

# The Dynamics of Web-Based Community Safety Groups: Lessons learned from the Nation of Neighbors



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## Nation of Neighbors: Online Neighborhood Watch



500+ communities.  
≈50,000 members.

12 communities with Law-Enforcement participation.

- Citizens create and join online communities. Issues report and get update on neighborhood crimes. Law enforcement communicate with community members.

- Visual analytics on the community data: communities as networks of members and their activities.

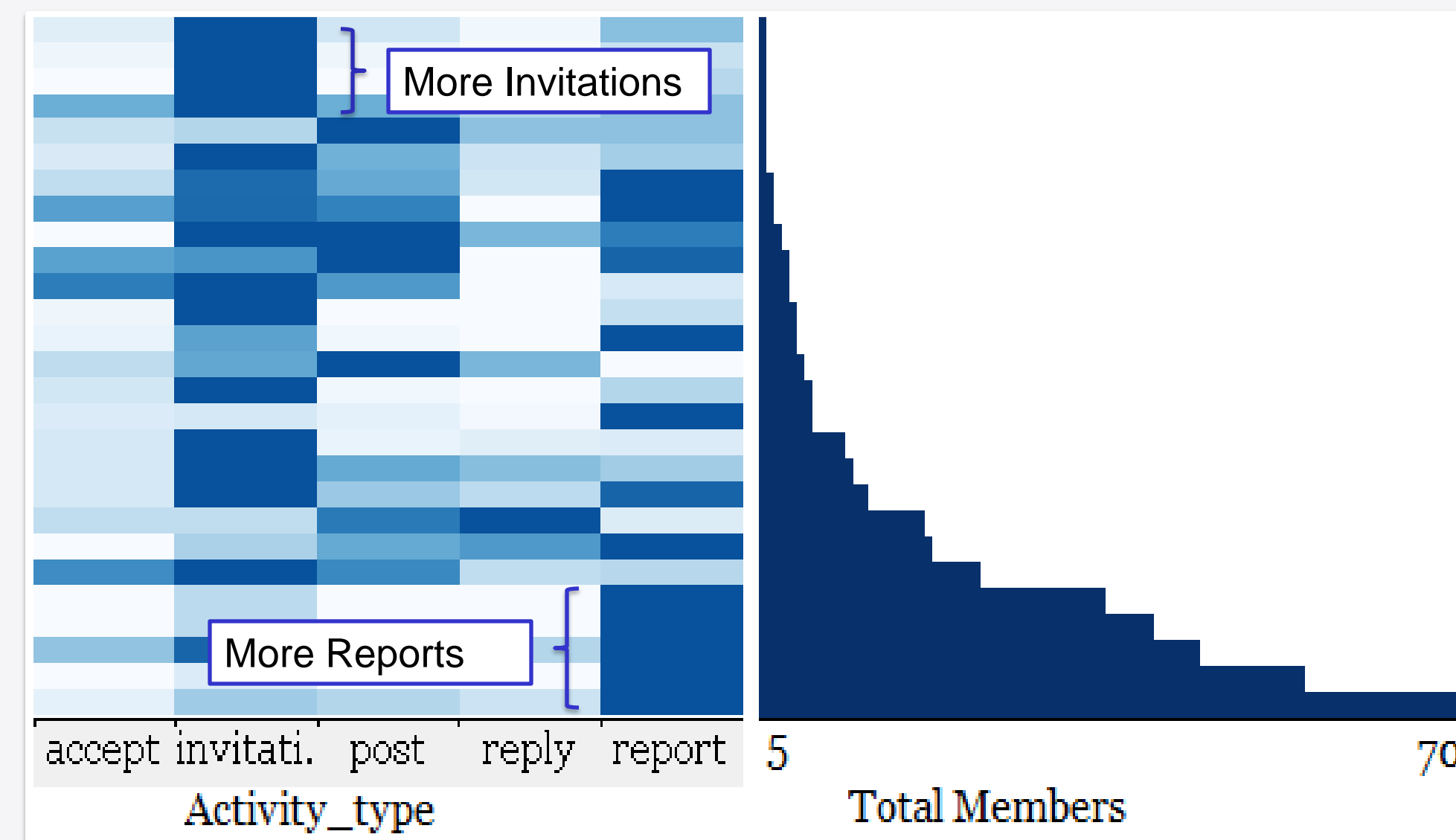
- ManyNets: visual analytics tool for simultaneous multiple network analysis.

