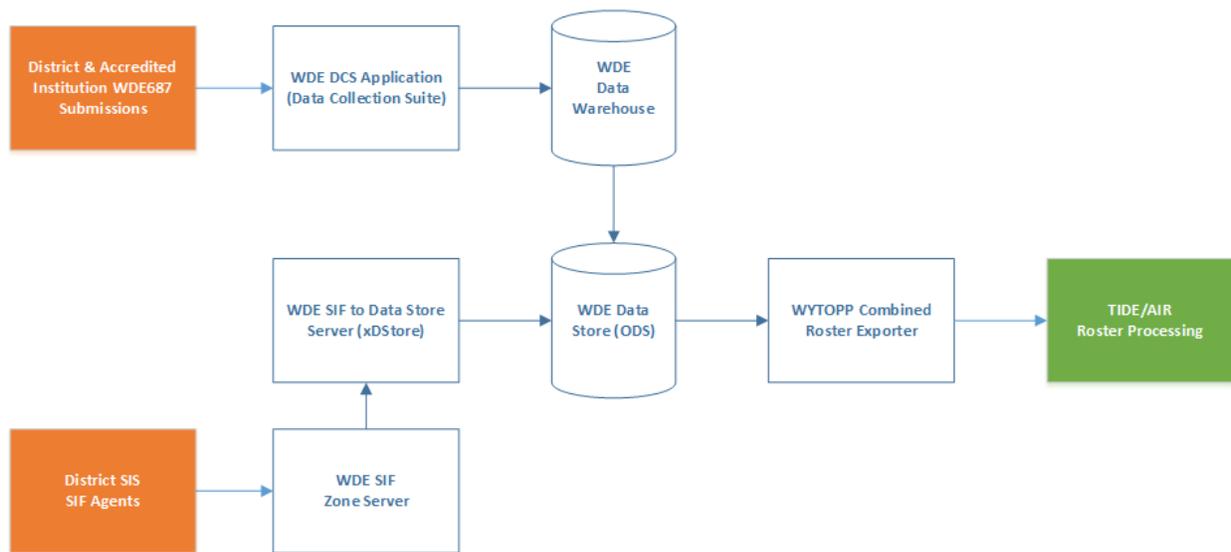
### Validation Requirements

Type	Field	Description
Required	First Name	Must be alphanumeric.
Required	Last Name	Must be alphanumeric.
Required	Birth Date	Required.

### Staff ID Provisioning

Staff IDs are currently not provided by the automated WDE workflow. This is due to the fact that not every district enters all of their staff members in the SIS. Discussion is in progress on how to mediate that issue. However, note that the ID passback for Staff WISER ID requests is still performed through a SIF return channel. Staff ID lookup may also include information for the staff member's former last name as needed. This will assist to significantly improve matches for staff members with previously issued WISER IDs under their original last name.

## WYTOPP Roster



WYTOPP Roster data is derived almost entirely from district SIS data that is communicated to the WDE through SIF data feeds. Some additional data is included in the roster from the DCS (Data Collections Suite) WDE687 collection. This collection is designed to allow accredited institution students and home school students to be included in the roster for testing.

All data for the roster is aggregated and verified in the ODS as it is received. This can occur from real time, event-based updates during the day or during the mass update which occurs during the overnight processing.

## Daily Roster Timeline

The roster is processed as a series of batch jobs. While data will flow in real time during the day to build the roster, the data is finalized overnight and sent to TIDE as a single file.

- 5:30pm - The roster's "day" begins at the end of the current day's work hours. At this time, any data in the WDE687 Accredited Roster collection is transferred to the ODS for later processing in the timeline.
- 12:00-1:30am - District SIS performs student rollover. This is somewhat dependent on the SIS vendor.
- 1:45am - WDE issues SIF data requests to all districts to provide a full StudentPersonal and StudentSchoolEnrollment data set.
- 3:00am - All requests should be complete. WDE now looks for invalid messages in the requested data packets and issues individual retry requests for any data groupings that may have contained invalid data.
- 4:00am - All roster data is aggregated and sent via secure file transfer (SFTP) to TIDE.
- 4:30am - TIDE processes the input file and data is locked down for the rosters for the coming school day. Changes cannot be made to the roster after this process is completed.

## Roster Validation Requirements

The following validations are performed on all incoming data to ensure it will not be rejected by TIDE during their roster processing. Students missing or having invalid data in mandatory fields will be rejected entirely by TIDE's processing system.

