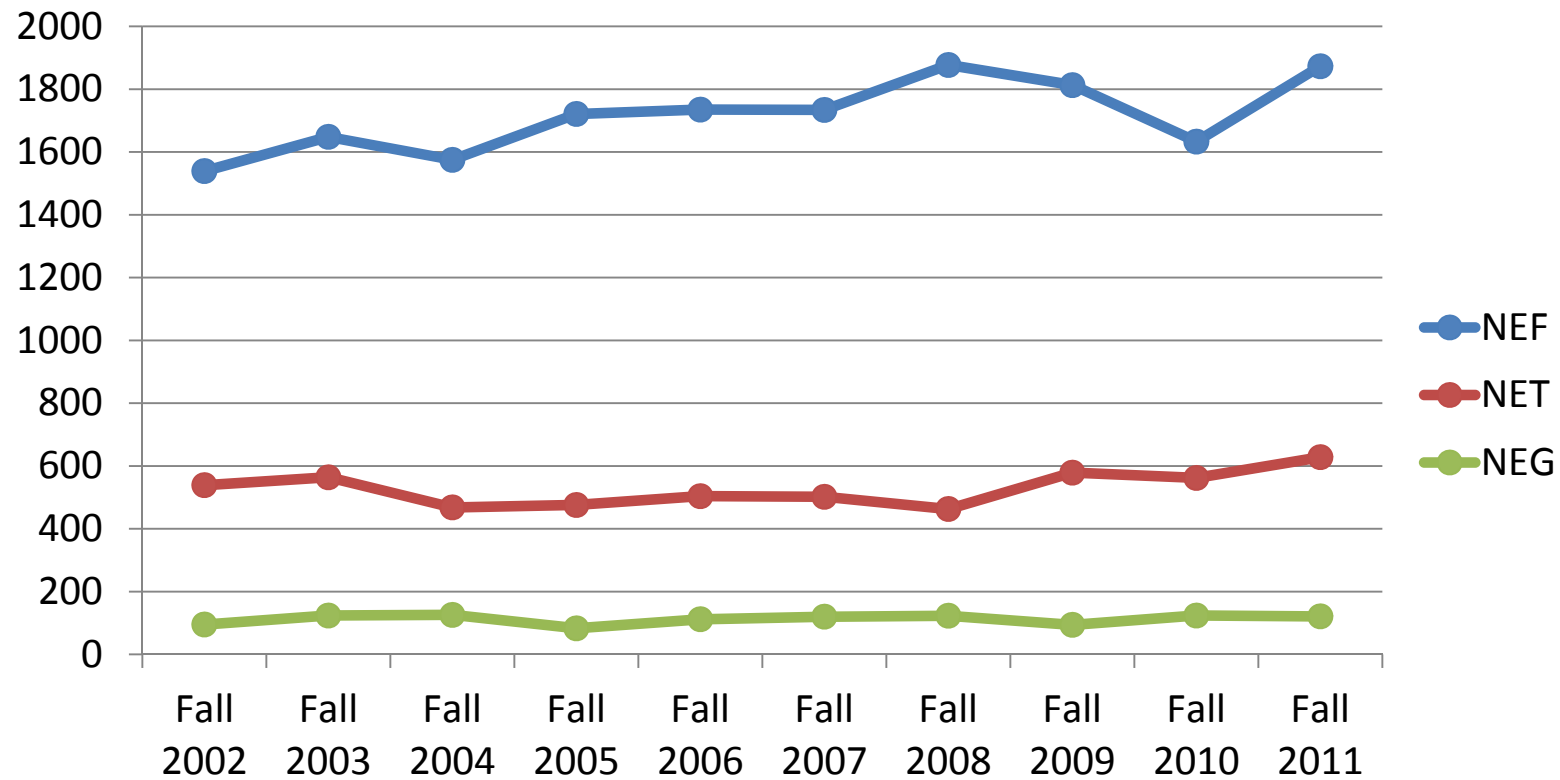# Enrollment Projections at Winona State University

Winona State University

- Regional mid-sized (approx. 8900 headcount enrollment) University with a predominantly traditional, residential undergraduate student body.