## Comparing Communities

Label	Node Count	Relationship activity_type	Accept	Invites	Post	Reply	Report	TotActivity	InterIntensity	Relationship activity_date	ActiveMonth
Watch-Jefferson-County:14	70		16	68	52	35	207	378	54.00		7
shannondale:17	51		24	67	11	13	59	174	24.86		7
Blue-Ridge-Acres:3	13		7	63	19	12	50	151	25.17		6
charles-town:18	16		7	66	3	5	6	87	12.43		7
river-view-park:32	5		3	40	5	1	9	58	7.25		8
ranson:23	12		5	42	1	0	9	57	8.14		7
breckenridge-north:25	2		1	39	2	0	0	42	5.25		8
summit-point:37	4		1	1	1	0	3	6	1.20		5
avon-bend:38	2		0	0	5	0	1	6	1.00		6
shenandoah-junction:41	2		2	0	1	0	0	3	0.38		8
potomac-hills-subdivision:40	1		1	0	1	0	0	2	0.25		8

ManyNets network table view for NON communities. Each row is a social network of an online community created on NON, columns are metrics for the communities. The Node column shows the number of members. The activity\_type distribution column shows their activities distributed over 5 types: sending invitation, accepting invitation, post and reply in the forum and publish reports. The number of each type of activity is shown in separate columns. The distribution of activities over time is shown in the distribution column activity\_date.