Type	Field	Description
Required	First Name	Must be alphanumeric. Foreign accent characters are currently considered non-valid. This is planned to change in Q1 2020.
Required	Last Name	Must be alphanumeric. Foreign accent characters are currently considered non-valid. This is planned to change in Q1 2020.
Optional	Middle Name	Must be alphanumeric. Foreign accent characters are currently considered non-valid. This is planned to change in Q1 2020.
Required	Birth Date	Date is reformatted when sent to TIDE. No specific validation is performed so long as a valid date is provided.
Required	WISER ID	Students without a WISER ID are not sent to TIDE. See WISER ID section for more information on how WDE SIF manages ID provision.
Required	Grade	Enrolled student grade. This is the primary home enrollment grade. Additional concurrent enrollments in other grades are not currently sent to TIDE. Note also, that students enrolled as PK will not be included in the roster.
Required	Race Code	The student's federal race code. Students can have multiple codes, but must have at least one. <b>Note</b> that this is specifically different than the Hispanic ethnicity flag.
Required	Gender	The student's gender. Currently accepted values are "M" and "F". Other values are rejected by TIDE.
Optional	ELL	Valid values are "Y", "N", "Yes" and "No". Other values will reject the student. If the value is blank it will be sent to TIDE as "N"
Optional	IDEA	Valid values are "Y", "N", "Yes" and "No". Other values will reject the student. If the value is blank it will be sent to TIDE as "N"
Optional	Hispanic/Latino	Valid values are "Y", "N", "Yes" and "No". Other values will reject the student. If the value is blank it will be sent to TIDE as "N"

Type	Field	Description
Optional	Section 504	Valid values are "Y", "N", "Yes" and "No". Other values will reject the student. If the value is blank it will be sent to TIDE as "N"
Optional	Homeschooled	Valid values are "Y", "N", "Yes" and "No". Other values will reject the student. If the value is blank it will be sent to TIDE as "N"

## Future SIF Workflows

WDE is in the process of automating data collection through direct SIF communication and utilizing the district SIS as an authoritative data source for these collections. Work is currently ongoing for these integrations and will utilize a parallel implementation to assess if the quality of data can be improved and maintained through automated collection.

## Student Attendance and Membership

The student membership collection WDE600 is one of the first collections which we plan to automate. Data for the collection will be derived from the student enrollments and attendance summary elements from the SIS. This automation is complicated by the need to integrate virtual school students into the collection.

## Courses & Student Section Enrollments

Student section enrollments are collected automatically, but this data is not currently used in collections. It is possible this data could help to automate the WDE684 collection.

# PII Data Usage

## Student Personal

### Stored Data Elements

Element	Description	Usage
RefID	Reference ID generated by SIF agents as internal identifier for student	Internal
LocalID	Local SIS internal ID.	Internal - resolution of issues
StateProvinceID	State WISER ID	Primary ID
First Name Last Name Middle Name Full Name	Name demographics for the student.	WISER ID matching WYTOPP Roster
Race	Federal race code	Matching/Roster
Hispanic/Latino	Field for hispanic ethnicity. Federal race code is an additional requirement.	Roster
Languages	List of primary languages for the student. <i>This is the authoritative Language and HomeLanguage value.</i>	N/A
Gender	Student demographic gender. Currently only "M" and "F" are supported.	Matching/Roster
Birthdate	Required	Matching/Roster
Place of Birth	District dependent	Rejected at zone boundary. Never written to a database.
State of Birth	District dependent	Rejected at zone boundary. Never written to a database.
Country of Birth	Optional	Rejected at zone boundary. Never written to a database.
DwellingArrangement_Code	District dependent	WDE684 Collection

Element	Description	Usage
Phone Number	Phone number provided by SIS	Rejected at zone boundary. Never written to a database.
Email	Student email if provided.	Rejected at zone boundary. Never written to a database.
Projected Graduation Year	District dependent. May be stored.	Rejected at zone boundary. Never written to a database.
On Time Graduation Year	District dependent. May be stored.	Rejected at zone boundary. Never written to a database.
GraduationDate	District dependent. May be stored.	N/A
Gifted Talented	District dependent. May be stored.	N/A
EconomicDisadvantage	District dependent. May be stored.	Rejected at zone boundary. Never written to a database.
VocationalConcentrator	District dependent. May be stored.	Rejected at zone boundary. Never written to a database.
School Local ID	Recent school ID, student enrollment school ID is considered record of authority.	
Homeroom Local ID	Not used, optional	Rejected at zone boundary. Never written to a database.
Grade Level	Recent grade level. Student enrollment grade is record of authority.	N/A
Title 1	“Yes” or “No”. Data will fallback to Wyoming extended value “StudentTitle1” if missing. <i>This is the authoritative Title1 value.</i>	Roster.
ELL	“Yes” or “No”. Data will fallback to Wyoming extended value “StudentELLRefused” if missing. <i>This is the authoritative ELL value.</i>	Roster.