- A campus in Rochester comprised mostly of transfer and graduate students.
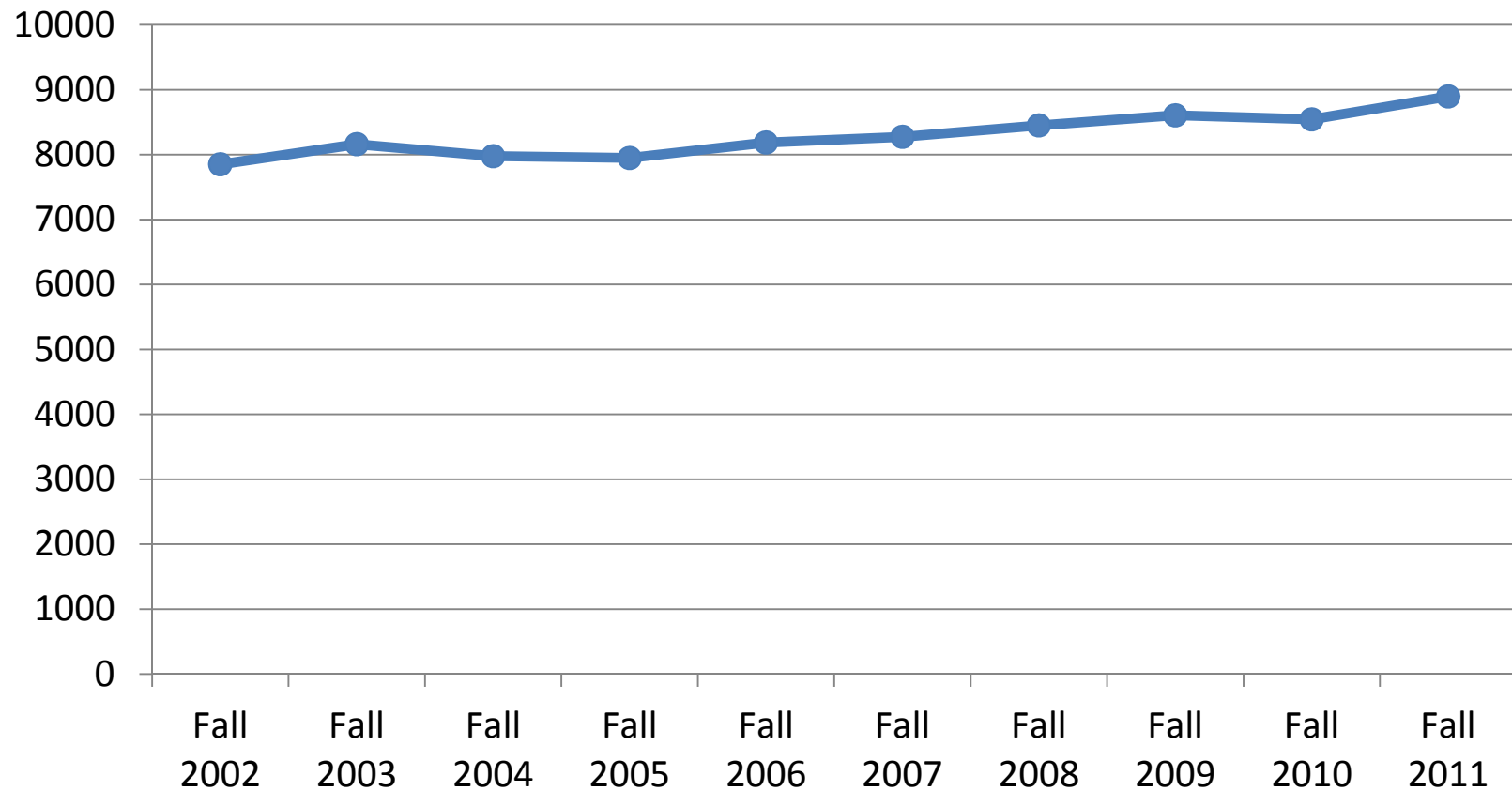
- Selective admission policies