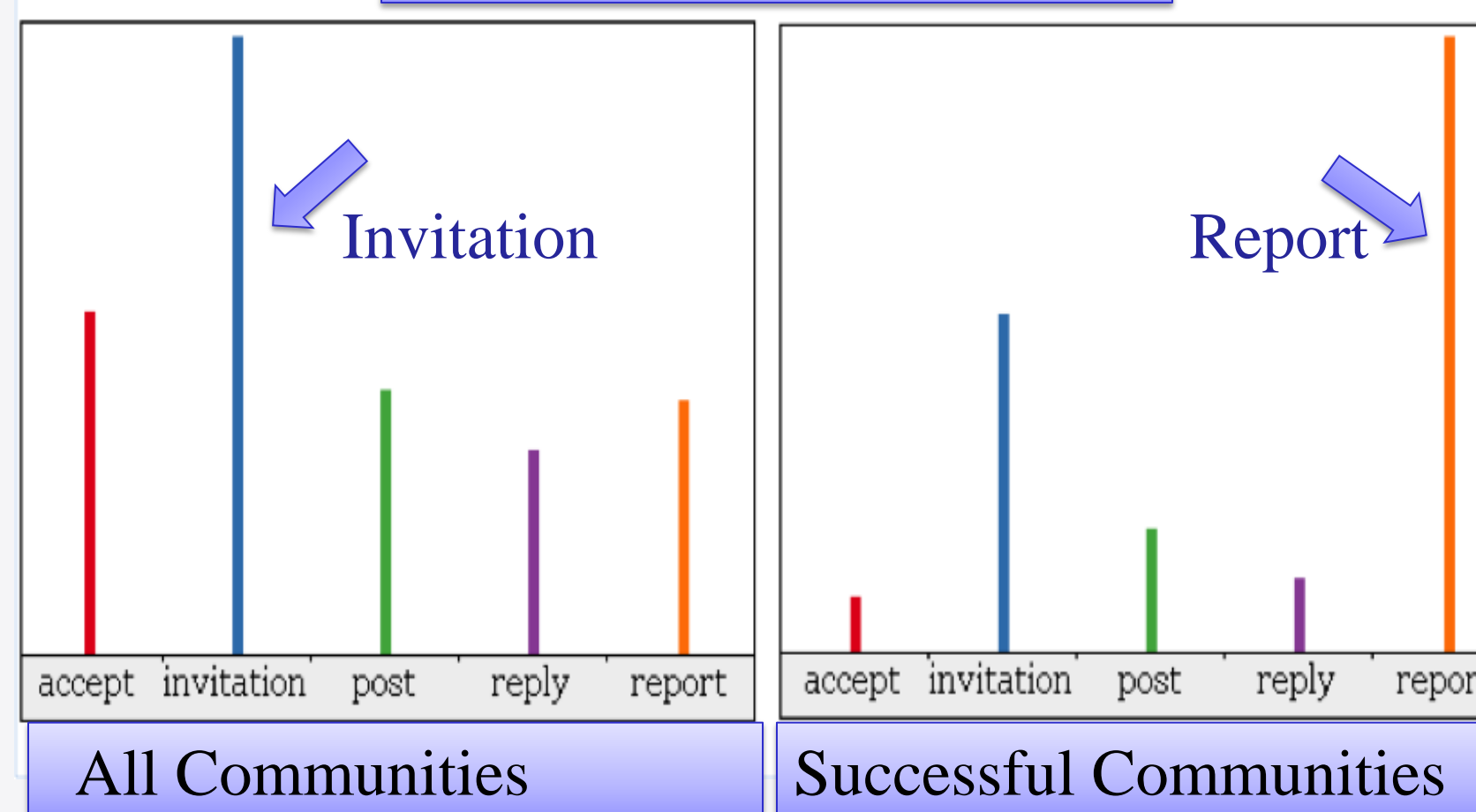
## Activities in Communities



Side by side view of the activity distribution column heatmap and total member column, communities with similar activities are grouped together. Smaller communities have more Invitation activity, Larger ones have more Report activity.

- Newly formed communities have more Invitation activity to recruit new members.
- Crime reports keep members interested. Active and bigger communities have more reports.

## Distribution of Activity type



Distribution of activity type among the communities. In the aggregated statistics (left) of all the communities Invitation is the most common activity. But in highly active communities (right) more Reports are posted.

## Members and Leadership

Label	Node Count	Relationship activity_type	Accept	Invites	Post	Reply	Report	TotActivity	Relationship activity_date
laurelbrooke:215	1		0	32	24	2	5	63	
kendallplace:204	1		0	29	15	2	7	53	
sylvangrove:136	1		0	6	1	0	21	28	
killianpines:185	1		0	12	16	5	8	41	
monrovia-hollow:51	1		1	21	28	3	0	53	
mtpleasant:127	1		0	4	6	1	16	27	
lickingknoxcounty:139	1		0	4	11	0	10	25	
shannondale:17	2		0	63	4	4	16	87	
mountain-watch:31	1		0	39	0	0	26	65	
charles-town:18	1		0	39	0	0	1	40	
ranson:23	1		0	39	0	0	1	40	

Each row is activities by the leaders from each community. Last four rows indicate some leaders became inactive after a while. Most communities have only one leaders, except for Shannondale with two leaders.

Successful communities have a few members with significantly higher activity: we identify them as the Leaders. Existence of leaders increases participation of members and growth of community. Leadership emerges from citizens, not necessarily from Law-Enforcement officials.

## Community over Time

Label	Node Count	Relationship activity_type	Accept	Invites	Post	Reply	Report	TotActivity
2009-07Jul	16		7	17	12	11	11	58
2009-08Aug	4		2	3	5	2	9	21
2009-09Sep	7		1	11	7	3	10	32
2009-10Oct	6		0	18	8	5	11	42
2009-11Nov	12		1	5	2	1	16	25
2009-12Dec	7		0	2	3	2	6	13
2010-01Jan	8		0	10	3	2	10	25
2010-02Feb	6		0	0	1	0	6	7
2010-03Mar	4		0	1	0	0	9	10
2010-04Apr	9		0	0	0	0	10	10
2010-05May	7		0	0	3	0	8	11
2010-06Jun	9		0	0	0	0	19	19
2010-07Jul	7		0	0	1	2	11	14
2010-08Aug	10		0	1	2	1	16	20
2010-09Sep	9		0	0	2	1	19	22
2010-10Oct	7		0	0	0	2	10	12
2010-11Nov	6		0	0	1	2	5	8
2010-12Dec	6		0	0	1	1	4	6
2011-01Jan	6		0	0	0	0	11	11
2011-02Feb	6		0	0	1	0	6	7

Watch-Jefferson county community: each row is activities in one month. Initially a lot of invitations, gradually crime Reports became most prevalent activity.

[www.cs.umd.edu/hcil/NON](http://www.cs.umd.edu/hcil/NON)

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