<b>Element</b>	<b>Description</b>	<b>Usage</b>
Homeless	"Yes" or "No". <i>This is the authoritative Homeless value.</i>	Future WDE684.
Section 504	"Yes" or "No"	Roster
Immigrant	"Yes" or "No" May be stored, but not currently used in any WDE processing.	Roster
NeglectedDelinquent	District dependent. May be stored, but not currently used in any WDE processing.	N/A
FirstUSEnrollment	Date of first US enrollment. Optional. This value is provided to TIDE/AIR if assigned.	Roster

## Wyoming State Elements

<b>Element</b>	<b>Description</b>
Student ELLRefused	"Yes" or "No"
StudentELLMonitoring	"Yes" or "No"
Student IDEA	"Yes" or "No" Used as the primary IDEA value for submission of students to TIDE. This will allow the student to be setup with special accommodations for WYTOPP testing.
StateALTAssessment	"Yes" or "No" Can be used for WYTOPP rostering to indicate the student requires ALT testing accommodation.
Student Foster Care	District dependent. May be stored, but not currently used in any WDE processing.
Student Military Connected	District dependent. May be stored, but not currently used in any WDE processing.
Mother Home Phone	District dependent. May be stored, but not currently used in any WDE processing. REJECT
Student Ethnicity	District dependent. May be stored, but not

Element	Description
	currently used in any WDE processing.
Sp Ed	District dependent. May be stored, but not currently used in any WDE processing. This is a "Y/N" field and does not contain additional special education information.
ELL	District dependent. May be stored, but not currently used in any WDE processing. <b>This is not an authoritative source for ELL.</b>
Title 1	District dependent. May be stored, but not currently used in any WDE processing. <b>This is not an authoritative source of Title1.</b>
Homeless	District dependent. May be stored, but not currently used in any WDE processing. <b>This is not an authoritative source of Homeless.</b>
Alternate Telephone Number 2	Data rejected at zone, never loaded to a database.
AlertMedical	Data rejected at zone, never loaded to a database.
EducationYearsInUS	District dependent. May be stored, but not currently used in any WDE processing.
HomeLanguage	District dependent. May be stored, but not currently used in any WDE processing. <b>This is not an authoritative source of HomeLanguage.</b>
StateAssessmentSpecialForms	District dependent. May be stored, but not currently used in any WDE processing.
STUDENT_WEB_ID	Data rejected at zone, never loaded to a database.
Student_Web_Password	Data rejected at zone, never loaded to a database.
StudentNationalScholarship	District dependent. May be stored, but not currently used in any WDE processing.
STUDENTPERSONALDCID	Data rejected at zone, never loaded to a database.

Element	Description
StudentStateScholarship	District dependent. May be stored, but not currently used in any WDE processing.
UnaccompaniedYouth	District dependent. May be stored, but not currently used in any WDE processing.

## Filtered Data Elements

These elements are currently filtered and removed from student information at the Zone interface with the state and are never stored in the database.

Element	Description
Address Information	Data rejected at zone, never loaded to a database.
Other IDs	Only student WISER ID and Local SIS IDs are stored. All other IDs are removed at the zone boundary and not stored in the database.

## Staff Personal

### Stored Data Elements

Element	Description
RefID	Internal SIF ID for staff member. Unique by SIS entry
LocalId	Local SIS internal ID
StateProvinceId	State WISER Staff ID
Prefix LastName FirstName MiddleName Suffix PreferredName SortName	Name Demographics

<b>Element</b>	<b>Description</b>
FullName	
HispanicLatino	
Race	Standard federal race codes
Gender	
BirthDate	
PlaceOfBirth	District/SIS dependent REJECT
State of Birth	District/SIS dependent REJECT
Country of Birth	District/SIS dependent REJECT
Title	
Email	
Language	Primary spoken language(s) REJECT
Other IDs	District/SIS dependent. Can include SSN
Phone Number	

### Wyoming State Elements

<b>Element</b>	<b>Description</b>
CUSTOMPASSWORD CUSTOMUSERID LOGINID STAFFPERSONALDCID TEACHERLOGINID USERDCID	Only student WISER ID and Local SIS IDs are stored. All other values are removed at the zone boundary and not stored in the database.

# Additional Data Requests

## LEA Info

Once a year (at the beginning of the school year) and possibly as needed, the state will request a basic LEA/District record from each district SIS. This data is used internally to match students to districts and schools. It also provides display information for district names and district state ID numbers for data exports when required.

Note: Since the LEA object usually only contains a single element of information, the state will often request this data when connectivity issues are encountered. This allows for a quick test of interaction on the SIF system without causing undue burden on the district SIS.

## School Info

School info is also requested once a year or when a possible school change is anticipated. This data is essential to match student enrollments to their specific schools for WYTOPP rostering. Any invalid information in this area can cause rosters to place students into invalid schools.

## Student Enrollment

Enrollment data is essential to place students into the WYTOPP roster for assessment testing. Enrollment provides the student grade and school association, as well as a number of other accessory fields that may be used to provide accommodations for testing.

In the future, enrollment data will be essential for data collections specific to student membership and enrollment such as the WDE600 and WDE684 collections.

## Staff Assignment

While not currently used actively, the staff assignment may be used in the future to provision role membership for staff members in WDE applications. Since the SIS is not always an authoritative resource for all staff members in a district, this data may be sourced from other pathways in the future in order to provide consistent information for the automation of state reporting related to district staff (WDE602/652).

## Calendar Summary

Currently used to calculate date boundaries for enrollments in the WYTOPP roster. In the future, this will also be essential to help calculate student membership and attendance.

## Student Attendance Summary

In combination with student enrollment and calendar summary data, the student attendance summary will be used to calculate student membership for future automation of the WDE600 collection. This automation development is still ongoing.