New Entering Student Counts

Headcount

Goals

- To understand the effect of new entering student cohort sizes on future total enrollment-levels at the University

- Set Admission Goals

- To provide reasonable total enrollment-level predictions to MnSCU

Enrollment Projection Model

$$H_t = T_t^F + r_F * (1 - a_F) * \boldsymbol{N}_{\boldsymbol{t-1}}^{\boldsymbol{F}}$$
$$+ T_t^{So} + r_F * a_F * \boldsymbol{N}_{\boldsymbol{t-1}}^{\boldsymbol{F}} + r_{So} * (1 - a_{So}) * \boldsymbol{N}_{\boldsymbol{t-1}}^{\boldsymbol{So}}$$
$$+ T_t^J + r_{So} * a_{So} * \boldsymbol{N}_{\boldsymbol{t-1}}^{\boldsymbol{So}} + r_J * (1 - a_J) * \boldsymbol{N}_{\boldsymbol{t-1}}^{\boldsymbol{J}}$$
$$+ T_t^{Sr} + r_J * a_J * \boldsymbol{N}_{\boldsymbol{t-1}}^{\boldsymbol{J}} + r_{Sr} * \boldsymbol{N}_{\boldsymbol{t-1}}^{\boldsymbol{Sr}}$$
$$+ T_t^G + r_G * \boldsymbol{N}_{\boldsymbol{t-1}}^{\boldsymbol{G}}$$
$$+ T_t^O + r_O * \boldsymbol{N}_{\boldsymbol{t-1}}^{\boldsymbol{O}}$$

The Number of Freshmen is:

- The number of new Freshmen entering WSU, plus
- Number of returning Freshmen

The Number of Returning Freshmen is:

The number of Freshmen from the previous term that:

1. Were retained, and
2. Did not advance (become a Sophomore)

The Number of Sophomores is:

1. The number of entering Sophomores, plus

2. The number of Sophomores from the previous term who were retained, and did not advance, plus

3. The number of Freshmen from the previous term who were retained, and advanced

Juniors and Seniors

Treated just like Sophomores, except
Seniors don't "advance"

Graduate Students and "Other"

These groups do not "advance"

1. Number of new, plus
2. Number from previous term that were retained

Enrollment Projection Model

$$H_t = T_t^F + r_F * (1 - a_F) * N_{t-1}^F$$
$$+ T_t^{So} + r_F * a_F * N_{t-1}^F + r_{So} * (1 - a_{So}) * N_{t-1}^{So}$$
$$+ T_t^J + r_{So} * a_{So} * N_{t-1}^{So} + r_J * (1 - a_J) * N_{t-1}^J$$
$$+ T_t^{Sr} + r_J * a_J * N_{t-1}^J + r_{Sr} * N_{t-1}^{Sr}$$
$$+ T_t^G + r_G * N_{t-1}^G$$
$$+ T_t^O + r_O * N_{t-1}^O$$

What we need to estimate

1. Advancement rates (FR-JR)
2. Retention rates (all)
3. Spring NEF/NET counts
4. Rates at which NEF/NET are distributed across FR-SR classes

How we estimate

1. Weighted average of observed values from previous 3 years, weighting more recent years more heavily

2. We estimate separately for Spring-Fall and Fall-Spring (Summer term is handled separately)
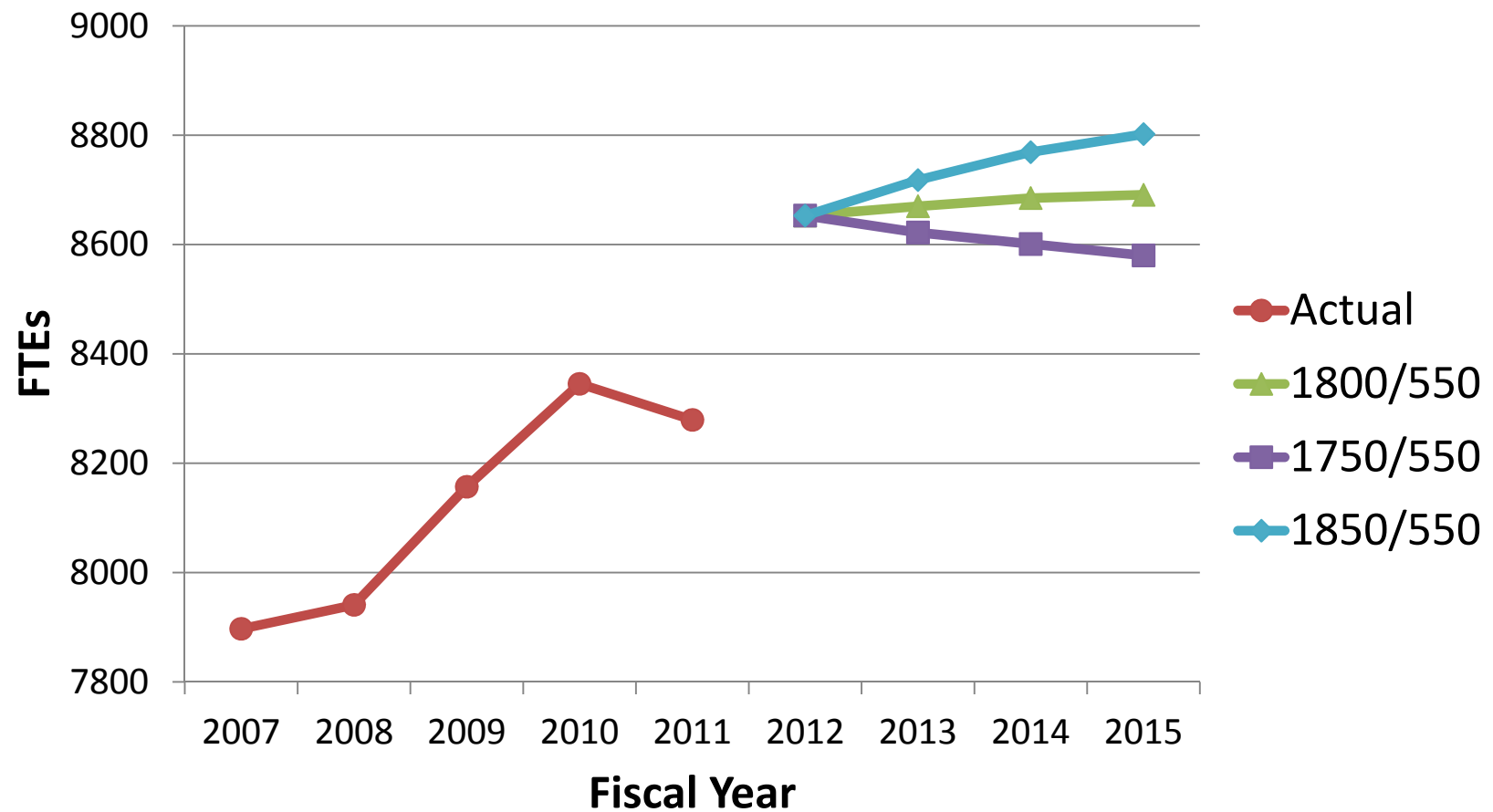
Model Inputs

1. Fall New Entering Freshmen count
2. Fall New Entering Transfer count
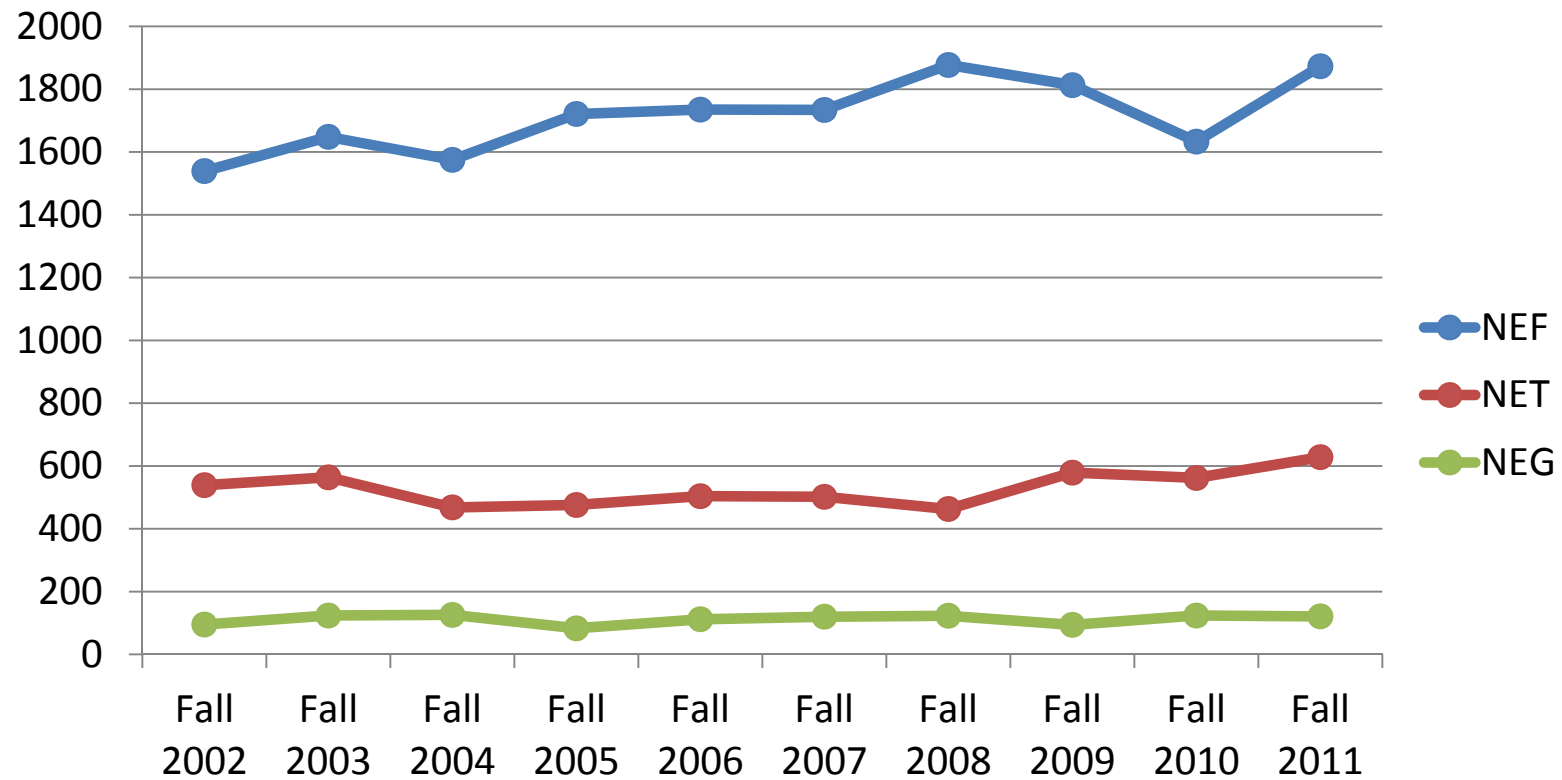
New Entering Student Counts

Issues we ignore

1. Advancement rates conflate graduation and retention

2. Seniors treated as one group (could do 4 yr, 5 yr, 6 yr)

3. Ignore campus

4. Ignore student demographics

5. Ignore majors, colleges

Model Validation

Prediction Made in	Prediction of	Actual FTEs	Predicted FTEs	Error Rate
Fall 2009	FY 2011	8279	8311	0.4%
Fall 2008	FY 2010	8345	8276	-0.8%
Fall 2007	FY 2009	8157	8139	-0.2%
Fall 2006	FY 2008	7941	7880	-0.8%
Fall 2005	FY 2007	7897	7746	-1.9%

Weighted Averages

Year 1	Year 2	Year 3	Weighted Average
1	2	3	2.33
3	2	1	1.67
1	3	2	2.17

Why We Don't Model New Entering Counts

We feel New Entering Freshmen and Transfer counts are largely controlled by the actions of the University (which are largely unpredictable), and not by outside forces.

Early Predictors

1. Admissions run rates
2. Housing run rates
3. Registration run rates

More Information

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http://www.winona.edu/ipar/data.asp

Enrollment Analytics

Reports specific to Enrollment Analytics, including Housing/Admissions/Registration run rates and enrollment projections.

Reports:

Registration Run Rates
Registration run rates of the current registration period compared to past years. Number of students registered, seats and credits registered for during the current registration period compared to past registration periods.

Admissions Reports:

Admissions Run Rate Graphs
Graphs of application/admit trends over time, comparing the current year to previous years.

Admissions Run Rates
First and Fifteenth day of the month reports showing number of applications, admits, enrolled students, denies and cancels.

Finance Reports:

Enrollment Projection Model
Predicted enrollment counts and FTEs for the current and future fiscal years generated by Institutional Research's Enrollment Projection Model.

Housing Reports:

Housing Application Run Rates
Run rates of cumulative number of housing applications received for current fiscal year, and past fiscal years for comparison. Number of applications, non-cancelled applications, non-cancelled and paid applications and cancelled applications are available. Only students with an application to WSU for the selected term are included, which should mostly limit the applications to new students.

| Term | Spring ▼ | Date | 10/21 ▼ | | View Report |
| Application Type | Undergrad - Freshman ▼ | Campus | Winona, Rochester ▼ | |

◀◀ ◀ | 1 | of 1 ▶ ▶▶ | 100% ▼ | | Find | Next | 🖫 ▼ ↻ 🖨

Admissions Run Rates as of 10/21

	Spring 2008		Spring 2009		Spring 2010		Spring 2011		Spring 2012	
# of Apps	46	-39%	108	135%	92	-15%	42	-54%	75	79%
Admitted	11	-73%	47	327%	48	2%	8	-83%	13	63%
Denied	3	-40%	9	200%	3	-67%	1	-67%	7	600%
Pending	25	-19%	52	108%	40	-23%	33	-18%	55	67%

Admissions Run Rates

Number of Applications

Number of Applications

Legend:
- 2008
- 2009
- 2010
- 2011
- 2012

Y-axis: 0, 50, 100, 150, 200

X-axis (Date): Mar 02, Apr 02, Apr 30, May 31, Jun 30, Jul 31, Aug 30, Sep 30, Oct 31, Nov 30, Dec 31
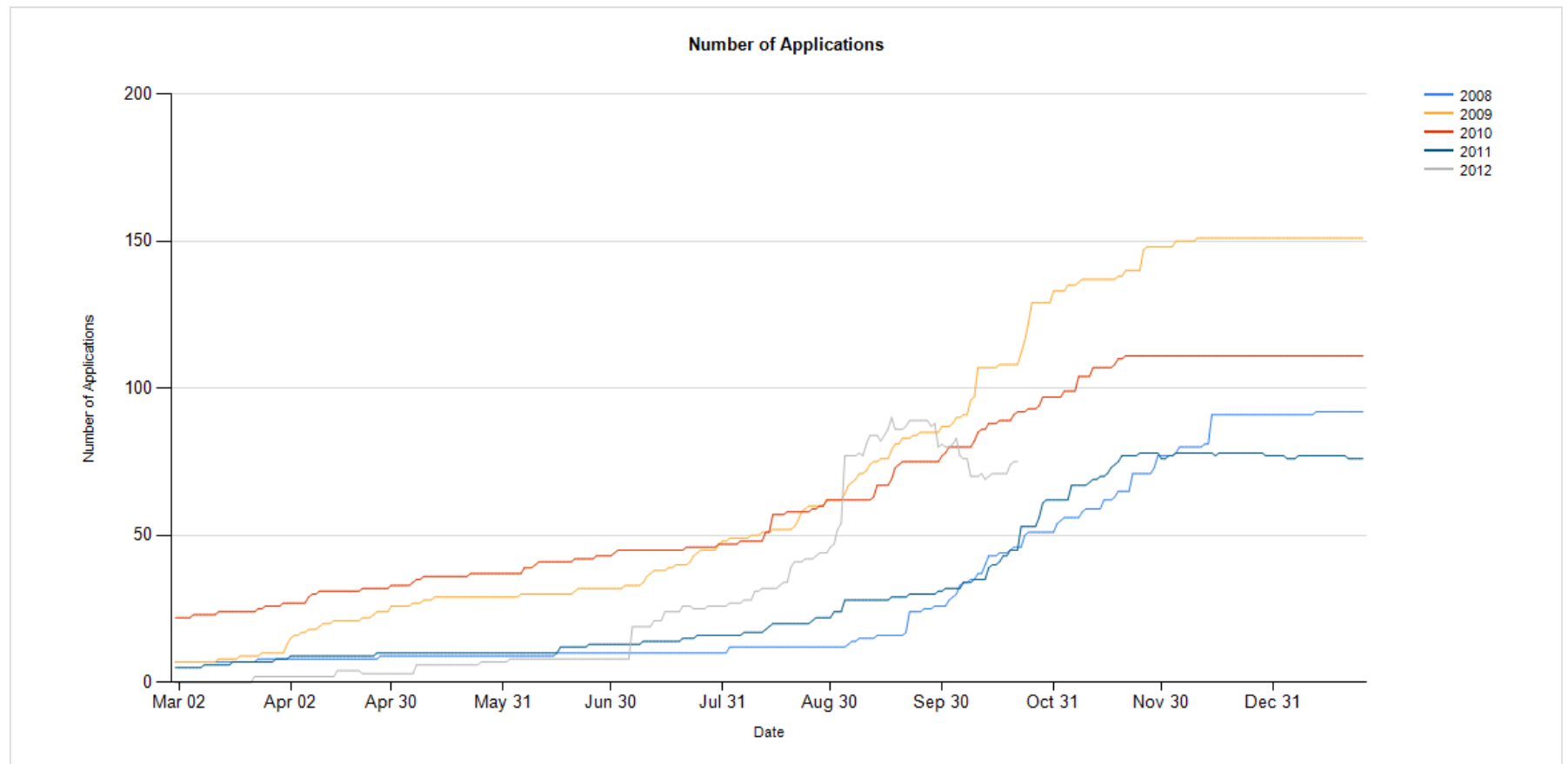
Housing Application Run Rates
Non-Cancelled and Paid Applications

	Fall 2006	Fall 2007	Fall 2008	Fall 2009	Fall 2010	Fall 2011	Fall 2012
Oct 1-7		1		1		30	41
Oct 8-14		1		2		97	93
Oct 15-21		127		29		131	143
Oct 22-28	78	232	139	158		188	143
Oct 29-31	94	269	210	175		209	
Nov 1-7	221	312	323	230	34	268	
Nov 8-14	321	367	401	296	176	325	
Nov 15-21	443	472	474	367	303	365	
Nov 22-28	482	484	537	425	393	411	
Nov 29-30	540	578	568	473	455	432	
Dec 1-7	600	674	653	557	566	501	
Dec 8-14	665	791	742	632	634	545	
Dec 15-21	731	857	800	678	709	619	
Dec 22-28	780	858	863	716	754	681	

Registration Run Rates

Seats registered for:

	10/26	12/1	1/1	2/1
Spring 2012	18			
Spring 2011	2	31,344	33,259	35,652
Spring 2010		31,740	33,693	36,115
Spring 2009		31,415	33,407	35,725
Spring 2008		29,076	32,432	34,671
Spring 2007		14,314	33,075	34,793
Spring 2006	2	23,069	32,060	33,657
Spring 2005		26,586	31,868	33,428

Registered seats is up 800% from this time last year

More Information

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http://www.winona.edu/ipar/reports.asp

Questions?